LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

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Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

APRIL 17, 2024

STEVE WEBB
MILL MANAGER
INTERNATIONAL PAPER COMPANY – PINE HILL
PO BOX 250
PINE HILL, AL 36769

RE: REVISED DRAFT PERMIT
NPDES PERMIT NUMBER AL0002674

Dear Mr. Webb:

Transmitted herein is a revised 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 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 Scott Jackson by e-mail at **scott.jackson@adem.alabama.gov** or by phone at **(334) 394-4366.**

Sincerely,

Scott Ramsey, Chief
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 Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

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

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: INTERNATIONAL PAPER COMPANY - PINE HILL

FACILITY LOCATION: INTERNATIONAL PAPER COMPANY - PINE HILL
7600 STATE HIGHWAY 10 WEST
PINE HILL, ALABAMA 36769
WILCOX COUNTY

PERMIT NUMBER: AL0002674

RECEIVING WATERS: DSN001 – DSN003: ALABAMA RIVER (CLAIBORNE LAKE)
DSN004, DSN006, & DSN007: UNNAMED TRIBUTARY TO ALABAMA RIVER (CLAIBORNE LAKE)
DSN005: UNNAMED TRIBUTARY TO DUNNS 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:

EFFECTIVE DATE:

EXPIRATION DATE:

REVISED DRAFT

Alabama Department of Environmental Management

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PART I: DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

DSN0011: Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff **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	19906 Monthly Average	29859 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	Jan, Feb, Mar, Apr, Nov, Dec
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	13500 Monthly Average	20250 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	May, Jun, Jul, Aug, Sep, Oct
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	3X Weekly test	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	17572 Monthly Average	35104 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	All Months
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Nitrite Plus Nitrate Total 1 Det. (As N) (00630) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct

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/ From July 1 to October 31, the permittee shall only discharge between the hours 9:00 a.m. and 9:00 p.m. when the 48-hour mean flow reported for Millers Ferry is less than 15,000 CFS, unless otherwise authorized by the Department. Discharge may occur only when effluent release will not cause the in-stream dissolved oxygen to fall below 5.0 mg/l as determined in accordance with Part IV.D of this permit.

DSN0011 (Continued): Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff **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
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Continuous	Totalizer	All Months
Certification - River Monitoring **5/** (51946) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0; No=1	Monthly	Not Applicable	Jul, Aug, Sep, Oct

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/ From June 1 to October 31, the permittee shall only discharge between the hours 9:00 a.m. and 9:00 p.m. when the 48-hour mean flow reported for Millers Ferry is less than 15,000 CFS, unless otherwise authorized by the Department. Discharge may occur only when effluent release will not cause the in-stream dissolved oxygen to fall below 5.0 mg/l as determined in accordance with Part IV.D of this permit.

5/ The permittee shall report a "0" to indicate compliance with the reporting requirements found at Part IV.D.8.

DSN001Q: Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff **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
Pentachlorophenol (39032) **4/** Effluent Gross Value	*****	2.38 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Composite	All Months
Trichlorophenol (81848) **4/** Effluent Gross Value	*****	1.76 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Composite	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/ In lieu of monitoring for these parameters, the permittee may certify non-use of chlorophenolic containing compounds according to the requirements at 40 CFR 430.34, 40 CFR 430.104, and 40 CFR 430.105 by entering *9 on the discharge monitoring report.

DSN001Y: Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff **3/ 5/**

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 **4/** (61425) Effluent Gross Value	*****	0 Maximum Daily	pass=0; fail=1	*****	*****	*****	*****	Annually	Grab	All Months
Toxicity, Pimephales Acute **4/** (61427) Effluent Gross Value	*****	0 Maximum Daily	pass=0; fail=1	*****	*****	*****	*****	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.C for Toxicity Limitations and Biomonitoring Requirements.

DSN002S: Leachate from solid waste landfill and storm water from landfill site **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	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	24-Hr Composite	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Semi-Annually	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	24-Hr Composite	All Months
Iron Total Recoverable **4/** (00980) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum	mg/l	Semi-Annually	24-Hr Composite	All Months
Zinc Total Recoverable **4/** (01094) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum	mg/l	Semi-Annually	24-Hr Composite	All Months
Manganese, Total Recoverable **4/** (11123) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum	mg/l	Semi-Annually	24-Hr Composite	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Instantaneous	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/ For the purposes of compliance with this permit, "Total" and "Total Recoverable" shall be considered equivalent.

DSN003Y – DSN007Y: Stormwater associated with industrial activity **3/ 5/ 6/**

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) Monthly Average	(Report) Maximum Daily	mg/l	Annually	Grab	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Annually	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Annually	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Annually	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Annually	Estimate **4/**	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

5/ Monitoring is only required at DSN003 and DSN006 as these are considered representative outfalls. No monitoring is required at DSN004, DSN005, and DSN007.

6/ At least one sampling point must be selected so as to measure the influence of stormwater runoff from any sawdust, chip, or wood refuse piles on site.

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 (MONTH, YEAR).** 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 [Month, Year].** 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.18. EPA - means the United States Environmental Protection Agency.

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 to ensure that the BMP is continually implemented and effective;

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, Option A (Screening Test)

(1) The samples shall be diluted, using an appropriate control water, to the Instream Waste Concentration (IWC) which is 9% 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 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.

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.

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:

(1) 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)

(a) Name of firm

(b) Telephone number

(c) 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

(a) Sampling point

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

(c) Sample collection method

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

(e) Sample temperature when received at the laboratory

(f) Lapsed time from sample collection to delivery

(g) Lapsed time from sample collection to test initiation

(2) Dilution Water Samples

(a) Source

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

(c) Pretreatment

(d) 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

1/ 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. STREAM MONITORING

1. Between July 1 and October 31, the permittee shall conduct stream monitoring at station "C" mile 121.8 and evaluate Miller's Ferry Lock and Dam 48-hour mean river flows five days per discharge week.

2. Stream monitoring parameters shall be:

   a. Dissolved oxygen and 5' depth

   b. Water temperature

   c. pH

3. Stream monitoring shall not be required on days that the permittee does not discharge effluent from DSN001 to the Alabama River, or on days when weather conditions or high river flows do not allow stream monitoring to be completed safely.

4. If D.O. values at station "C" (river mile 121.8) are found to be less than 5.4 mg/l, but greater than or equal to 5.0 mg/l, the permittee shall re-measure the D.O. at station "C" within two hours. If the D.O. continues to be below 5.4 mg/l the permittee shall cease discharge from DSN001 within one hour.

   a. The permittee may continue to monitor D.O. levels at station "C" (river mile 121.8) during the discharge day until a D.O. reading of 5.4 mg/l or greater is recorded, at which time discharge from DSN001 may resume for the remainder of the discharge day in accordance with all other applicable permit limitations.

   OR

   b. Continue to discharge from DSN001 and conduct a river survey in accordance with specific condition 6 of this section.

5. In the event that the permittee measures D.O. values less than 5.0 mg/l at station "C" (river mile 121.8) after discharging at DSN001 has commenced, the permittee shall discontinue discharging from DSN001 within one hour and until measured D.O. values at station "C" (river mile 121.8) exceed 5.0 mg/l.

6. River surveys shall constitute sampling at the following locations and shall include the parameters specified in 6a below. River survey sampling locations shall be Stations "A" (river mile 124.6), "B" (river mile 123.3), "C" (river mile 121.8), "1" (river mile 121.2), "2" (river mile 120.5, "3" (river mile 118.2), "4" (river mile 116.0), and "5" (river mile 112.0). If the measured D.O. value at station "5" (river mile 112.0) is less than 5.4 mg/l, the permittee shall continue to survey river stations "6" (river mile 107.8), "7" (river mile 104.8), "8" (river mile 100.2), "9" (river mile 96.0), and "10" (river mile 91.1), or until a measured D.O. reading of 5.4 mg/l or greater is observed, or until a recovery 0.1 mg/l D.O. is recorded.

   a. Stream monitoring parameters shall be:

      Dissolved oxygen at the 5' depth

      Water temperature

      pH

7. For any discharge week, July 1 to October 31, which the mean 48-hour Alabama River flow falls below 6000 CFS as measured at Millers Ferry Lock and Dam for one or more days on which it is evaluated, and the D.O. at Station "C" (river mile 121.8) is less than 5.7 mg/l, the permittee shall conduct one (1) river survey in accordance with specific condition 6 of this permit.

8. Data from monitoring shall be reported to the Department not later than 28 days following the last day of the reporting period. The report shall be submitted electronically.

9. Definitions

   a. Permit Day: 0900 to 0900

   b. Discharge Day: July 1 to October 31 is 0900 to 2100 when the Alabama River 48 hour mean is less than 15000 CFS

   c. Discharge Week: Sunday 0001 to Saturday 2359

   d. Stream Monitoring Season: July 1 to October 31

   e. DSN001: The permittee discharge point into the Alabama River

   f. Station "C": Alabama river mile 121.8, including the International Paper oil dock and all viable sample points at mile 121.8

E. COOLING WATER INTAKE STRUCTURE (CWIS) REQUIREMENTS

1. The cooling water intake structure used by the permittee has been evaluated using available information. At this time, the Department has determined that the cooling water intake structure represents the best technology available (BTA) to minimize adverse environmental impact in accordance with Section 316(b) of the Federal Clean Water Act (33 U.S.C. section 1326).

2. The permittee shall submit the following information at least 180 days prior to expiration of the permit:

   a. design intake flow of the CWIS

   b. percentage of intake flow, based on highest monthly average in last 5 years, used for cooling purposes;

   c. an estimate of the intake flow reduction at the facility based upon the use of a 100 percent (or some lesser percentage) closed-cycle re-circulating cooling water system compared to a conventional once-through cooling water system

d. through screen design intake flow velocity

e. any impingement and entrainment data that may have been collected based on the operation of the facility's CWIS, collected since the effective date of this NPDES permit

f. a detailed description of any changes in the operations of the CWIS, or changes in the type of technologies used at the CWIS such as screens or other technologies affecting the rates of impingement and/or entrainment of fish and shellfish

3. The permittee is required to operate and maintain the CWIS in a manner that minimizes impingement and entrainment levels. Typical activities that may satisfy this requirement include but are not limited to:

a. Routine inspection, maintenance, and replacement prior to the end of the useful service life of mechanical equipment associated with the CWIS;

b. Underwater inspection of critical components required to maintain functionality and biological effectiveness; or

c. Velocity monitoring and maintaining or achieving an intake velocity of less than 0.5 ft/s.

4. Nothing in this Permit authorizes take for the purposes of a facility compliance with the Endangered Species Act. Under the Endangered Species Act, take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct, of endangered or threatened species.

LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

FACT SHEET

APPLICATION FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE POLLUTANTS TO WATERS OF THE STATE OF ALABAMA

Date: May 2, 2023 **Prepared By:** Scott Jackson

NPDES Permit No. AL0002674

1. **Name and Address of Applicant:**

   International Paper Company - Pine Hill
   7600 State Highway 10 West
   Pine Hill, AL 36769

2. **Name and Address of Facility:**

   International Paper Company - Pine Hill
   7600 State Highway 10 West
   Pine Hill, AL 36769

3. **Description of Applicant's Type of Facility and/or Activity Generating the Discharge:**

   Combined unbleached Kraft and semi-chemical pulp and paperboard mill

4. **Applicant's Receiving Waters**

Receiving Waters	Classification
Alabama River (Claiborne Lake)	Fish & Wildlife
Unnamed Tributary to Alabama River (Claiborne Lake)	Fish & Wildlife
Unnamed Tributary to Dunns Creek	Fish & Wildlife

   For the Outfall latitude and longitude, see the permit application.

5. **Permit Conditions:**

   See attached Rationale and Draft Permit.

6. **PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS**

   a. **Comment Period**

   The Alabama Department of Environmental Management proposes to issue this NPDES permit subject to the limitations and special conditions outlined above. This determination is tentative.

   Interested persons are invited to submit written comments on the draft permit to the following address:

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

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

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

Daphne Y. Lutz, Chief
ADEM-Water Division
1400 Coliseum Blvd
[Mailing Address: Post Office Box 301463; Zip 36130-1463]
Montgomery, Alabama 36110-2400
(334) 271-7823
water-permits@adem.alabama.gov

All comments received prior to the closure of the public notice period (see public notice for date) will be considered in the formulation of the final determination with regard to this permit.

b. Public Hearing

A written request for a public hearing may be filed within the public notice period and must state the nature of the issues proposed to be raised in the hearing. A request for a hearing should be filed with the Department at the following address:

Daphne Y. Lutz, Chief
ADEM-Water Division
1400 Coliseum Blvd
[Mailing Address: Post Office Box 301463; Zip 36130-1463]
Montgomery, Alabama 36110-2400
(334) 271-7823
water-permits@adem.alabama.gov

The Director shall hold a public hearing whenever it is found, on the basis of hearing requests, that there exists a significant degree of public interest in a permit application or draft permit. The Director may hold a public hearing whenever such a hearing might clarify one or more issues involved in the permit decision. Public notice of such a hearing will be made in accordance with ADEM Admin. Code r. 335-6-6-.21.

c. Issuance of the Permit

All comments received during the public comment period shall be considered in making the final permit decision. At the time that any final permit decision is issued, the Department shall prepare a response to comments in accordance with ADEM Admin. Code r. 335-6-6-.21. **The permit record, including the response to comments, will be available to the public via the eFile System** http://app.adem.alabama.gov/eFile/ **or an appointment to review the record may be made by writing the Permits and Services Division at the above address.**

Unless a request for a stay of a permit or permit provision is granted by the Environmental Management Commission, the proposed permit contained in the Director's determination shall be issued and effective, and such issuance will be the final administrative action of the Alabama Department of Environmental Management.

d. Appeal Procedures

As allowed under ADEM Admin. Code chap. 335-2-1, any person aggrieved by the Department's final administrative action may file a request for hearing to contest such action. Such requests should be received by the Environmental Management Commission within thirty days of issuance of the permit. Requests should be filed with the Commission at the following address:

Alabama Environmental Management Commission
1400 Coliseum Blvd
[Mailing Address: Post Office Box 301463; Zip 36130-1463]
Montgomery, Alabama 36110-2400

All requests must be in writing and shall contain the information provided in ADEM Admin. Code r. 335-2-1-.04.

ADEM PERMIT RATIONALE

PREPARED DATE: October 18, 2023
REVISED DATE: April 16, 2024
REVISED DATE: May 1, 2024
PREPARED BY: Scott Jackson

Permittee Name: International Paper Company – Pine Hill

Facility Name: International Paper Company – Pine Hill

Permit Number: AL0002674

PERMIT IS REISSUANCE DUE TO EXPIRATION

DISCHARGE SERIAL NUMBERS (DSN) & DESCRIPTIONS:

DSN001: Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff

DSN002: Leachate from solid waste landfill and storm water from landfill site

DSN003-DSN007: Stormwater associated with industrial activity

INDUSTRIAL CATEGORY:

40 CFR 430 – The Pulp, Paper, and Paperboard Point Source Category
40 CFR 430.33 (BCT) & 430.34 (BAT) Subpart C – Unbleached Kraft Subcategory
40 CFR 430.102 (BPT), 430.104 (BAT), & 430.105 (NSPS) Subpart J – Secondary Fiber Non-Deink Subcategory

MAJOR: Y

STREAM INFORMATION:

Receiving Stream:	Alabama River (Claiborne Lake)* – (DSN001-DSN003)	Unnamed Tributary to Alabama River (Claiborne Lake)* – (DSN004, DSN006, DSN007) Unnamed Tributary to Dunns Creek – (DSN005)
Classification:	Fish & Wildlife	Fish & Wildlife
River Basin:	Alabama River Basin	Alabama River Basin
7Q10:	4387 cfs	0 cfs
7Q2:	6386 cfs	0 cfs
1Q10:	3290 cfs	0 cfs
Annual Average Flow:	30642 cfs	0 cfs
303(d) List:	NO*	NO
Impairment:	N/A*	N/A
TMDL:	NO	NO

*This segment of the receiving stream is not listed on the 303(d) List of Impaired Waters; however, a downstream segment of the Alabama River (Claiborne Lake) is impaired for metals (Mercury).

DISCUSSION:
The facility is a pulp and paper mill operating two paper machines. The facility uses a combined unbleached Kraft and semi-chemical process where the spent semi-chemical cooling liquor is burned within the unbleached Kraft chemical recovery system. Paper Machine #1 produces unbleached Kraft linerboard from unbleached Kraft pulp,

controlled soda semi-chemical (CSSC) pulp, and non-deinked secondary fiber. Paper Machine #2 produces unbleached corrugating medium from CSSC pulp and non-deinked secondary fiber.

ADEM Administrative Rule 335-6-10-.12 requires applicants to new or expanded discharges to Tier II waters demonstrate that the proposed discharge is necessary for important economic or social development in the area in which the waters are located. The application submitted by the facility is not for a new or expanded discharge. Therefore, the applicant is not required to demonstrate that the discharge is necessary for economic and social development.

DSN0011: Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	19906 Monthly Average	29859 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	Jan, Feb, Mar, Apr, Nov, Dec	WQBEL
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	13500 Monthly Average	20250 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	May, Jun, Jul, Aug, Sep, Oct	WQBEL
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	3X Weekly test	Grab	All Months	EGL/BPJ
Solids, Total Suspended (00530) Effluent Gross Value	17572 Monthly Average	35104 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months	EGL
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	All Months	BPJ
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct	BPJ
Nitrite Plus Nitrate Total 1 Det. (As N) (00630) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct	BPJ
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Continuous	Totalizer	All Months	BPJ
Certification - River Monitoring (51946) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0; No=1	Monthly	Not Applicable	Jul, Aug, Sep, Oct	WQBEL

DSN001Q: Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Pentachlorophenol (39032) Effluent Gross Value	*****	2.38 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Composite	All Months	EGL
Trichlorophenol (81848) Effluent Gross Value	*****	1.76 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Composite	All Months	EGL

DSN001Y: Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff

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

DSN002S: Leachate from solid waste landfill and storm water from landfill site

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	24-Hr Composite	All Months	BPJ
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Semi-Annually	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	24-Hr Composite	All Months	BPJ
Iron Total Recoverable (00980) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum	mg/l	Semi-Annually	24-Hr Composite	All Months	BPJ
Zinc Total Recoverable (01094) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum	mg/l	Semi-Annually	24-Hr Composite	All Months	BPJ
Manganese, Total Recoverable (11123) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum	mg/l	Semi-Annually	24-Hr Composite	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Instantaneous	All Months	BPJ

DSN003Y-DSN007Y: Stormwater associated with industrial activity

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Annually	Grab	All Months	BPJ
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Annually	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Annually	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Annually	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Annually	Estimate	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

Discussion

DSN001: Process wastewaters from pulp and paperboard production, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater runoff

Federal Effluent Guideline Limitations (EGL)

Parameters based upon EGL have had effluent guidelines established under the 40 CFR Part 430 – The Pulp, Paper, and Paperboard Point Source Category. More specifically, the facility is subject to 430.33 and 430.34 Subpart C – Unbleached Kraft Subcategory and 430.102(a), 430.104, ad 430.105 Subpart J – Secondary Fiber Non-Deink Subcategory. The production data used in the calculations was taken from EPA Form 2C in the facility's reissuance application. A summary of the effluent guideline calculations and permit limitations can be found in Attachment A.

Biochemical Oxygen Demand (5-Day) (BOD_5)

BOD_5 has effluent guideline limitations established under 40 CFR 430.33, 40 CFR 430.102(a), and 40 CFR 430.105. Effluent guideline limitations for BOD_5 are the sum of the individual limitations under the above 40 CFR subparts. The final BOD_5 limitations are the most stringent of the water quality, effluent guideline, and existing permit limitations. The monitoring frequency for BOD_5 is proposed to continue at three times per week.

Total Suspended Solids (TSS)

TSS has effluent guideline limitations established under 40 CFR 430.33, 40 CFR 430.102(a), and 40 CFR 430.105. Effluent guideline limitations for TSS are the sum of the individual limitations under the above 40 CFR subparts. The current permit limitations are more stringent than the calculated limits, and the facility has shown the ability to meet these limitations; therefore, the current limitations will be continued in this permit issuance. The monitoring frequency for TSS is proposed to continue at three times per week.

Pentachlorophenol* and Trichlorophenol*

These parameters are regulated under 40 CFR 430.34, 40 CFR 430.104, and 40 CFR 430.105. The sum of these guidelines provides the final limitations applicable to the discharge. The calculated limitations are less stringent than the existing permit limitations; therefore, it is proposed to continue the existing permit limitations in this permit issuance. These guidelines state that, "Permittees not using chlorophenolic-containing biocides must certify to the permit-issuing authority that they are not using these biocides."

*In lieu of monitoring for these parameters, the facility can submit a certification of non-use by reporting *9 on the discharge monitoring report.

Landfill Leachate

The facility discharges landfill leachate, which is regulated under 40 CFR Part 445, through its process wastewater outfalls DSN001 and DSN002. 40 CFR 445.1(e) specifies that the regulations therein "do not apply to discharges of landfill wastewater from landfills operated in conjunction with other industrial or commercial operations when the landfill only receives wastes generated by the industrial or commercial operation directly associated with the landfill."

Water Quality Based Effluent Limits (WQBEL)

pH

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5)(e)(2) – Specific Water Quality for Fish and Wildlife classified streams states: "Sewage, industrial waste or other wastes shall not cause the pH to deviate more than one unit from then normal or natural pH, nor be less than 6.0, nor greater than 8.5 standard units." The current permit has pH limitations from 6.0 to 9.0 S.U at Outfall DSN001. The effluent guidelines that the facility is subject to provide for a daily minimum pH of 6.0 S.U. and a daily maximum pH of 9.0 S.U. The discharge from the facility is not expected to adversely affect the instream pH based on the ratio of low effluent flow to stream flow; therefore, pH limitations from 6.0 to 9.0 S.U. are proposed to continue at DSN001 in this permit issuance based on the effluent guidelines and BPJ. The monitoring frequency is proposed to continue at three times per week.

Biochemical Oxygen Demand (5-Day) (BOD_5)
The most recent Waste Load Allocation (WLA) model (see Attachment C) completed by the Department's Water Quality Section lists seasonal limitations for $CBOD_5$ based on the receiving stream flows. Limitations for BOD_5 will be used instead of $CBOD_5$ since it is more stringent and to be consistent with the effluent guideline limitations. The water quality based daily maximum limitations for BOD_5 were determined by multiplying the monthly average limit by 1.5. The final BOD_5 limitations are the most stringent of the water quality, effluent guideline, and existing permit limitations. The monitoring frequency for BOD_5 is proposed to continue at three times per week.

The facility has requested to remove the BOD equation in Part IV.D.5. of the current permit. This equation limits BOD discharges when the dissolved oxygen at the five-foot depth at River Mile 121.8 is less than 5.3 mg/l. The basis for this request to remove the equation is that the segment of the Alabama River which receives the facility's discharge is no longer listed on the 303(d) List of Impaired Waters for low dissolved oxygen. The facility also indicated that they had not used this equation during their current permit term. The Department's Water Quality Section reviewed the request and determined that removal of the equation would be possible on the condition that other sections under the stream monitoring requirements in Part IV.D. remain. Based on the above, it is proposed to remove the BOD equation in Part IV.D.5. in this permit issuance. All footnotes and monitoring requirements listed in Part I.A. of the permit that coincided with the BOD equation in Part IV.D.5. are being removed.

Dissolved Oxygen (D.O.)
The facility is required to perform in-stream monitoring to quantify the effects of the facility's discharge on the D.O. in the receiving stream and to take action if the discharge is being shown to cause the D.O. levels to have a potential to violate in-stream water quality standards.

Biomonitoring Requirements
In order to evaluate the whole effluent toxicity, annual acute toxicity monitoring is proposed to continue in this permit issuance. Acute toxicity monitoring is appropriate based on the receiving stream's water use classification and the ratio of flow in the receiving stream at low flow conditions to the effluent flow being greater than 100:1. A CORMIX1 model (see Attachment D) was completed by the Department's Water Quality section. Based on this model, the instream waste concentration (IWC) is 8.1% at the ZID. In order to be consistent with toxicity monitoring protocols, the proposed IWC is rounded to 9%.

As of the date of the application submitted by the facility, the facility was in the process of replacing its current multi-port diffuser with a new multi-port diffuser. Previously, a determination was made to tier limits for toxicity testing until the new diffuser is installed and operational. The facility notified the Department on June 12, 2023 that the new diffuser project was completed and the mill began discharging via the new diffuser on June 10, 2023. As a result, the Part IV.C.1.a. language and associated footnotes in the current permit which corresponds to tiered limits for toxicity will be removed, and the IWC of 9% shall apply.

Pathogens
The facility discharges sanitary wastewater from facility buildings through its process wastewater outfall DSN001; however, the volume of the sanitary discharge contributes less than 0.1% of the total discharge from the facility and would not be expected to have any significant impacts on the concentrations of pollutants at the end of the pipe; therefore, there is no pathogen monitoring proposed for this permit issuance.

Numeric Reasonable Potential Analysis (RPA)
A numeric RPA (see Attachment B) was performed for each DSN001 and DSN002 to determine if the effluent discharge to the receiving stream would cause a potential to violate water quality criteria at the point of discharge. The data used in the analysis is from EPA Form 2C in the facility's application. No parameters included in the analysis showed a reasonable potential to violate water quality standards; therefore, no additional limitations are proposed at either outfall in this permit issuance.

Best Professional Judgment (BPJ)

Flow

Flow monitoring is proposed to continue in this permit issuance as continuous totalized readings.

Ammonia (as N), Total Kjeldahl Nitrogen (TKN), Nitrite + Nitrate, and Total Phosphorus

Monitoring only requirements for the above nutrients are proposed to continue in this permit issuance. The monitoring frequency for TKN, Nitrite + Nitrate, and Total Phosphorus is proposed to continue at once per month during the growing season of April through October. Monitoring for Ammonia (as N) is proposed year-round at a once per month frequency. The year-round monitoring for Ammonia is consistent with similar discharges from other permitted facilities.

Stream Monitoring

Stream Monitoring Requirements

Part IV.D. of the permit details in-stream monitoring requirements. The facility submitted a supplemental stream monitoring reduction request as part of their permit reissuance application. The Department's Water Quality Section reviewed the request and after internal discussions, the Part IV.D. language has been updated. Stream monitoring shall be performed five days per discharge week during the period of July 1 and October 31 except as noted. The facility is required to monitor for dissolved oxygen, water temperature, and pH. Data from the stream monitoring shall be submitted to the Department no later than 28 days following the last day of the reporting period. This data should be submitted to the Department in an electronic format.

River Monitoring Certification

In order to show compliance with the submittal of the stream monitoring data, the facility will be required to indicate, through the discharge monitoring report (DMR), that such data was submitted no later than 28 days following the last day of the reporting period as required by Part IV.D. of the permit. The Permittee shall report a "0" for the river monitoring certification parameter on the DMR to indicate compliance with the reporting requirements found in Part IV.D.8. of the permit.

303(d) List of Impaired Waters

The segment of the receiving stream, Alabama River (Claiborne Lake), the facility discharges to is not listed on the 303(d) List of Impaired Waters; however, nearby downstream segments of the Alabama River (Claiborne Lake) are listed on the 303(d) List for metals (Mercury). The source of this impairment is due to atmospheric deposition. The facility's discharge is not expected to contribute to this impairment nor contain Mercury in any significant amounts that would affect the water quality of the receiving stream; therefore, no monitoring is being proposed for Mercury at this time.

316(b) Cooling Water Intake Structure Requirements

Section 316(b) of the Clean Water Act requires that facilities minimize adverse environmental impacts resulting from the operation of cooling water intake structures (CWIS) by using the "best technology available" (BTA). U.S. EPA has promulgated rules to implement these requirements under Phase I, Phase II, and Phase III of the rules; however, many facilities that operate intake structures do not fall into these categories and are classified as miscellaneous facilities. For these miscellaneous facilities, a BTA determination must be made using BPJ.

The CWIS used by the permittee has been evaluated using available information. At this time, the Department has determined, using BPJ, that the cooling water intake structure represents the BTA to minimize adverse environmental impact in accordance with Section 316 (b) of the Federal Clean Water Act (33 U.S.C. section 1326) due to the intake withdrawal volume being less than 5% of the mean annual average flow, the facility using less than 25% for cooling purposes, and the through screen velocity being less than 0.5 ft/s.

The requirements that facilities must comply with are listed below:

1. The permittee shall submit the following information at least 180 days prior to expiration of this permit:
   - design in-take flow of the CWIS;
   - percentage of in-take flow, based on highest monthly average in last 5 years, used for cooling purposes;
   - an estimate of the in-take flow reduction at the facility based upon the use of a 100 percent (or some lesser percentage) closed-cycle re-circulating cooling water system compared to a conventional once-through cooling water system;
   - through screen design in-take flow velocity;
   - any impingement and entrainment data that may have been collected based on the operation of the facility's CWIS, collected since the effective date of this NPDES permit; and,
   - a detailed description of any changes in the operation of the CWIS, or changes in the type of technologies used at the CWIS such as screens or other technologies affecting the rates of impingement and/or entrainment of fish and shellfish.

2. The permittee is required to operate and maintain the CWIS in a manner that minimizes impingement and entrainment levels. Documentation detailing the steps that have and are being taken to minimize the impingement and entrainment levels shall be maintained on site and made available upon request.

3. The Permittee must keep records of all submissions that are part of the permit application pertaining to the CWIS until the subsequent permit is issued to the Permittee.

4. Nothing in this Permit authorizes take for the purposes of a facility compliance with the Endangered Species Act.

DSN002: Leachate from solid waste landfill and stormwater from landfill site

Landfill Leachate

The facility discharges landfill leachate, which is regulated under 40 CFR Part 445, through its process wastewater outfalls DSN001 and DSN002. 40 CFR 445.1(e) specifies that the regulations therein "do not apply to discharges of landfill wastewater from landfills operated in conjunction with other industrial or commercial operations when the landfill only receives wastes generated by the industrial or commercial operation directly associated with the landfill."

pH

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5)(e)(2) – Specific Water Quality for Fish and Wildlife classified streams states: "Sewage, industrial waste or other wastes shall not cause the pH to deviate more than one unit from then normal or natural pH, nor be less than 6.0, nor greater than 8.5 standard units." The current permit has pH limitations from 6.0 to 9.0 S.U at Outfall DSN002. The discharge from the facility is not expected to adversely affect the instream pH based on the ratio of low effluent flow to stream flow; therefore, pH limitations from 6.0 to 9.0 S.U. are proposed to continue at DSN002 in this permit issuance based on BPJ. Monitoring for pH is proposed to continue at a semi-annual frequency.

Biochemical Oxygen Demand (5-Day) (BOD_5) and Total Suspended Solids (TSS)

Based on the operations occurring onsite, historical DMR data, and data submitted in the reissuance application, monitoring for BOD_5 and TSS is proposed to continue in this permit issuance. Monitoring for these parameters is proposed to continue at a semi-annual frequency. The data collected from the facility's monitoring of these pollutants will be useful in determining the effectiveness of the facility's BMPs in minimizing pollutant concentrations in the runoff.

Total Recoverable Iron, Total Recoverable Manganese, Total Recoverable Zinc

Based on the nature of the discharge, historical DMR data, and data submitted in the reissuance application, monitoring for Iron, Manganese, and Zinc is proposed to continue in this permit issuance. Monitoring for these parameters is proposed to continue at a semi-annual frequency. The data collected from the facility's monitoring of these pollutants will be useful in determining the effectiveness of the facility's BMPs.

DSN003-DSN007: Stormwater associated with industrial activity

Best Professional Judgment (BPJ)

The parameters of concern for stormwater discharges from this facility are based on the parameters of concern listed in EPA form 2F and from the current permit. These parameters are consistent with similar facilities in the state and have been proven to be reflective of the operations at this facility.

pH

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5)(e)(2) – Specific Water Quality for Fish and Wildlife classified streams states: "Sewage, industrial waste or other wastes shall not cause the pH to deviate more than one unit from then normal or natural pH, nor be less than 6.0, nor greater than 8.5 standard units." The current permit has pH limitations from 6.0 to 9.0 S.U at all stormwater outfalls. The discharge from the stormwater from the facility is not expected to adversely affect the instream pH based on the ratio of low effluent flow to stream flow; therefore, pH limitations from 6.0 to 9.0 S.U. are proposed to continue at all stormwater outfalls in this permit issuance based on BPJ. Monitoring for pH is proposed to continue at an annual frequency. .

Oil & Grease

The daily maximum limit of 15 mg/l for Oil and Grease should prevent the occurrence of a visible sheen in the stream and has been shown to be achievable through the use of proper BMPs. Monitoring for Oil and Grease is proposed to continue at an annual frequency.

Biochemical Oxygen Demand (5-Day) (BOD_5) and Total Suspended Solids (TSS)

Based on the operations occurring onsite, historical DMR data, and data submitted in the reissuance application, monitoring for BOD_5 and TSS is proposed to continue in this permit issuance. Monitoring for these parameters is proposed to continue at an annual frequency. The data collected from the facility's monitoring of these pollutants will be useful in determining the effectiveness of the facility's BMPs in minimizing pollutant concentrations in the stormwater runoff.

Representative Stormwater Outfalls

The facility requested that Outfalls DSN003 and DSN006 remain representative of Outfalls DSN004, DSN005, and DSN007. DSN003 is the primary stormwater outfall for the mill and captures drainage from areas that are not routed to DSN001. DSN006 and DSN007 receive stormwater primarily from areas associated with commercial traffic for delivery of raw materials. Currently, there is no industrial activity present at DSN004 and DSN005; however, there is potential for these areas to be used for industrial activity in the future. Based on the current operations onsite, historical DMR data, and data submitted in the reissuance application, it is proposed that DSN003 and DSN006 remain representative of DSN004, DSN005, and DSN007. Stormwater monitoring will only be required at Outfalls DSN003 and DSN006.

Receiving Streams

In the current permit, Outfalls DSN004, DSN006, and DSN007 are listed as discharging directly into the Alabama River (Claiborne Lake), and Outfall DSN005 is listed as discharging directly into Dunns Creek. It has been determined that these outfalls discharge to their respective unnamed tributary prior to entering the Alabama River or Dunns Creek. Based on the receiving streams listed in the facility's application, the receiving waters for these outfalls are being updated in this permit issuance. Outfalls DSN004, DSN006, and DSN007 discharge to an unnamed tributary to the Alabama River (Claiborne Lake) and Outfall DSN005 discharges to an unnamed tributary to Dunns Creek.

***Best* Management Practices (BMP) Plan**

Best Management Practices (BMPs) are believed to be the most effective way to control the contamination of stormwater from areas of industrial activities. This facility is required to maintain a BMP plan. The requirements of the BMP plan call for minimization of stormwater contact with waste materials, products and by-products, and for prevention of spills or loss of fluids from equipment maintenance activities. The effectiveness of the BMPs will be measured through the monitoring of the pollutants of concern.

April 16, 2024 Revision

The facility submitted comments (see attached) on the draft permit to the Department on December 5, 2023. Based on internal discussions and the comments from the facility, the following responses and/or revisions are being made to the permit:

- The requirement of year-round monitoring for Ammonia (as N) at once per month shall remain. The year-round monitoring is due to the potential direct toxic effects from Ammonia to aquatic life in the receiving stream regardless of season, whereas the other permitted nutrients present indirect effects on aquatic life mainly during the defined growing season of April through October. This year-round monitoring requirement is also consistent with similar discharges from other permitted pulp and paper mills in the state.

- The stream monitoring season shall remain from July 1 to October 31 as proposed in the original draft permit. Footnote 4/ on Page 1 in Part I.A. of the permit has been updated to reflect the correct stream monitoring season.

- Part IV.D.7. of the permit has been updated to add in the statement "…and the D.O. at Station 'C' (river mile 121.8) is less than 5.7 mg/l…". The stream monitoring months included in this permit condition shall remain from July 1 to October 31 as mentioned above. The permittee is required to conduct one (1) river survey when the mean 48-hour Alabama River flow falls below 6000 cfs at the identified location **and** the D.O. at the identified location is less than 5.7 mg/l.

May 1, 2024 Revision

The facility has requested to change the sample type for BOD_5 at Outfall DSN002 from a grab to a 24-Hr Composite. A 24-hour composite sample is more appropriate based on the sampling equipment utilized by the facility at this outfall location. This sample type is consistent with the monitoring required for the other parameters at this outfall.

ATTACHMENT A

Permit Limits Summary			
Pollutant	*Monthly Average (lbs/day)*	*Daily Maximum (lbs/day)*	*Basis*
2023 Reissuance - Calculated Permit Limitations			
BOD5	20,670	41,308	Production data reported in reissuance application
Total Suspended Solids	32,200	64,356	Production data reported in reissuance application
Pentachlorophenol	-	3.74	Production data reported in reissuance application
Trichlorophenol	-	3.03	Production data reported in reissuance application
Permit Reissuance Application Request			
BOD5 (May - October)	13,500	20,250	2022 Water Quality Model
BOD5 (November - April)	20,673	31,010	Production data reported in reissuance application
Total Suspended Solids	32,205	64,364	Production data reported in reissuance application
Pentachlorophenol	-	3.56	Production data reported in reissuance application
Trichlorophenol	-	2.84	Production data reported in reissuance application
Current Permit Limitations			
BOD5 (May - October)	13,500	20,250	2022 Water Quality Model
BOD5 (November - April)	19,906	29,859	2022 Water Quality Model
Total Suspended Solids	17,572	35,104	Historical Production Levels (Anti-backsliding)
Pentachlorophenol	-	2.38	Historical Production Levels (Anti-backsliding)
Trichlorophenol	-	1.76	Historical Production Levels (Anti-backsliding)
Proposed Permit Limitations			
BOD5 (May - October)	13,500	20,250	2022 Water Quality Model
BOD5 (November - April)	19,906	29,859	2022 Water Quality Model
Total Suspended Solids	17,572	35,104	Current permit limits
Pentachlorophenol	-	2.38	Current permit limits
Trichlorophenol	-	1.76	Current permit limits

DSN001: Cluster Rule Calculations - 2023 Reissuance

40 CFR 430 - Pulp and Paper Production Point Source Category

Subpart C - Unbleached Kraft Subcategory
40 CFR Part 430.33 - Best Conventional Technology (BCT)

No. 1 Paper Machine Production	1,694.0	air dried tons/day
No. 2 Paper Machine Production	662.0	air dried tons/day
Total	4,712.0	1000 lbs/day

40 CFR 430.33 - BCT effluent limitations for unbleached kraft facilities where pulp and paper are produced using a combined unbleached kraft and semi-chemical process, wherein the spent semi-chemical cooking liquor is burned within the unbleached kraft chemical recovery system.

Pollutant	Continuous Discharges		Cluster Limitations	
	Daily Maximum (lbs/1000 lbs product)	*Monthly Average (lbs/1000 lbs product)*	*Daily Maximum (lbs/day)*	*Monthly Average (lbs/day)*
BOD_5	8.0	4.0	37696	18848
TSS	12.5	6.25	58900	29450
pH	Within the range of 6.0 to 9.0 at all times			

40 CFR 430.34 - BAT effluent limitations for unbleached kraft facilities where pulp and paper are produced using a combined unbleached kraft and semi-chemical process, wherein the spent semi-chemical cooking liquor is burned within the unbleached kraft chemical recovery system.

Pentachlorphenol*	0.00064	-	3.02	-
Trichlorophenol*	0.00059	-	2.78	-

*These limitations do not apply if the facility submits a certification of non-use at the frequency indicated in Part I.A of the permit

Subpart J - Secondary Fiber Non-Deink Subcategory
40 CFR Part 430.102 - Best Practicable Technology (BPT) = Best Conventional Technology (BCT)

No. 1 Paper Machine	136.0	air dried tons/day
	272.0	1000 lbs/day
No.2 Paper Machine	170.0	air dried tons/day
	340.0	1000 lbs/day

40 CFR 430.102(a) - BPT effluent limitations for secondary fiber non-deink facilites where paperboard from wastepaper is produced - noncorrugating medium finish subdivision (No. 1 Paper Machine production)

Pollutant	Continuous Discharges		Cluster Limitations	
	Daily Maximum (lbs/1000 lbs product)	*Monthly Average (lbs/1000 lbs product)*	*Daily Maximum (lbs/day)*	*Monthly Average (lbs/day)*
BOD5	3.0	1.5	816	408
TSS	5.0	2.5	1360	680
pH	Within the range of 6.0 to 9.0 at all times			

40 CFR 430.102(a) - BPT effluent limitations for secondary fiber non-deink facilities where paperboard from wastepaper is produced - corrugating medium finish subdivision (No. 2 Paper Machine production)

BOD_5	5.7	2.8	1938	952
TSS	9.2	4.6	3128	1564
pH	Within the range of 6.0 to 9.0 at all times			

40 CFR 430.104 - BAT effuent limitations for secondary fiber non-deink facilities where paperboard from wastepaper is produced (No. 1 and No. 2 Paper Machines combined production)

Pentachlorophenol*	0.00087	-	0.53	-
Trichlorophenol*	0.00030	-	0.18	-

*These limitations do not apply if the facility submits a certification of non-use at the frequency indicated in Part I.A of the permit

40 CFR Part 430.105 - New Source Performance Standards (NSPS)	
No.2 Paper Machine	110.0 air dried tons/day 220.0 1000 lbs/day

40 CFR 430.105 - NSPS effluent limitations for secondary fiber non-deink facility where paperboard from wastepaper is produced - corrugating medium finish subdivision (No. 2 Paper Machine production)				
Pollutant	Continuous Discharges		Cluster Limitations	
	Daily Maximum (lbs/1000 lbs product)	*Monthly Average (lbs/1000 lbs product)*	*Daily Maximum (lbs/day)*	*Monthly Average (lbs/day)*
BOD_5	3.9	2.1	858	462
TSS	4.4	2.3	968	506
pH	Within the range of 5.0 to 9.0 at all times			
40 CFR 430.105 - NSPS effluent limitations for secondary fiber non-deink facility where paperboard from wastepaper is produced - corrugating medium finish subdivision (No. 2 Paper Machine production)				
Pentachlorophenol*	0.00087	-	0.19	-
Trichlorophenol*	0.00030	-	0.07	-

*These limitations do not apply if the facility submits a certification of non-use at the frequency indicated in Part I.A of the permit

Total Effluent Guidelines		
Pollutant	Cluster Limitations	
	Daily Maximum (lbs/day)	*Monthly Average (lbs/day)*
BOD_5	41308	20670
TSS	64356	32200
Pentachlorophenol	3.74	-
Trichlorophenol	3.03	-

Facility Name: **International Paper Company - Pine Hill (DSN001)**

NPDES No.: **AL0002674**

8/13/2017

$$Q_d*C_d + Q_{d2}*C_{d2} + Q_s*C_s = Q_r*C_r$$

ID	Pollutant	Carcinogen "yes"	Type	Background from upstream source (C_{d2}) Daily Max µg/l	Background from upstream source (C_{d2}) Monthly Avg µg/l	Background upstream (C_s) Daily max µg/l	Background upstream (C_s) Monthly max µg/l	Enter Max Daily Discharge as reported by Applicant (C_d) Max µg/l	Enter Avg Daily Discharge as reported by Applicant (C_d) Ave µg/l	Partition Coefficient (Stream / Lake)
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	0	0	0	0	0.574
3	Beryllium		Metals	0	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0	0.236
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	
7	Copper**		Metals	0	0	0	0	0	0	0.388
8	Lead**		Metals	0	0	0	0	0	0	0.206
9	Mercury**		Metals	0	0	0	0	0	0	0.302
10	Nickel**		Metals	0	0	0	0	0	0	0.505
11	Selenium		Metals	0	0	0	0	0	0	-
12	Silver		Metals	0	0	0	0	0	0	-
13	Thallium		Metals	0	0	0	0	0	0	-
14	Zinc**		Metals	0	0	0	0	0	0	0.330
15	Cyanide		Metals	0	0	0	0	0	0	-
16	Total Phenolic Compounds		Metals	0	0	0	0	0	0	-
17	Hardness (As CaCO3)		Metals	0	0	0	0	0	0	-
18	Acrolein		VOC	0	0	0	0	0	0	-
19	**Acrylonitrile***	YES	VOC	0	0	0	0	0	0	-
20	**Aldrin**	YES	VOC	0	0	0	0	0	0	-
21	**Benzene***	YES	VOC	0	0	0	0	0	0	-
22	**Bromoform***	YES	VOC	0	0	0	0	0	0	-
23	**Carbon Tetrachloride***	YES	VOC	0	0	0	0	0	0	-
24	**Chlordane**	YES	VOC	0	0	0	0	0	0	-
25	Chlorobenzene		VOC	0	0	0	0	0	0	-
26	**Chlorodibromo Methane***	YES	VOC	0	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		VOC	0	0	0	0	0	0	-
29	**Chloroform***	YES	VOC	0	0	0	0	0	0	-
30	**4,4' DDD**	YES	VOC	0	0	0	0	0	0	-
31	**4,4' DDE**	YES	VOC	0	0	0	0	0	0	-
32	**4,4' DDT**	YES	VOC	0	0	0	0	0	0	-
33	**Dichlorobromo Methane***	YES	VOC	0	0	0	0	0	0	-
34	1, 1-Dichloroethane		VOC	0	0	0	0	0	0	-
35	**1, 2-Dichloroethane***	YES	VOC	0	0	0	0	0	0	-
36	Trans-1, 2-Dichloro-Ethylene		VOC	0	0	0	0	0	0	-
37	**1, 1-Dichloroethylene***	YES	VOC	0	0	0	0	0	0	-
38	1, 2-Dichloropropane		VOC	0	0	0	0	0	0	-
39	1, 3-Dichloro-Propylene		VOC	0	0	0	0	0	0	-
40	**Dieldrin**	YES	VOC	0	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	0	-
44	**Methylene Chloride***	YES	VOC	0	0	0	0	0	0	-
45	**1, 1, 2, 2-Tetrachloro-Ethane***	YES	VOC	0	0	0	0	0	0	-
46	**Tetrachloro-Ethylene***	YES	VOC	0	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	0	-
48	**Toxaphene**	YES	VOC	0	0	0	0	0	0	-
49	**Tributyltin (TBT)**	YES	VOC	0	0	0	0	0	0	-
50	1, 1, 1-Trichloroethane		VOC	0	0	0	0	0	0	-
51	**1, 1, 2-Trichloroethane***	YES	VOC	0	0	0	0	0	0	-
52	**Trichloroethylene***	YES	VOC	0	0	0	0	0	0	-
53	**Vinyl Chloride***	YES	VOC	0	0	0	0	0	0	-
54	P-Chloro-M-Cresol		Acids	0	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	0	-
56	2, 4-Dichlorophenol		Acids	0	0	0	0	0	0	-
57	2, 4-Dimethylphenol		Acids	0	0	0	0	0	0	-
58	4, 6-Dinitro-O-Cresol		Acids	0	0	0	0	0	0	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	0	0	-
60	**4,6-Dinitro-2-methylphenol**	YES	Acids	0	0	0	0	0	0	-
61	**Dioxin (2,3,7,8-TCDD)**	YES	Acids	0	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	0	0	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	0	0	-
65	Phenol		Acids	0	0	0	0	0	0	-
66	**2, 4, 6-Trichlorophenol***	YES	Acids	0	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	0	-
70	Benzidine		Bases	0	0	0	0	0	0	-
71	**Benzo(A)Anthracene***	YES	Bases	0	0	0	0	0	0	-
72	**Benzo(A)Pyrene***	YES	Bases	0	0	0	0	0	0	-
73	3, 4 Benzo-Fluoranthene		Bases	0	0	0	0	0	0	-
74	Benzo(Ghi)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	0	-
77	**Bis (2-Chloroethyl)-Ether***	YES	Bases	0	0	0	0	0	0	-
78	Bis (2-Chloroisopropyl) Ether		Bases	0	0	0	0	0	0	-
79	**Bis (2-Ethylhexyl) Phthalate***	YES	Bases	0	0	0	0	0	0	-
80	4-Bromophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
81	Butylbenzyl Phthalate		Bases	0	0	0	0	0	0	-
82	2-Chloronaphthalene		Bases	0	0	0	0	0	0	-
83	4-Chlorophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
84	**Chrysene***	YES	Bases	0	0	0	0	0	0	-
85	Di-N-Butyl Phthalate		Bases	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Bases	0	0	0	0	0	0	-
87	**Dibenzo(A,H)Anthracene***	YES	Bases	0	0	0	0	0	0	-
88	1, 2-Dichlorobenzene		Bases	0	0	0	0	0	0	-
89	1, 3-Dichlorobenzene		Bases	0	0	0	0	0	0	-
90	1, 4-Dichlorobenzene		Bases	0	0	0	0	0	0	-
91	**3, 3-Dichlorobenzidine***	YES	Bases	0	0	0	0	0	0	-
92	Diethyl Phthalate		Bases	0	0	0	0	0	0	-
93	Dimethyl Phthalate		Bases	0	0	0	0	0	0	-
94	**2, 4-Dinitrotoluene***	YES	Bases	0	0	0	0	0	0	-
95	2, 6-Dinitrotoluene		Bases	0	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		Bases	0	0	0	0	0	0	-
97	**Endosulfan (alpha)**	YES	Bases	0	0	0	0	0	0	-
98	**Endosulfan (beta)**	YES	Bases	0	0	0	0	0	0	-
99	**Endosulfan sulfate**	YES	Bases	0	0	0	0	0	0	-
100	**Endrin**	YES	Bases	0	0	0	0	0	0	-
101	**Endrin Aldehyde**	YES	Bases	0	0	0	0	0	0	-
102	Fluoranthene		Bases	0	0	0	0	0	0	-
103	Fluorene		Bases	0	0	0	0	0	0	-
104	**Heptachlor**	YES	Bases	0	0	0	0	0	0	-
105	**Heptachlor Epoxide**	YES	Bases	0	0	0	0	0	0	-
106	**Hexachlorobenzene***	YES	Bases	0	0	0	0	0	0	-
107	**Hexachlorobutadiene***	YES	Bases	0	0	0	0	0	0	-
108	**Hexachlorocyclohexane (alpha)**	YES	Bases	0	0	0	0	0	0	-
109	**Hexachlorocyclohexan (b eta)**	YES	Bases	0	0	0	0	0	0	-
110	**Hexachlorocyclohexan (g amma)**	YES	Bases	0	0	0	0	0	0	-
111	Hexachlorocyclopentadiene		Bases	0	0	0	0	0	0	-
112	Hexachloroethane		Bases	0	0	0	0	0	0	-
113	**Indeno(1, 2, 3-CD)Pyrene***	YES	Bases	0	0	0	0	0	0	-
114	Isophorone		Bases	0	0	0	0	0	0	-
115	Naphthalene		Bases	0	0	0	0	0	0	-
116	Nitrobenzene		Bases	0	0	0	0	0	0	-
117	**N-Nitrosodi-N-Propylamine***	YES	Bases	0	0	0	0	0	0	-
118	**N-Nitrosodi-N-Methylamine***	YES	Bases	0	0	0	0	0	0	-
119	**N-Nitrosodi-N-Phenylamine***	YES	Bases	0	0	0	0	0	0	-
120	**PCB-1016**	YES	Bases	0	0	0	0	0	0	-
121	**PCB-1221**	YES	Bases	0	0	0	0	0	0	-
122	**PCB-1232**	YES	Bases	0	0	0	0	0	0	-
123	**PCB-1242**	YES	Bases	0	0	0	0	0	0	-
124	**PCB-1248**	YES	Bases	0	0	0	0	0	0	-
125	**PCB-1254**	YES	Bases	0	0	0	0	0	0	-
126	**PCB-1260**	YES	Bases	0	0	0	0	0	0	-
127	Pentachlorobenzene		Bases	0	0	0	0	0	0	-
128	Pyrene		Bases	0	0	0	0	0	0	-
129	1, 2, 4-Trichlorobenzene		Bases	0	0	0	0	0	0	-

20.4	Enter Q_d = wastewater discharge flow from facility (MGD)
31.5634716	Q_d = wastewater discharge flow (cfs) (this value is calculated from the MGD)
0	Enter flow from upstream discharge Qd2 = background stream flow in MGD above point of discharge
0	Qd2 = background stream flow from upstream source (cfs)
4,387	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
3,290	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
30,642	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
6,386	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter as Left	Enter C_s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q_d +Qd2+Q_s	Q_r = resultant in-stream flow, after discharge
Calculated on other	C_r = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
50.00	Enter, background Hardness above point of discharge (assumed 50 South of Birmingham and 100 North of Birmingham)
7.00 s.u.	Enter, background pH above point of discharge
YES	Enter, Is discharge to a stream? "YES" Other option would be to a Lake. (This changes the partition coefficients for the metals)

** Using Partition Coefficients

May 2, 2023

Facility Name: International Paper Company - Pine Hill (DSN001)

NPDES No.: AL0002674

Freshwater F&W classification						Freshwater Acute (µg/l) Q_s =1Q10					Freshwater Chronic (µg/l) Q_s = 7Q10					Human Health Consumption Fish only (µg/l) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10			
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (Cd2) Daily Max	Max Daily Discharge as reported by Applicant (C_{max})	Water Quality Criteria (C_t)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?	Background from upstream source (Cd2) Monthly Ave	Avg Daily Discharge as reported by Applicant (C_{ave})	Water Quality Criteria (C_t)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_t)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	-	-	-	-	3.73E+02	5.23E+04	1.05E+04	No
2	Arsenic		YES	0	0	592.334	62333.974	12466.795	No	0	0	261.324	36582.695	7316.539	No	0.3030	294.4866	58.8973	No
3	Berylium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
4	Cadmium			0	0	4.347	457.468	91.494	No	0	0	0.844	90.099	18.020	No	-	-	-	-
5	Chromium/ Chromium III			0	0	1537.913	161841.366	32368.273	No	0	0	200.051	28005.078	5601.016	No	-	-	-	-
6	Chromium/ Chromium VI			0	0	15.000	1663.751	336.750	No	0	0	11.000	1539.888	307.978	No	-	-	-	-
7	Copper			0	0	18.026	1896.995	379.399	No	0	0	12.756	1787.049	357.410	No	-	-	-	-
8	Lead			0	0	146.291	15394.831	3078.966	No	0	0	5.701	798.046	159.609	No	-	-	-	-
9	Mercury			0	0	2.400	252.563	50.513	No	0	0	0.012	1.680	0.336	No	4.24E-02	5.94E+00	1.19E+00	No
10	Nickel			0	0	515.824	54282.474	10856.495	No	0	0	57.252	8020.317	1604.063	No	9.93E+02	1.39E+05	2.78E+04	No
11	Selenium			0	0	20.000	2104.688	420.938	No	0	0	5.000	699.949	139.990	No	2490.50	340252.94	68050.59	No
12	Silver			0	0	0.979	102.755	20.551	No	0	0	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	2.74E-01	3.83E+01	7.66E+00	No
14	Zinc			0	0	197.369	20769.991	4153.998	No	0	0	198.983	27855.626	5571.125	No	1.49E+04	2.08E+06	4.17E+05	No
15	Cyanide			0	0	22.000	2315.157	463.031	No	0	0	5.200	727.947	145.589	No	9.30E+03	1.31E+06	2.61E+05	No
16	Total Phenolic Compounds			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	-	-	-	-	5.43E+00	7.60E+02	1.52E+02	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.44E-01	1.40E+02	2.80E+01	No
20	Aldrin		YES	0	0	3.000	315.703	63.141	No	0	0	-	-	-	-	2.94E-05	2.86E-02	5.71E-03	No
21	Benzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.55E+01	1.50E+04	3.01E+03	No
22	Bromoform		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.88E+01	7.65E+04	1.53E+04	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.57E-01	9.30E+02	1.86E+02	No
24	Chlordane		YES	0	0	2.400	252.563	50.513	No	0	0	0.0043	0.602	0.120	No	4.73E-04	4.59E-01	9.19E-02	No
25	Clorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	9.09E+02	1.27E+05	2.54E+04	No
26	Chlorodibromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.41E+00	7.20E+03	1.44E+03	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
29	ChloroForm		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.02E+02	9.91E+04	1.98E+04	No
30	4,4' - DDD		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.81E-04	1.76E-01	3.53E-02	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E-04	1.24E-01	2.49E-02	No
32	4,4' - DDT		YES	0	0	1.100	115.756	23.152	No	0	0	0.001	0.140	0.028	No	1.28E-04	1.24E-01	2.49E-02	No
33	Dichlorobromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.00E+01	9.75E+03	1.95E+03	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.14E+01	2.08E+04	4.15E+03	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	-	-	-	-	5.91E+03	8.27E+05	1.65E+05	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	4.17E+03	4.05E+06	8.10E+05	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	-	-	-	-	8.49E+00	1.19E+03	2.38E+02	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	-	-	-	-	1.29E+01	1.72E+03	3.44E+02	No
40	Dieldrin		YES	0	0	0.240	25.256	5.051	No	0	0	0.056	7.839	1.568	No	3.12E-05	3.03E-02	6.07E-03	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.24E+03	1.74E+05	3.48E+04	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	-	-	-	-	8.71E+02	1.22E+05	2.44E+04	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.45E+02	3.36E+05	6.72E+04	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.33E+00	2.27E+03	4.54E+02	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.02E+00	1.86E+03	3.73E+02	No
47	Toluene			0	0	-	-	-	-	0	0	-	-	-	-	8.72E+03	1.22E+06	2.44E+05	No
48	Toxaphene		YES	0	0	0.730	76.821	15.364	No	0	0	0.0002	0.028	0.006	No	1.62E-04	1.57E-01	3.15E-02	No
49	Tributyltin (TBT)		YES	0	0	0.460	48.408	9.682	No	0	0	0.072	10.079	2.016	No	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.10E+00	8.84E+03	1.77E+03	No
52	Trichlorethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E+01	1.70E+04	3.40E+03	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.42E+00	1.38E+03	2.77E+02	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	8.71E+01	1.22E+04	2.44E+03	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	1.72E+02	2.41E+04	4.82E+03	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	-	-	-	-	4.98E+02	6.96E+04	1.39E+04	No
58	4, 6-Dinitro-O-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
59	2, 4-Dinitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	4.36E+05	8.71E+04	No
60	4,6-Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.65E+02	1.61E+05	3.22E+04	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.87E-08	2.59E-05	5.18E-06	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
63	4-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
64	Pentachlorophenol		YES	0	0	6.723	917.994	183.599	No	0	0	6.693	936.893	187.379	No	1.77E+01	1.72E+03	3.44E+02	No
65	Phenol			0	0	-	-	-	-	0	0	-	-	-	-	5.00E+05	7.00E+07	1.40E+07	No
66	2, 4, 6-Trichlorophenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.41E+00	1.37E+03	2.75E+02	No
67	Acenaphthene			0	0	-	-	-	-	0	0	-	-	-	-	5.29E+02	8.10E+04	1.62E+04	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	-	-	-	-	2.33E+04	3.27E+06	6.53E+05	No
70	Benzidine			0	0	-	-	-	-	0	0	-	-	-	-	1.16E-04	1.62E-02	3.25E-03	No
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
73	Benzo(b)fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.49E+00	2.98E-01	No
74	Benzo(GHI)Perylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
75	Benzo(K)Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.49E+00	2.98E-01	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
77	Bis (2-Chloroethyl)-Ether		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.07E-01	2.99E+02	5.98E+01	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	-	-	-	-	3.76E+04	5.29E+06	1.06E+06	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E+00	1.25E+03	2.49E+02	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	1.13E+03	1.58E+05	3.16E+04	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	-	-	-	-	9.24E+02	1.29E+05	2.58E+04	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.62E+03	3.67E+05	7.34E+04	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	7.55E+02	1.06E+05	2.11E+04	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	5.62E+02	7.87E+04	1.57E+04	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.12E+02	1.57E+04	3.15E+03	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.96E-02	1.62E+01	3.23E+00	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.59E+04	3.58E+06	7.16E+05	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	6.48E+05	9.07E+07	1.81E+07	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.19E+00	1.92E+03	3.85E+02	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
96	1,2-Diphenylhydrazine			0	0	-	-	-	-	0	0	-	-	-	-	1.17E-01	1.64E+01	3.28E+00	No
97	Endosulfan (alpha)		YES	0	0	0.22	23.152	4.630	No	0	0	0.056	7.839	1.568	No	5.19E+01	5.04E+04	1.01E+04	No
98	Endosulfan (beta)		YES	0	0	0.22	23.152	4.630	No	0	0	0.056	7.839	1.568	No	5.19E+01	5.04E+04	1.01E+04	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	-	-	-	-	5.19E+01	5.04E+04	1.01E+04	No
100	Endrin		YES	0	0	0.086	9.050	1.810	No	0	0	0.036	5.040	1.008	No	3.53E-02	3.43E+01	6.85E+00	No
101	Endrin Aldeyhde		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E-01	1.71E+02	3.43E+01	No
102	Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	8.42E+01	1.14E+04	2.27E+03	No
103	Fluorene			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	4.36E+05	8.71E+04	No
104	Heptochlor		YES	0	0	0.52	54.722	10.944	No	0	0	0.0038	0.532	0.106	No	4.83E-05	4.50E-02	9.00E-03	No
105	Heptachlor Epoxide		YES	0	0	0.52	54.722	10.944	No	0	0	0.0038	0.532	0.106	No	2.29E-05	2.22E-02	4.45E-03	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.68E-04	1.63E-01	3.26E-02	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.08E+01	1.05E+04	2.09E+03	No
108	Hexachlorocyclohexan (alpha)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.85E-03	2.77E+00	5.54E-01	No
109	Hexachlorocyclohexan (beta)		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.97E-03	9.69E+00	1.94E+00	No
110	Hexachlorocyclohexan (gamma)		YES	0	0	0.95	99.973	19.995	No	0	0	-	-	-	-	1.08E+00	1.05E+03	2.09E+02	No
111	HexachlorocycloPentadiene			0	0	-	-	-	-	0	0	-	-	-	-	9.45E+02	9.03E+04	1.81E+04	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	-	-	-	-	1.92E+00	2.68E+02	5.37E+01	No
113	Indeno(1, 2, 3-CK)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
114	Isophorone			0	0	-	-	-	-	0	0	-	-	-	-	5.61E+02	7.85E+04	1.57E+04	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.04E+02	5.65E+04	1.13E+04	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.95E-01	2.87E+02	5.73E+01	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E+00	1.71E+03	3.42E+02	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.50E+00	3.40E+03	6.81E+02	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	-	-	-	-	2.33E+03	3.27E+05	6.53E+04	No
129	1, 2, 4-Trichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.09E+01	5.73E+03	1.15E+03	No

Facility Name: **International Paper Company - Pine Hill (DSN002)**

NPDES No.: **AL0002674**

6/13/2017

$$Q_3 * C_3 + Q_{d2} * C_{d2} + Q_s * C_s = Q_r * C_r$$

Sr	Pollutant	Carcinogen "yes"	Type	Background conc. upstream source (C_{s1}) Daily Max.	Background conc. upstream source (C_{s2}) monthly Avg.	Background conc. (C_{d1}) Daily Max.	Background conc. (C_{d2}) Monthly Avg.	Effluent Max Daily Discharge as reported by facilities (C_3) ug/l	Effluent Avg Daily Discharge as reported by facilities (C_{d2}) ug/l	Partition Coefficient (Chronic) (L/kg)
				ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	0	0	0	0	0.574
3	Beryllium		Metals	0	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0	0.236
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	
7	Copper**		Metals	0	0	0	0	0	0	0.388
8	Lead**		Metals	0	0	0	0	0	0	0.206
9	Mercury**		Metals	0	0	0	0	0	0	0.302
10	Nickel**		Metals	0	0	0	0	0	0	0.505
11	Selenium		Metals	0	0	0	0	0	0	-
12	Silver		Metals	0	0	0	0	0	0	-
13	Thallium		Metals	0	0	0	0	0	0	-
14	Zinc**		Metals	0	0	0	0	630	230	0.330
15	Cyanide		Metals	0	0	0	0	25	25	-
16	Total Phenolic Compounds		Metals	0	0	0	0	0	0	-
17	Hardness (As CaCO3)		Metals	0	0	0	0	0	0	-
18	Acrolein		VOC	0	0	0	0	0	0	-
19	**Acrylonitrile***	YES	VOC	0	0	0	0	0	0	-
20	**Aldrin**	YES	VOC	0	0	0	0	0	0	-
21	**Benzene***	YES	VOC	0	0	0	0	0	0	-
22	**Bromoform***	YES	VOC	0	0	0	0	0	0	-
23	**Carbon Tetrachloride***	YES	VOC	0	0	0	0	0	0	-
24	**Chlordane**	YES	VOC	0	0	0	0	0	0	-
25	Chlorodibromo		VOC	0	0	0	0	0	0	-
26	**Chlorodibromo Methane***	YES	VOC	0	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		VOC	0	0	0	0	0	0	-
29	**Chloroform***	YES	VOC	0	0	0	0	0	0	-
30	**4,4'-DDD**	YES	VOC	0	0	0	0	0	0	-
31	**p,p'-DDE**	YES	VOC	0	0	0	0	0	0	-
32	**4,4'-DDT**	YES	VOC	0	0	0	0	0	0	-
33	**Dichlorobromo Methane***	YES	VOC	0	0	0	0	0	0	-
34	1, 1-Dichloroethane		VOC	0	0	0	0	0	0	-
35	**1, 2-Dichloroethane***	YES	VOC	0	0	0	0	0	0	-
36	Trans-1, 2-Dichloro-Ethylene		VOC	0	0	0	0	0	0	-
37	**1, 1-Dichloroethylene***	YES	VOC	0	0	0	0	0	0	-
38	1, 2-Dichloropropane		VOC	0	0	0	0	0	0	-
39	1, 3-Dichloro-Propylene		VOC	0	0	0	0	0	0	-
40	**Dieldrin**	YES	VOC	0	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	0	-
44	**Methylene Chloride***	YES	VOC	0	0	0	0	0	0	-
45	**1, 1, 2, 2-Tetrachloro-Ethane***	YES	VOC	0	0	0	0	0	0	-
46	**Tetrachloro-Ethylene***	YES	VOC	0	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	0	-
48	**Toxaphene**	YES	VOC	0	0	0	0	0	0	-
49	**Tributyltin (TBT)**	YES	VOC	0	0	0	0	0	0	-
50	1, 1, 1-Trichloroethane		VOC	0	0	0	0	0	0	-
51	**1, 1, 2-Trichloroethane***	YES	VOC	0	0	0	0	0	0	-
52	**Trichloroethylene***	YES	VOC	0	0	0	0	0	0	-
53	**Vinyl Chloride***	YES	VOC	0	0	0	0	0	0	-
54	2-Chloro-4-Cresol		Acids	0	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	0	-
56	2, 4-Dichlorophenol		Acids	0	0	0	0	0	0	-
57	2, 4-Dimethylphenol		Acids	0	0	0	0	0	0	-
58	4, 6-Dinitro-O-Cresol		Acids	0	0	0	0	0	0	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	0	0	-
60	**2, 6-Dinitro -2-methylphenol**	YES	Acids	0	0	0	0	0	0	-
61	**Dioxin (2,3,7,8-TCDD)**	YES	Acids	0	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	0	0	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	0	0	-
65	Phenol		Acids	0	0	0	0	0	0	-
66	**2, 4, 6-Trichlorophenol***	YES	Acids	0	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	0	-
70	Benzidine		Bases	0	0	0	0	0	0	-
71	**Benzo(A)Anthracene***	YES	Bases	0	0	0	0	0	0	-
72	**Benzo(A)Pyrene***	YES	Bases	0	0	0	0	0	0	-
73	3, 4 Benzo-Fluoranthene		Bases	0	0	0	0	0	0	-
74	Benzo(G,H,I)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	0	-
77	**Bis (2-Chloroethyl) Ether***	YES	Bases	0	0	0	0	0	0	-
78	Bis (2-Chloroiso-Propyl) Ether		Bases	0	0	0	0	0	0	-
79	**Bis (2-Ethylhexyl) Phthalate***	YES	Bases	0	0	0	0	0	0	-
80	4-Bromophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
81	Butyl benzyl Phthalate		Bases	0	0	0	0	0	0	-
82	2-Chloronaphthalene		Bases	0	0	0	0	0	0	-
83	4-Chlorophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
84	**Chrysene***	YES	Bases	0	0	0	0	0	0	-
85	Di-N-Butyl Phthalate		Bases	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Bases	0	0	0	0	0	0	-
87	**Dibenzo (A,H)Anthracene***	YES	Bases	0	0	0	0	0	0	-
88	1, 2-Dichlorobenzene		Bases	0	0	0	0	0	0	-
89	1, 3-Dichlorobenzene		Bases	0	0	0	0	0	0	-
90	1, 4-Dichlorobenzene		Bases	0	0	0	0	0	0	-
91	**3, 3-Dichlorobenzidine***	YES	Bases	0	0	0	0	0	0	-
92	Diethyl Phthalate		Bases	0	0	0	0	0	0	-
93	Dimethyl Phthalate		Bases	0	0	0	0	0	0	-
94	**2, 4-Dinitrotoluene***	YES	Bases	0	0	0	0	0	0	-
95	2, 6-Dinitrotoluene		Bases	0	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		Bases	0	0	0	0	0	0	-
97	**Endosulfan (alpha)**	YES	Bases	0	0	0	0	0	0	-
98	**Endosulfan (beta)**	YES	Bases	0	0	0	0	0	0	-
99	**Endosulfan sulfate**	YES	Bases	0	0	0	0	0	0	-
100	**Endrin**	YES	Bases	0	0	0	0	0	0	-
101	**Endrin Aldehyde**	YES	Bases	0	0	0	0	0	0	-
102	Fluoranthene		Bases	0	0	0	0	0	0	-
103	Fluorene		Bases	0	0	0	0	0	0	-
104	Heptachlor	YES	Bases	0	0	0	0	0	0	-
105	Heptachlor Epoxide	YES	Bases	0	0	0	0	0	0	-
106	**Hexachlorobenzene***	YES	Bases	0	0	0	0	0	0	-
107	**Hexachlorobutadiene***	YES	Bases	0	0	0	0	0	0	-
108	**Hexachlorocyclohexan (alpha)**	YES	Bases	0	0	0	0	0	0	-
109	**Hexachlorocyclohexan (beta)**	YES	Bases	0	0	0	0	0	0	-
110	**Hexachlorocyclohexan (gamma)**	YES	Bases	0	0	0	0	0	0	-
111	Hexachlorocyclopentadiene		Bases	0	0	0	0	0	0	-
112	Hexachloroethane		Bases	0	0	0	0	0	0	-
113	**Indeno(1, 2, 3-CD)Pyrene***	YES	Bases	0	0	0	0	0	0	-
114	Isophorone		Bases	0	0	0	0	0	0	-
115	Naphthalene		Bases	0	0	0	0	0	0	-
116	Nitrobenzene		Bases	0	0	0	0	0	0	-
117	**N-Nitrosodi-N-Propylamine***	YES	Bases	0	0	0	0	0	0	-
118	**N-Nitrosodi-N-Methylamine***	YES	Bases	0	0	0	0	0	0	-
119	**N-Nitrosodi-N-Phenylamine***	YES	Bases	0	0	0	0	0	0	-
120	**PCB-1016**	YES	Bases	0	0	0	0	0	0	-
121	**PCB-1221**	YES	Bases	0	0	0	0	0	0	-
122	**PCB-1232**	YES	Bases	0	0	0	0	0	0	-
123	**PCB-1242**	YES	Bases	0	0	0	0	0	0	-
124	**PCB-1248**	YES	Bases	0	0	0	0	0	0	-
125	**PCB-1254**	YES	Bases	0	0	0	0	0	0	-
126	**PCB-1260**	YES	Bases	0	0	0	0	0	0	-
127	Phenanthrene		Bases	0	0	0	0	0	0	-
128	Pyrene		Bases	0	0	0	0	0	0	-
129	1, 2, 4-Trichlorobenzene		Bases	0	0	0	0	0	0	-

0.22	Enter Q_3 = wastewater discharge flow from facility (MGD)
0.34039038	Q_d = wastewater discharge flow (cfs) (this value is calculated from the MGD)
0	Enter flow from upstream discharge Qd2 = background stream flow in MGD above point of discharge
0	Qd2 = background stream flow from upstream source (cfs)
4,387	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
3,290	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
30,642	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
6,386	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter to Calc	Enter C_s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q_s +Qd2+Q_3	Q_r = resultant in-stream flow, after discharge
Calculated on other	C_r = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
50.00	Enter, Background Hardness above point of discharge (assumed 50 South of Birmingham and 100 North of Birmingham)
7.00 s.u.	Enter, Background pH above point of discharge
YES	Enter, is discharge to a stream? "YES" Other option would be to a Lake. (This changes the partition coefficients for the metals)

** Using Partition Coefficients

May 2, 2023

Facility Name: International Paper Company - Pine Hill (DSN002)

NPDES No.: AL0002674

						Freshwater Acute (ug/l) Q_s >1010					Freshwater Chronic (ug/l) Q_s > 1010				Human Health Consumption Fish only (ug/l) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s > 1010			
ID	Pollutant	PSD	Carcinogen	Background from upstream source (Cs) Daily Max	Max Daily Discharge as reported by Applicant (C_{max})	Water Quality Criteria (C_d)	Draft Permit Limit (C_{max})	25% of Draft Permit Limit	RP?	Background from upstream source (Cs) Monthly Ave	Max Daily Discharge as reported by Applicant (C_{max})	Water Quality Criteria (C_d)	Draft Permit Limit (C_{max})	25% of Draft Permit Limit	RP?	Water Quality Criteria (C_d)	Draft Permit Limit (C_{max})	25% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	4.61E+03	[illegible]	No
2	Arsenic		YES	0	0	[illegible]	5725726.188	1145145.238	No	0	0	[illegible]	3368243.026	673648.605	No	[illegible]	27279.1425	5455.8285	No
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
4	Cadmium			0	0	4.247	42020.972	8404.194	No	0	0	0.544	8295.574	1659.115	No	-	-	-	-
5	Chromium, Chromium III			0	0	[illegible]	14866039.902	2973207.980	No	0	0	[illegible]	2578484.374	515696.875	No	-	-	-	-
6	Chromium, Chromium VI			0	0	16.000	154661.969	30932.394	No	0	0	11.000	141780.576	28356.115	No	-	-	-	-
7	Copper			0	0	18.028	174249.875	34849.935	No	0	0	12.789	164537.245	32907.449	No	-	-	-	-
8	Lead			0	0	[illegible]	1414101.854	282820.371	No	0	0	15.701	73477.708	14695.542	No	-	-	-	-
9	Mercury			0	0	2.400	23199.295	4639.859	No	0	0	0.012	154.670	30.934	No	4.24E-02	5.47E+02	1.09E+02	No
10	Nickel			0	0	[illegible]	4986150.633	997230.127	No	0	0	57.382	738446.870	147689.374	No	[illegible]	1.28E+07	2.56E+06	No
11	Selenium			0	0	20.000	193327.461	38665.492	No	0	0	5.000	64445.717	12889.143	No	[illegible]	31327778.89	6265555.78	No
12	Silver			0	0	2.975	9436.658	1887.732	No	0	0	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	3.53E+03	7.05E+02	No
14	Zinc			0	830	[illegible]	1907840.538	381568.108	No	0	230	[illegible]	2564723.991	512944.798	No	[illegible]	1.92E+06	3.84E+07	No
15	Cyanide			0	25	22.000	212860.207	42532.041	No	0	25	5.200	87023.545	13404.709	No	[illegible]	1.20E+08	2.41E+07	No
16	Total Phenolic Compounds			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	6.99E+04	1.40E+04	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.30E+04	2.59E+03	No
20	Aldrin		YES	0	0	3.000	28999.119	5799.824	No	0	0	-	-	-	-	[illegible]	2.65E+00	5.29E-01	No
21	Benzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.39E+06	2.79E+05	No
22	Bromoform		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	7.09E+06	1.42E+06	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	8.62E+04	1.72E+04	No
24	Chlordane		YES	0	2.400	2.400	23199.295	4639.859	No	0	0	0.0043	55.423	11.085	No	[illegible]	4.26E+01	8.51E+00	No
25	Chlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.17E+07	2.34E+06	No
26	Chlorodibromo Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	6.67E+05	1.33E+05	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
29	Chloroform		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.18E+06	1.84E+06	No
30	4,4 - DDD		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.63E+01	3.27E+00	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.15E+01	2.31E+00	No
32	4,4' - DDT		YES	0	0	1.100	10633.010	2126.802	No	0	0	0.001	12.689	2.578	No	[illegible]	1.15E+01	2.31E+00	No
33	Dichlorobromo Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.03E+05	1.81E+05	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.92E+06	3.85E+05	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	7.61E+07	1.52E+07	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	3.75E+08	7.50E+07	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.09E+05	2.19E+04	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.58E+05	3.17E+04	No
40	Dieldrin		YES	0	0.140	0.140	2319.930	463.986	No	0	0	0.056	721.792	144.358	No	[illegible]	2.81E+00	5.62E-01	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.60E+07	3.21E+06	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.12E+07	2.25E+06	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	3.11E+07	6.22E+06	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	2.10E+05	4.20E+04	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.73E+05	3.45E+04	No
47	Toluene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.12E+08	2.25E+07	No
48	Toxaphene		YES	0	0	0.730	7056.452	1411.290	No	0	0	0.0002	2.578	0.516	No	6.62E-04	1.46E+01	2.92E+00	No
49	Tributyltin (TBT)		YES	0	0	0.460	4446.532	889.306	No	0	0	0.072	928.018	185.604	No	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	8.19E+06	1.64E+05	No
52	Trichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.57E+08	3.15E+05	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.28E+05	2.56E+04	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.12E+08	2.24E+05	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	2.22E+06	4.43E+05	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	6.41E+06	1.28E+06	No
58	4, 6-Dinitro-O-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
59	2, 4-Dinitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	4.01E+07	8.02E+06	No
60	4,6 Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.49E+07	2.98E+06	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	2.40E-03	4.80E-04	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
63	4-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
64	Pentachlorophenol		YES	0	0	0.791	84322.874	16864.575	No	0	0	0.560	86261.870	17252.334	No	[illegible]	1.50E+05	3.18E+04	No
65	Phenol			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	6.44E+09	1.29E+09	No
66	2, 4, 6-Trichlorophenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.27E+05	2.55E+04	No
67	Acenaphthene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	7.46E+06	1.49E+06	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	3.01E+08	6.01E+07	No
70	Benzidine			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.49E+00	2.99E-01	No
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.59E+02	1.92E+02	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.59E+02	1.92E+02	No
73	Benzo(B)fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.37E+02	2.75E+01	No
74	Benzo(G,H,I)Perylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
75	Benzo(K)fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.37E+02	2.75E+01	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
77	Bis (2-Chloroethyl) Ether		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	2.77E+04	5.53E+03	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	4.87E+06	9.74E+07	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.15E+05	2.31E+04	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.45E+07	2.91E+06	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.19E+07	2.38E+06	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.59E+02	1.92E+02	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	3.36E+07	6.76E+06	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.59E+02	1.92E+02	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.74E+06	1.95E+06	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	7.25E+06	1.45E+06	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.45E+06	2.90E+05	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.50E+03	2.99E+02	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	3.30E+08	6.59E+07	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	8.35E+09	1.67E+09	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.78E+05	3.57E+04	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
96	1, 2-Diphenylhydrazine			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.51E+03	3.02E+02	No
97	Endosulfan (alpha)		YES	0	0	0.220	2126.602	425.320	No	0	0	0.056	721.792	144.358	No	[illegible]	4.67E+06	9.34E+05	No
98	Endosulfan (beta)		YES	0	0	0.220	2126.602	425.320	No	0	0	0.056	721.792	144.358	No	[illegible]	4.67E+06	9.34E+05	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	4.67E+06	9.34E+05	No
100	Endrin		YES	0	0	0.086	831.308	166.262	No	0	0	0.036	464.009	92.802	No	[illegible]	3.17E+03	6.35E+02	No
101	Endrin Aldehyde		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.59E+04	3.17E+03	No
102	Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.05E+06	2.09E+05	No
103	Fluorene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	4.01E+07	8.02E+06	No
104	Heptachlor		YES	0	0	0.520	5028.514	1005.303	No	0	0	0.0038	48.979	9.796	No	[illegible]	4.17E+00	8.34E-01	No
105	Heptachlor Epoxide		YES	0	0	0.520	5028.514	1005.303	No	0	0	0.0038	48.979	9.798	No	[illegible]	2.06E+00	4.12E-01	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.51E+01	3.02E+00	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.69E+05	1.94E+05	No
108	Hexachlorocyclohexin (alpha)		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	2.56E+02	5.13E+01	No
109	Hexachlorocyclohexin (beta)		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	8.98E+02	1.80E+02	No
110	Hexachlorocyclohexin (gamma)		YES	0	0	0.950	9183.054	1836.611	No	0	0	0.063	1.636	0.327	No	[illegible]	9.69E+04	1.94E+04	No
111	Hexachlorocyclopentadiene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	8.32E+06	1.66E+06	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	2.47E+04	4.94E+03	No
113	Indeno(1, 2, 3-CD)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	9.59E+02	1.92E+02	No
114	Isophorone			0	0	-	-	-	-	0	0	-	-	-	-	5.61E+02	7.23E+06	1.45E+06	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	5.20E+06	1.04E+06	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	2.66E+04	5.31E+03	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	1.58E+05	3.17E+04	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	3.15E+05	6.30E+04	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	[illegible]	[illegible]	6.73E-01	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	[illegible]	[illegible]	6.73E-01	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	[illegible]	[illegible]	6.73E-01	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	[illegible]	3.37E+00	6.73E-01	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	[illegible]	3.37E+00	6.73E-01	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	[illegible]	3.37E+00	6.73E-01	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	[illegible]	3.37E+00	6.73E-01	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	-	-	-	-	[illegible]	3.01E+07	6.01E+06	No
129	1, 2, 4-Trichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.09E+01	5.26E+05	1.06E+05	No

Close Form

Waste Load Allocation Summary

Open FILE by permit number

Comments included ☐ Yes ☑ No

General Information

Request Number: 3850 Page 1

Information Verified By: KDP

Receiving Stream Name: Alabama River (Claiborne Lake)

Year File Was Created:

Previous File Name: OR Local Name (If applicable)

Facility Name: International Paper Company - Pine Hill

ID Number: 1876

Previous Discharger Name: Weyerhaeuser

Or-AKA (includes previous file name)

12 Digit HUC Code: 031502030805

River Basin: Alabama

County: Wilcox

Use Classification: F&W

Date of WLA Response: 6/3/2022

Discharge Latitude: 31.975375

Lat/Long Method: Arcview

Discharge Longitude: -87.459708

Approved TMDL?

Site Visit Completed? ☑ Yes ☐ No

☐ No ☑ Yes

Date of Site Visit: 4/27/2022

Approval Date of TMDL:

Waterbody Impaired? ☐ Yes ☑ No

Antidegradation ☐ Yes ☑ No

Permit Information

Waterbody Tier Level: Tier I

Permit Number: AL0002674

Use Support Category: 1

Permit Status: Active

Other Point Sources? ☑ Yes ☐ No

Type of Discharger

- ☑ Municipal
- ☑ Industrial
- ☑ Semipublic/Private
- ☑ Mining

Sources Included in Model

Pine Hill Lagoon

Waste Load Allocation Information

Modeled Reach Length: 58.5 Miles

Date of Allocation: 2/10/2022

Name of Model Used: QUAL2K

Allocation Type: 2 Seasons

Model Completed by: Jacobs

Type of Model Used: Calibrated

Allocation Developed by: Consultant

Waste Load Allocation Summary

Annual Effluent Limits

QW		MGD
CBOD5		
NH3-N		
TKN		
D.O.		

Conventional Parameters

Qw	19.5	MGD	Qw	19.5	MGD
Season	Summer		Season	Winter	
From	May		From	Nov	
Through	Oct		Through	Apr	
CBOD5	13500	lbs/day	CBOD5	19906	lbs/day
NH3-N			NH3-N		
TKN			TKN		
D.O.			D.O.		

Other Parameters

Qw		MGD	Qw		MGD
Season			Season		
From			From		
Through			Through		
TP			TP		
TN			TN		
TSS			TSS		

"Monitor Only" Parameters for Effluent:

Parameter	Frequency	Parameter	Frequency
TP	Monthly		
NO2+NO3-N	Monthly		
TKN	Monthly		

Water Quality Characteristics Immediately Upstream of Discharge

Parameter	Summer		Winter	
CBODu	1.43	mg/l	2.74	mg/l
NH3-N	6.75	mg/l	5.03	mg/l
Temperature	29.25	°C	21.36	°C
pH	7.71	su	7.75	su

Hydrology at Discharge Location

Drainage Area Qualifier			
Exact			
Drainage Area	21005	sq mi	
Stream 7Q10	4387	cfs	ADEM Estimate w/USGS Gage Data
Stream 1Q10	3290	cfs	ADEM Estimate w/USGS Gage Data
Stream 7Q2	6386	cfs	ADEM Estimate w/USGS Gage Data
Annual Average	30642	cfs	ADEM Estimate w/USGS Gage Data

Method Used to Calculate

Comments and/or Notations

ATTACHMENT B

Facility Name: **International Paper Company - Pine Hill (DSN001)**

NPDES No.: **AL0002674**

6/13/2017

$Q_d*C_d + Q_{d2}*C_{d2} + Q_s*C_s = Q_r*C_r$

ID	Pollutant	Carcinogen "Yes"	Type	Background from upstream source (C_{d2}) Daily Max	Background from upstream source (C_{d2}) Monthly Ave	Background Instream (C_s) Daily Max	Background Instream (C_s) Monthly Ave	Enter Max. Daily Discharge as reported by Applicant (C_d) Max	Enter Avg. Daily Discharge as reported by Applicant (C_d) Ave	Partition Coefficient (Stream / Lake)
				µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	0	0	0	0	0.574
3	Beryllium		Metals	0	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0	0.236
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	
7	Copper**		Metals	0	0	0	0	0	0	0.388
8	Lead**		Metals	0	0	0	0	0	0	0.206
9	Mercury**		Metals	0	0	0	0	0	0	0.302
10	Nickel**		Metals	0	0	0	0	0	0	0.505
11	Selenium		Metals	0	0	0	0	0	0	-
12	Silver		Metals	0	0	0	0	0	0	-
13	Thallium		Metals	0	0	0	0	0	0	-
14	Zinc**		Metals	0	0	0	0	0	0	0.330
15	Cyanide		Metals	0	0	0	0	0	0	-
16	Total Phenolic Compounds		Metals	0	0	0	0	0	0	-
17	Hardness (As CaCO3)		Metals	0	0	0	0	0	0	-
18	Acrolein		VOC	0	0	0	0	0	0	-
19	**Acrylonitrile***	YES	VOC	0	0	0	0	0	0	-
20	**Aldrin**	YES	VOC	0	0	0	0	0	0	-
21	**Benzene***	YES	VOC	0	0	0	0	0	0	-
22	**Bromoform***	YES	VOC	0	0	0	0	0	0	-
23	**Carbon Tetrachloride***	YES	VOC	0	0	0	0	0	0	-
24	**Chlordane**	YES	VOC	0	0	0	0	0	0	-
25	Clorobenzene		VOC	0	0	0	0	0	0	-
26	**Chlorodibromo-Methane***	YES	VOC	0	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		VOC	0	0	0	0	0	0	-
29	**ChloroForm***	YES	VOC	0	0	0	0	0	0	-
30	**4,4'-DDD**	YES	VOC	0	0	0	0	0	0	-
31	**4,4'-DDE**	YES	VOC	0	0	0	0	0	0	-
32	**4.4'-DDT**	YES	VOC	0	0	0	0	0	0	-
33	**Dichlorobromo-Methane***	YES	VOC	0	0	0	0	0	0	-
34	1, 1-Dichloroethane		VOC	0	0	0	0	0	0	-
35	**1, 2-Dichloroethane***	YES	VOC	0	0	0	0	0	0	-
36	Trans-1, 2-Dichloro-Ethylene		VOC	0	0	0	0	0	0	-
37	**1, 1-Dichloroethylene***	YES	VOC	0	0	0	0	0	0	-
38	1, 2-Dichloropropane		VOC	0	0	0	0	0	0	-
39	1, 3-Dichloro-Propylene		VOC	0	0	0	0	0	0	-
40	**Dieldrin**	YES	VOC	0	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	0	-
44	**Methylene Chloride***	YES	VOC	0	0	0	0	0	0	-
45	**1, 1, 2, 2-Tetrachloro-Ethane***	YES	VOC	0	0	0	0	0	0	-
46	**Tetrachloro-Ethylene***	YES	VOC	0	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	0	-
48	**Toxaphene**	YES	VOC	0	0	0	0	0	0	-
49	**Tributyltine (TBT)**	YES	VOC	0	0	0	0	0	0	-
50	1, 1, 1-Trichloroethane		VOC	0	0	0	0	0	0	-
51	**1, 1, 2-Trichloroethane***	YES	VOC	0	0	0	0	0	0	-
52	**Trichloroethylene***	YES	VOC	0	0	0	0	0	0	-
53	**Vinyl Chloride***	YES	VOC	0	0	0	0	0	0	-
54	P-Chloro-M-Cresol		Acids	0	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	0	-
56	2, 4-Dichlorophenol		Acids	0	0	0	0	0	0	-
57	2, 4-Dimethylphenol		Acids	0	0	0	0	0	0	-
58	4, 6-Dinitro-O-Cresol		Acids	0	0	0	0	0	0	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	0	0	-
60	**4,6-Dintro-2-methylophenol**	YES	Acids	0	0	0	0	0	0	-
61	**Dioxin (2,3,7,8-TCDD)**	YES	Acids	0	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	0	0	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	0	0	-
65	Phenol		Acids	0	0	0	0	0	0	-
66	**2, 4, 6-Trichlorophenol***	YES	Acids	0	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	0	-
70	Benzidine		Bases	0	0	0	0	0	0	-
71	**Benzo(A)Anthracene***	YES	Bases	0	0	0	0	0	0	-
72	**Benzo(A)Pyrene***	YES	Bases	0	0	0	0	0	0	-
73	3, 4 Benzo-Fluoranthene		Bases	0	0	0	0	0	0	-
74	Benzo(GHI)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	0	-
77	**Bis (2-Chloroethyl)-Ether***	YES	Bases	0	0	0	0	0	0	-
78	Bis (2-Chloroiso-Propyl) Ether		Bases	0	0	0	0	0	0	-
79	**Bis (2-Ethylhexyl) Phthalate***	YES	Bases	0	0	0	0	0	0	-
80	4-Bromophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
81	Butyl Benzyl Phthalate		Bases	0	0	0	0	0	0	-
82	2-Chloronaphthalene		Bases	0	0	0	0	0	0	-
83	4-Chlorophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
84	**Chrysene***	YES	Bases	0	0	0	0	0	0	-
85	Di-N-Butyl Phthalate		Bases	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Bases	0	0	0	0	0	0	-
87	**Dibenzo(A,H)Anthracene***	YES	Bases	0	0	0	0	0	0	-
88	1, 2-Dichlorobenzene		Bases	0	0	0	0	0	0	-
89	1, 3-Dichlorobenzene		Bases	0	0	0	0	0	0	-
90	1, 4-Dichlorobenzene		Bases	0	0	0	0	0	0	-
91	**3, 3-Dichlorobenzidine***	YES	Bases	0	0	0	0	0	0	-
92	Diethyl Phthalate		Bases	0	0	0	0	0	0	-
93	Dimethyl Phthalate		Bases	0	0	0	0	0	0	-
94	**2, 4-Dinitrotoluene***	YES	Bases	0	0	0	0	0	0	-
95	2, 6-Dinitrotoluene		Bases	0	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		Bases	0	0	0	0	0	0	-
97	**Endosulfan (alpha)**	YES	Bases	0	0	0	0	0	0	-
98	**Endosulfan (beta)**	YES	Bases	0	0	0	0	0	0	-
99	**Endosulfan sulfate**	YES	Bases	0	0	0	0	0	0	-
100	**Endrin**	YES	Bases	0	0	0	0	0	0	-
101	**Endrin Aldeyhide**	YES	Bases	0	0	0	0	0	0	-
102	Fluoranthene		Bases	0	0	0	0	0	0	-
103	Fluorene		Bases	0	0	0	0	0	0	-
104	Heptochlor	YES	Bases	0	0	0	0	0	0	-
105	Heptachlor Epoxide	YES	Bases	0	0	0	0	0	0	-
106	**Hexachlorobenzene***	YES	Bases	0	0	0	0	0	0	-
107	**Hexachlorobutadiene***	YES	Bases	0	0	0	0	0	0	-
108	**Hexachlorocyclohexan (alpa)**	YES	Bases	0	0	0	0	0	0	-
109	**Hexachlorocyclohexan (beta)**	YES	Bases	0	0	0	0	0	0	-
110	**Hexachlorocyclohexan (gamma)**	YES	Bases	0	0	0	0	0	0	-
111	HexachlorocycloPentadiene		Bases	0	0	0	0	0	0	-
112	Hexachloroethane		Bases	0	0	0	0	0	0	-
113	**Indeno(1, 2, 3-CK)Pyrene***	YES	Bases	0	0	0	0	0	0	-
114	Isophorone		Bases	0	0	0	0	0	0	-
115	Naphthalene		Bases	0	0	0	0	0	0	-
116	Nitrobenzene		Bases	0	0	0	0	0	0	-
117	**N-Nitrosodi-N-Propylamine***	YES	Bases	0	0	0	0	0	0	-
118	**N-Nitrosodi-N-Methylamine***	YES	Bases	0	0	0	0	0	0	-
119	**N-Nitrosodi-N-Phenylamine***	YES	Bases	0	0	0	0	0	0	-
120	**PCB-1016**	YES	Bases	0	0	0	0	0	0	-
121	**PCB-1221**	YES	Bases	0	0	0	0	0	0	-
122	**PCB-1232**	YES	Bases	0	0	0	0	0	0	-
123	**PCB-1242**	YES	Bases	0	0	0	0	0	0	-
124	**PCB-1248**	YES	Bases	0	0	0	0	0	0	-
125	**PCB-1254**	YES	Bases	0	0	0	0	0	0	-
126	**PCB-1260**	YES	Bases	0	0	0	0	0	0	-
127	Phenanthrene		Bases	0	0	0	0	0	0	-
128	Pyrene		Bases	0	0	0	0	0	0	-
129	1, 2, 4-Trichlorobenzene		Bases	0	0	0	0	0	0	-

20.4	Enter Q_d = wastewater discharge flow from facility (MGD)
31.5634716	Q_d = wastewater discharge flow (cfs) (this value is calculated from the MGD)
0	Enter flow from upstream discharge Qd2 = background stream flow in MGD above point of discharge
0	Qd2 = background stream flow from upstream source (cfs)
4,387	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
3,290	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
30,642	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
6,386	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter to Left	Enter C_s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
$Q_d+Qd2+Q_s$	Q_r = resultant in-stream flow, after discharge
Calculated on other	C_r = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
50.00	Enter, Background Hardness above point of discharge (assumed 50 South of Birmingham and 100 North of Birmingham)
7.00 s.u.	Enter, Background pH above point of discharge
YES	Enter, Is discharge to a stream? "YES" Other option would be to a Lake. (This changes the partition coefficients for the metals)

** Using Partition Coefficients

May 2, 2023

Facility Name: International Paper Company - Pine Hill (DSN001)

NPDES No.: AL0002674

Freshwater F&W classification					Max Daily Discharge as reported by Applicant (C_{max})	Freshwater Acute (µg/l) Q_s =1Q10					Avg Daily Discharge as reported by Applicant (C_{avg})	Freshwater Chronic (µg/l) Q_s = 7Q10					Human Health Consumption Fish only (µg/l) Carcinogen Q_s = Annual Average, Non-Carcinogen Q_s = 7Q10			
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (Cd2) Daily Max		Water Quality Criteria (C_s)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?	Background from upstream source (Cd2) Monthly Ave		Water Quality Criteria (C_s)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_s)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	-	-	-	-	3.73E+02	5.23E+04	1.05E+04	No
2	Arsenic		YES	0	0	592.304	62333.974	12468.795	No	0	0	261.324	36582.695	7316.539	No	0.3030	294.4866	58.8973	No
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
4	Cadmium			0	0	5.547	457.468	91.494	No	0	0	0.644	90.099	18.020	No	-	-	-	-
5	Chromium/ Chromium III			0	0	1552.943	161841.366	32368.273	No	0	0	200.061	28005.078	5601.016	No	-	-	-	-
6	Chromium/ Chromium VI			0	0	10.000	1683.751	336.750	No	0	0	11.000	1539.868	307.978	No	-	-	-	-
7	Copper			0	0	18.028	1896.995	379.399	No	0	0	12.766	1787.049	357.410	No	-	-	-	-
8	Lead			0	0	146.291	15394.831	3078.966	No	0	0	5.701	798.046	159.609	No	-	-	-	-
9	Mercury			0	0	2.400	252.563	50.513	No	0	0	0.012	1.680	0.336	No	4.24E-02	5.94E+00	1.19E+00	No
10	Nickel			0	0	515.804	54282.474	10856.495	No	0	0	57.282	8020.317	1604.063	No	9.93E+02	1.39E+05	2.78E+04	No
11	Selenium			0	0	20.000	2104.688	420.938	No	0	0	5.000	699.949	139.990	No	2430.56	340252.94	68050.59	No
12	Silver			0	0	0.976	102.755	20.551	No	0	0	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	2.74E-01	3.83E+01	7.66E+00	No
14	Zinc			0	0	187.369	20769.991	4153.998	No	0	0	198.583	27855.626	5571.125	No	1.49E+04	2.08E+06	4.17E+05	No
15	Cyanide			0	0	22.000	2315.157	463.031	No	0	0	5.200	727.947	145.589	No	9.33E+03	1.31E+06	2.61E+05	No
16	Total Phenolic Compounds			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	-	-	-	-	5.43E+00	7.60E+02	1.52E+02	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.44E-01	1.40E+02	2.80E+01	No
20	Aldrin		YES	0	0	3.000	315.703	63.141	No	0	0	-	-	-	-	2.94E-05	2.85E-02	5.71E-03	No
21	Benzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.98E+01	1.50E+04	3.01E+03	No
22	Bromoform		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.08E+01	7.65E+04	1.53E+04	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.57E-01	9.30E+02	1.86E+02	No
24	Chlordane		YES	0	0	2.400	252.563	50.513	No	0	0	0.0043	0.602	0.120	No	4.73E-04	4.59E-01	9.19E-02	No
25	Clorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	6.06E+02	1.27E+05	2.54E+04	No
26	Chlorodibromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.41E+00	7.20E+03	1.44E+03	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
29	ChloroForm		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.02E+02	9.91E+04	1.98E+04	No
30	4,4' - DDD		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.83E-04	1.76E-01	3.53E-02	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E-04	1.24E-01	2.49E-02	No
32	4,4' - DDT		YES	0	0	1.100	115.758	23.152	No	0	0	0.001	0.140	0.028	No	1.28E-04	1.24E-01	2.49E-02	No
33	Dichlorobromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.00E+01	9.75E+03	1.95E+03	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.14E+01	2.08E+04	4.15E+03	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	-	-	-	-	8.01E+03	8.27E+05	1.65E+05	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	4.17E+03	4.05E+06	8.10E+05	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	-	-	-	-	8.48E+00	1.19E+03	2.38E+02	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	-	-	-	-	1.23E+01	1.72E+03	3.44E+02	No
40	Dieldrin		YES	0	0	0.240	25.256	5.051	No	0	0	0.056	7.839	1.568	No	3.12E-05	3.03E-02	6.07E-03	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.24E+03	1.74E+05	3.48E+04	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	-	-	-	-	6.71E+02	1.22E+05	2.44E+04	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	5.46E+02	3.36E+05	6.72E+04	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.39E+00	2.27E+03	4.54E+02	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.93E+02	1.86E+03	3.73E+02	No
47	Toluene			0	0	-	-	-	-	0	0	-	-	-	-	6.72E+03	1.22E+06	2.44E+05	No
48	Toxaphene		YES	0	0	0.730	76.821	15.364	No	0	0	0.0002	0.028	0.006	No	1.62E-04	1.57E-01	3.15E-02	No
49	Tributyltin (TBT)		YES	0	0	0.460	48.408	9.682	No	0	0	0.072	10.079	2.016	No	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	8.90E+00	8.84E+03	1.77E+03	No
52	Trichlorethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.75E+01	1.70E+04	3.40E+03	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.42E+00	1.38E+03	2.77E+02	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	8.71E+01	1.22E+04	2.44E+03	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	1.72E+02	2.41E+04	4.82E+03	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	-	-	-	-	4.98E+02	6.96E+04	1.39E+04	No
58	4, 6-Dinitro-O-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
59	2, 4-Dinitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	4.36E+05	8.71E+04	No
60	4,6-Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.66E+02	1.61E+05	3.22E+04	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.87E-08	2.50E-05	5.18E-06	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
63	4-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
64	Pentachlorophenol		YES	0	0	8.723	917.994	183.599	No	0	0	8.693	936.893	187.379	No	1.77E+00	1.72E+03	3.44E+02	No
65	Phenol			0	0	-	-	-	-	0	0	-	-	-	-	3.00E+05	7.00E+07	1.40E+07	No
66	2, 4, 6-Trichlorophenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.41E+00	1.37E+03	2.75E+02	No
67	Acenaphthene			0	0	-	-	-	-	0	0	-	-	-	-	5.75E+02	8.10E+04	1.62E+04	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	-	-	-	-	2.33E+04	3.27E+06	6.53E+05	No
70	Benzidine			0	0	-	-	-	-	0	0	-	-	-	-	1.19E-04	1.62E-02	3.25E-03	No
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
73	Benzo(b)fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.49E+00	2.98E-01	No
74	Benzo(GHI)Perylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
75	Benzo(K)Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.49E+00	2.98E-01	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
77	Bis (2-Chloroethyl)-Ether		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.07E+01	2.99E+02	5.98E+01	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	-	-	-	-	3.76E+04	5.29E+06	1.06E+06	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E+00	1.25E+03	2.49E+02	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	1.73E+03	1.56E+05	3.16E+04	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	-	-	-	-	9.24E+02	1.29E+05	2.59E+04	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.65E+03	3.67E+05	7.34E+04	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	7.50E+02	1.06E+05	2.11E+04	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	6.82E+02	7.87E+04	1.57E+04	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.72E+02	1.57E+04	3.15E+03	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.66E-01	1.62E+01	3.23E+00	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.79E+04	3.58E+06	7.16E+05	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	6.48E+05	9.07E+07	1.81E+07	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.98E+00	1.92E+03	3.85E+02	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
96	1,2-Diphenylhydrazine			0	0	-	-	-	-	0	0	-	-	-	-	1.17E-01	1.64E+01	3.28E+00	No
97	Endosulfan (alpha)		YES	0	0	0.22	23.152	4.630	No	0	0	0.056	7.839	1.568	No	5.39E+01	5.04E+04	1.01E+04	No
98	Endosulfan (beta)		YES	0	0	0.22	23.152	4.630	No	0	0	0.056	7.839	1.568	No	5.39E+01	5.04E+04	1.01E+04	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	-	-	-	-	5.39E+01	5.04E+04	1.01E+04	No
100	Endrin		YES	0	0	0.086	9.050	1.810	No	0	0	0.036	5.040	1.008	No	3.83E-02	3.43E+01	6.85E+00	No
101	Endrin Aldeyhde		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E-01	1.71E+02	3.43E+01	No
102	Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	8.12E+01	1.14E+04	2.27E+03	No
103	Fluorene			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	4.36E+05	8.71E+04	No
104	Heptochlor		YES	0	0	0.52	54.722	10.944	No	0	0	0.0038	0.532	0.106	No	4.45E-05	4.50E-02	9.00E-03	No
105	Heptachlor Epoxide		YES	0	0	0.52	54.722	10.944	No	0	0	0.0038	0.532	0.106	No	2.29E-05	2.22E-02	4.45E-03	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.66E-04	1.63E-01	3.26E-02	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.08E+01	1.05E+04	2.09E+03	No
108	Hexachlorocyclohexan (alpha)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.85E-02	2.77E+00	5.54E-01	No
109	Hexachlorocyclohexan (beta)		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.97E-03	9.69E+00	1.94E+00	No
110	Hexachlorocyclohexan (gamma)		YES	0	0	0.95	99.973	19.995	No	0	0	-	-	-	-	1.08E+00	1.05E+03	2.09E+02	No
111	HexachlorocyclePentadiene			0	0	-	-	-	-	0	0	-	-	-	-	6.45E+02	9.03E+04	1.81E+04	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	-	-	-	-	1.92E+00	2.68E+02	5.37E+01	No
113	Indeno(1, 2, 3-CK)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.04E+01	2.07E+00	No
114	Isophorone			0	0	-	-	-	-	0	0	-	-	-	-	5.84E+02	7.85E+04	1.57E+04	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.04E+00	5.65E+04	1.13E+04	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.05E-01	2.87E+02	5.73E+01	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E+00	1.71E+03	3.42E+02	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.50E+00	3.40E+03	6.81E+02	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	0.014	1.960	0.392	No	3.74E-05	3.63E-02	7.27E-03	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	-	-	-	-	2.53E-03	3.27E+05	6.53E+04	No
129	1, 2, 4-Tichlorobenzi ene			0	0	-	-	-	-	0	0	-	-	-	-	09E+01	5.7: 1E+03	1.15E+03	No

Facility Name: **International Paper Company - Pine Hill (DSN002)**

NPDES No.: **AL0002674**

8/13/2017

$$Q_d*C_d + Q_{d2}*C_{d2} + Q_s*C_s = Q_r*C_r$$

ID	Pollutant	Carcinogen "yes"	Type	Background from upstream source (C_{d2}) Daily Max	Background from upstream source (C_{d2}) Monthly Ave	Background Instream (C_s) Daily Max	Background Instream (C_s) Monthly Ave	Enter Max Daily Discharge as reported by Applicant (C_d) Max	Enter Avg. Daily Discharge as reported by Applicant (C_d) Ave	Partition Coefficient (Stream / Lake)
				ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	0	0	0	0	0.574
3	Beryllium		Metals	0	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0	0.236
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	
7	Copper**		Metals	0	0	0	0	0	0	0.388
8	Lead**		Metals	0	0	0	0	0	0	0.206
9	Mercury**		Metals	0	0	0	0	0	0	0.302
10	Nickel**		Metals	0	0	0	0	0	0	0.505
11	Selenium		Metals	0	0	0	0	0	0	-
12	Silver		Metals	0	0	0	0	0	0	-
13	Thallium		Metals	0	0	0	0	0	0	-
14	Zinc**		Metals	0	0	0	0	630	230	0.330
15	Cyanide		Metals	0	0	0	0	25	25	-
16	Total Phenolic Compounds		Metals	0	0	0	0	0	0	-
17	Hardness (As CaCO3)		Metals	0	0	0	0	0	0	-
18	Acrolein		VOC	0	0	0	0	0	0	-
19	**Acrylonitrile***	YES	VOC	0	0	0	0	0	0	-
20	**Aldrin**	YES	VOC	0	0	0	0	0	0	-
21	**Benzene***	YES	VOC	0	0	0	0	0	0	-
22	**Bromoform***	YES	VOC	0	0	0	0	0	0	-
23	**Carbon Tetrachloride***	YES	VOC	0	0	0	0	0	0	-
24	**Chlordane**	YES	VOC	0	0	0	0	0	0	-
25	Clorobenzene		VOC	0	0	0	0	0	0	-
26	**Chlorodibromo-Methane***	YES	VOC	0	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		VOC	0	0	0	0	0	0	-
29	**ChloroForm***	YES	VOC	0	0	0	0	0	0	-
30	**4,4'-DDD**	YES	VOC	0	0	0	0	0	0	-
31	**4,4'-DDE**	YES	VOC	0	0	0	0	0	0	-
32	**4.4'-DDT**	YES	VOC	0	0	0	0	0	0	-
33	**Dichlorobromo-Methane***	YES	VOC	0	0	0	0	0	0	-
34	1, 1-Dichloroethane		VOC	0	0	0	0	0	0	-
35	**1, 2-Dichloroethane***	YES	VOC	0	0	0	0	0	0	-
36	Trans-1, 2-Dichloro-Ethylene		VOC	0	0	0	0	0	0	-
37	**1, 1-Dichloroethylene***	YES	VOC	0	0	0	0	0	0	-
38	1, 2-Dichloropropane		VOC	0	0	0	0	0	0	-
39	1, 3-Dichloro-Propylene		VOC	0	0	0	0	0	0	-
40	**Dieldrin**	YES	VOC	0	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	0	-
44	**Methylene Chloride***	YES	VOC	0	0	0	0	0	0	-
45	**1, 1, 2, 2-Tetrachloro-Ethane***	YES	VOC	0	0	0	0	0	0	-
46	**Tetrachloro-Ethylene***	YES	VOC	0	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	0	-
48	**Toxaphene**	YES	VOC	0	0	0	0	0	0	-
49	**Tributyltine (TBT)**	YES	VOC	0	0	0	0	0	0	-
50	1, 1, 1-Trichloroethane		VOC	0	0	0	0	0	0	-
51	**1, 1, 2-Trichloroethane***	YES	VOC	0	0	0	0	0	0	-
52	**Trichlorethylene***	YES	VOC	0	0	0	0	0	0	-
53	**Vinyl Chloride***	YES	VOC	0	0	0	0	0	0	-
54	P-Chloro-M-Cresol		Acids	0	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	0	-
56	2, 4-Dichlorophenol		Acids	0	0	0	0	0	0	-
57	2, 4-Dimethylphenol		Acids	0	0	0	0	0	0	-
58	4, 6-Dinitro-O-Cresol		Acids	0	0	0	0	0	0	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	0	0	-
60	**4,6-Dinitro-2-methylophenol**	YES	Acids	0	0	0	0	0	0	-
61	**Dioxin (2,3,7,8-TCDD)**	YES	Acids	0	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	0	0	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	0	0	-
65	Phenol		Acids	0	0	0	0	0	0	-
66	**2, 4, 6-Trichlorophenol***	YES	Acids	0	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	0	-
70	Benzidine		Bases	0	0	0	0	0	0	-
71	**Benzo(A)Anthracene***	YES	Bases	0	0	0	0	0	0	-
72	**Benzo(A)Pyrene***	YES	Bases	0	0	0	0	0	0	-
73	3, 4 Benzo-Fluoranthene		Bases	0	0	0	0	0	0	-
74	Benzo(GHI)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	0	-
77	**Bis (2-Chloroethyl)-Ether***	YES	Bases	0	0	0	0	0	0	-
78	Bis (2-Chloroiso-Propyl) Ether		Bases	0	0	0	0	0	0	-
79	**Bis (2-Ethylhexyl) Phthalate***	YES	Bases	0	0	0	0	0	0	-
80	4-Bromophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
81	Butyl Benzyl Phthalate		Bases	0	0	0	0	0	0	-
82	2-Chloronaphthalene		Bases	0	0	0	0	0	0	-
83	4-Chlorophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
84	**Chrysene***	YES	Bases	0	0	0	0	0	0	-
85	Di-N-Butyl Phthalate		Bases	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Bases	0	0	0	0	0	0	-
87	**Dibenzo(A,H)Anthracene***	YES	Bases	0	0	0	0	0	0	-
88	1, 2-Dichlorobenzene		Bases	0	0	0	0	0	0	-
89	1, 3-Dichlorobenzene		Bases	0	0	0	0	0	0	-
90	1, 4-Dichlorobenzene		Bases	0	0	0	0	0	0	-
91	**3, 3-Dichlorobenzidine***	YES	Bases	0	0	0	0	0	0	-
92	Diethyl Phthalate		Bases	0	0	0	0	0	0	-
93	Dimethyl Phthalate		Bases	0	0	0	0	0	0	-
94	**2, 4-Dinitrotoluene***	YES	Bases	0	0	0	0	0	0	-
95	2, 6-Dinitrotoluene		Bases	0	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		Bases	0	0	0	0	0	0	-
97	**Endosulfan (alpha)**	YES	Bases	0	0	0	0	0	0	-
98	**Endosulfan (beta)**	YES	Bases	0	0	0	0	0	0	-
99	**Endosulfan sulfate**	YES	Bases	0	0	0	0	0	0	-
100	**Endrin**	YES	Bases	0	0	0	0	0	0	-
101	**Endrin Aldeyhide**	YES	Bases	0	0	0	0	0	0	-
102	Fluoranthene		Bases	0	0	0	0	0	0	-
103	Fluorene		Bases	0	0	0	0	0	0	-
104	Heptochlor	YES	Bases	0	0	0	0	0	0	-
105	Heptachlor Epoxide	YES	Bases	0	0	0	0	0	0	-
106	**Hexachlorobenzene***	YES	Bases	0	0	0	0	0	0	-
107	**Hexachlorobutadiene***	YES	Bases	0	0	0	0	0	0	-
108	**Hexachlorocyclohexan (alpa)**	YES	Bases	0	0	0	0	0	0	-
109	**Hexachlorocyclohexan (beta)**	YES	Bases	0	0	0	0	0	0	-
110	**Hexachlorocyclohexan (gamma)**	YES	Bases	0	0	0	0	0	0	-
111	HexachlorocyclcPentadiene		Bases	0	0	0	0	0	0	-
112	Hexachloroethane		Bases	0	0	0	0	0	0	-
113	**Indeno(1, 2, 3-CD)Pyrene***	YES	Bases	0	0	0	0	0	0	-
114	Isophorone		Bases	0	0	0	0	0	0	-
115	Naphthalene		Bases	0	0	0	0	0	0	-
116	Nitrobenzene		Bases	0	0	0	0	0	0	-
117	**N-Nitrosodi-N-Propylamine***	YES	Bases	0	0	0	0	0	0	-
118	**N-Nitrosodi-N-Methylamine***	YES	Bases	0	0	0	0	0	0	-
119	**N-Nitrosodi-N-Phenylamine***	YES	Bases	0	0	0	0	0	0	-
120	**PCB-1016**	YES	Bases	0	0	0	0	0	0	-
121	**PCB-1221**	YES	Bases	0	0	0	0	0	0	-
122	**PCB-1232**	YES	Bases	0	0	0	0	0	0	-
123	**PCB-1242**	YES	Bases	0	0	0	0	0	0	-
124	**PCB-1248**	YES	Bases	0	0	0	0	0	0	-
125	**PCB-1254**	YES	Bases	0	0	0	0	0	0	-
126	**PCB-1260**	YES	Bases	0	0	0	0	0	0	-
127	Phenanthrene		Bases	0	0	0	0	0	0	-
128	Pyrene		Bases	0	0	0	0	0	0	-
129	1, 2, 4-Trichlorobenzne		Bases	0	0	0	0	0	0	-

s.aa	Enter Q_d = wastewater discharge flow from facility (MGD)
0.34039038	Q_d = wastewater discharge flow (cfs) (this value is caluclated from the MGD)
0	Enter flow from upstream discharge Qd2 = background stream flow in MGD above point of discharge
0	Qd2 = background stream flow from upstream source (cfs)
4,387	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
3,290	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
30,642	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
6,386	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter 'o Left -	Enter C_s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q_s +Qd2+Q_s	Q_r = resultant in-stream flow, after discharge
Calculated on other	C_r = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
50.00	Enter, Background Hardness above point of discharge (assumed 50 South of Birmingham and 100 North of Birmingham)
7.00 s.u.	Enter, Background pH above point of discharge
YES	Enter, Is discharge to a stream? "YES" Other option would be to a Lake. (This changes the partition coefficients for the metals)

** Using Partition Coefficients

May 2, 2023

Facility Name: International Paper Company - Pine Hill (DSN002)

NPDES No.: AL0002674

						Freshwater Acute (µg/l) Q_s =1Q10					Freshwater Chronic (µg/l) Q_s = 7Q10					Human Health Consumption Fish only (µg/l) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10			
Freshwater F&W classification																			
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (C≤0) Daily Max	Max Daily Discharge as reported by Applicant (C_{Daily})	Water Quality Criteria (C_s)	Draft Permit Limit (C_{Daily})	20% of Draft Permit Limit	RP?	Background from upstream source (C≤0) Monthly Ave	Avg Daily Discharge as reported by Applicant (C_{Ave})	Water Quality Criteria (C_s)	Draft Permit Limit (C_{Daily})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_s)	Draft Permit Limit (C_{Daily})	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	-	-	-	-	3.73E+02	4.81E+06	9.62E+05	No
2	Arsenic		YES	0	0	362.304	5725726.188	1145145.238	No	0	0	267.324	3368243.026	673648.605	No	0.3030	27279.1425	5456.8285	No
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
4	Cadmium			0	0	4.347	42020.972	8404.194	No	0	0	0.844	8295.574	1659.115	No	-	-	-	-
5	Chromium/ Chromium III			0	0	1532.913	14866039.902	2973207.980	No	0	0	200.061	2578484.374	515696.875	No	-	-	-	-
6	Chromium/ Chromium VI			0	0	16.000	154661.969	30932.394	No	0	0	11.000	141780.576	28356.115	No	-	-	-	-
7	Copper			0	0	18.026	174249.675	34849.935	No	0	0	12.786	164537.245	32907.449	No	-	-	-	-
8	Lead			0	0	146.291	1414101.854	282820.371	No	0	0	5.701	73477.708	14695.542	No	-	-	-	-
9	Mercury			0	0	2.400	23199.295	4639.859	No	0	0	0.012	154.670	30.934	No	4.24E-02	5.47E+02	1.09E+02	No
10	Nickel			0	0	515.834	4986150.633	997230.127	No	0	0	57.362	738446.870	147689.374	No	9.93E+02	1.28E+07	2.56E+06	No
11	Selenium			0	0	20.000	193327.461	38665.492	No	0	0	5.000	64445.717	12889.143	No	2.43E+04	31327778.80	6265555.76	No
12	Silver			0	0	0.976	9438.658	1887.732	No	0	0	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	2.74E-01	3.53E+03	7.05E+02	No
14	Zinc			0	630	197.369	1907840.538	381568.108	No	0	230	148.983	2564723.991	512944.798	No	1.49E+04	1.92E+08	3.84E+07	No
15	Cyanide			0	25	22.000	212660.207	42532.041	No	0	25	5.200	67023.545	13404.709	No	9.33E+03	1.20E+06	2.41E+07	No
16	Total Phenolic Compounds			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	-	-	-	-	5.43E+00	6.99E+04	1.40E+04	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.44E-01	1.30E+04	2.59E+03	No
20	Aldrin		YES	0	0	3.000	28999.119	5799.824	No	0	0	-	-	-	-	2.94E-05	2.65E+00	5.29E-01	No
21	Benzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.55E+01	1.39E+06	2.79E+05	No
22	Bromoform		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.88E+01	7.09E+06	1.42E+06	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.57E-01	8.62E+04	1.72E+04	No
24	Chlordane		YES	0	0	2.400	23199.295	4639.859	No	0	0	0.0043	55.423	11.085	No	4.79E-04	4.26E+01	8.51E+00	No
25	Clorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	6.06E+02	1.17E+07	2.34E+06	No
26	Chlorodibromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.41E+00	6.67E+05	1.33E+05	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
29	ChloroForm		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.02E+02	9.18E+06	1.84E+06	No
30	4,4' - DDD		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.91E-04	1.63E+01	3.27E+00	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E-04	1.15E+01	2.31E+00	No
32	4,4' - DDT		YES	0	0	1.100	10633.010	2126.602	No	0	0	0.001	12.889	2.578	No	1.28E-04	1.15E+01	2.31E+00	No
33	Dichlorobromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.00E+01	9.03E+05	1.81E+05	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.14E+01	1.92E+06	3.85E+05	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	-	-	-	-	5.91E+03	7.61E+07	1.52E+07	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	4.17E+03	3.75E+06	7.50E+07	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	-	-	-	-	5.45E+00	1.09E+05	2.19E+04	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	-	-	-	-	1.23E+01	1.56E+05	3.17E+04	No
40	Dieldrin		YES	0	0	0.240	2319.930	463.986	No	0	0	0.056	721.792	144.358	No	2.72E-05	2.81E+00	5.62E-01	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.24E+03	1.60E+07	3.21E+06	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	-	-	-	-	8.21E+02	1.12E+07	2.25E+06	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.46E+02	3.11E+07	6.22E+06	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.33E+01	2.10E+05	4.20E+04	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.82E+00	1.73E+05	3.45E+04	No
47	Toluene			0	0	-	-	-	-	0	0	-	-	-	-	4.72E+03	1.12E+08	2.25E+07	No
48	Toxaphene		YES	0	0	0.730	7056.452	1411.290	No	0	0	0.0002	2.578	0.516	No	1.62E-04	1.46E+01	2.92E+00	No
49	Tributyltin (TBT)		YES	0	0	0.460	4446.532	889.306	No	0	0	0.072	928.018	185.604	No	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.10E+00	8.19E+05	1.84E+05	No
52	Trichlorethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.75E+01	1.57E+06	3.15E+05	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.42E+00	1.28E+05	2.56E+04	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	8.31E+01	1.12E+08	2.24E+05	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	1.72E+02	2.22E+08	4.43E+05	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	-	-	-	-	4.98E+02	6.41E+08	1.28E+06	No
58	4, 6-Dinitro-O-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
59	2, 4-Dinitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	4.01E+07	8.02E+05	No
60	4,6-Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.85E+02	1.49E+07	2.98E+06	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.87E-08	2.40E-03	4.80E-04	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
63	4-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
64	Pentachlorophenol		YES	0	0	8.723	84322.874	16864.575	No	0	0	0.603	86261.670	17252.334	No	1.77E+00	1.59E+05	3.18E+04	No
65	Phenol			0	0	-	-	-	-	0	0	-	-	-	-	5.00E+05	6.44E+09	1.29E+09	No
66	2, 4, 6-Trichlorophenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.41E+03	1.27E+05	2.55E+04	No
67	Acenaphthene			0	0	-	-	-	-	0	0	-	-	-	-	5.29E+02	7.46E+08	1.49E+08	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	-	-	-	-	2.33E+04	3.01E+08	6.01E+07	No
70	Benzidine			0	0	-	-	-	-	0	0	-	-	-	-	1.16E-04	1.49E+00	2.98E-01	No
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.59E+02	1.92E+02	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.59E+02	1.92E+02	No
73	Benzo(b)fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.37E+02	2.75E+01	No
74	Benzo(GHI)Perylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
75	Benzo(K)Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.37E+02	2.75E+01	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
77	Bis (2-Chloroethyl)-Ether		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.07E-01	2.77E+04	5.53E+03	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	-	-	-	-	3.76E+04	4.87E+06	9.74E+07	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E+00	1.15E+05	2.31E+04	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	1.13E+03	1.45E+07	2.91E+06	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	-	-	-	-	9.24E+02	1.19E+07	2.38E+06	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.59E+02	1.92E+02	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.82E+03	3.38E+07	6.76E+06	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.59E+02	1.92E+02	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	2.56E+02	9.74E+06	1.95E+06	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	5.40E+02	7.25E+06	1.45E+06	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.12E+02	1.45E+06	2.90E+05	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.66E-02	1.50E+03	2.99E+02	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.56E+04	3.30E+08	6.59E+07	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	6.40E+05	8.35E+09	1.67E+09	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.98E+02	1.78E+05	3.57E+04	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
96	1,2-Diphenylhydrazine			0	0	-	-	-	-	0	0	-	-	-	-	1.17E+01	1.51E+03	3.02E+02	No
97	Endosulfan (alpha)		YES	0	0	0.22	2126.602	425.320	No	0	0	0.056	721.792	144.358	No	8.10E+01	4.67E+06	9.34E+05	No
98	Endosulfan (beta)		YES	0	0	0.22	2126.602	425.320	No	0	0	0.056	721.792	144.358	No	8.10E+01	4.67E+06	9.34E+05	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	-	-	-	-	8.10E+01	4.67E+06	9.34E+05	No
100	Endrin		YES	0	0	0.086	831.308	166.262	No	0	0	0.036	464.009	92.802	No	3.83E-02	3.17E+03	6.35E+02	No
101	Endrin Aldeyhde		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.65E-01	1.59E+04	3.17E+03	No
102	Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	8.12E+01	1.05E+06	2.09E+05	No
103	Fluorene			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	4.01E+07	8.02E+06	No
104	Heptochlor		YES	0	0	0.52	5026.514	1005.303	No	0	0	0.0038	48.979	9.796	No	4.63E-05	4.17E+00	8.34E-01	No
105	Heptachlor Epoxide		YES	0	0	0.52	5026.514	1005.303	No	0	0	0.0038	48.979	9.796	No	2.29E-05	2.06E+00	4.12E-01	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.66E-04	1.51E+01	3.02E+00	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.08E+01	9.69E+05	1.94E+05	No
108	Hexachlorocyclohexan (alpha)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.85E-03	2.56E+02	5.13E+01	No
109	Hexachlorocyclohexan (beta)		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.97E-03	8.98E+02	1.80E+02	No
110	Hexachlorocyclohexan (gamma)		YES	0	0	0.95	9183.054	1836.611	No	0	0	-	-	-	-	1.08E+00	9.69E+04	1.94E+04	No
111	HexachlorocycloPentadiene			0	0	-	-	-	-	0	0	-	-	-	-	8.45E+02	8.32E+06	1.66E+06	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	-	-	-	-	1.02E+03	2.47E+04	4.94E+03	No
113	Indeno(1, 2, 3-CK)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.59E+02	1.92E+02	No
114	Isophorone			0	0	-	-	-	-	0	0	-	-	-	-	5.81E+02	7.23E+06	1.45E+06	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.04E+02	5.20E+06	1.04E+06	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.93E-01	2.66E+04	5.31E+03	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.75E+00	1.58E+05	3.17E+04	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.50E+00	3.15E+05	6.30E+04	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	3.74E-05	3.37E+00	6.73E-01	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	3.74E-05	3.37E+00	6.73E-01	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	3.74E-05	3.37E+00	6.73E-01	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	3.74E-05	3.37E+00	6.73E-01	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	3.74E-05	3.37E+00	6.73E-01	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	3.74E-05	3.37E+00	6.73E-01	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	0.014	180.448	36.090	No	3.74E-05	3.37E+00	6.73E-01	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	-	-	-	-	2.33E+03	3.01E+07	6.01E+06	No
129	1, 2, 4-Trichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.0 E+01	5.28E+0	1.06E+05	No

ATTACHMENT C

Close Form

Waste Load Allocation Summary

Open FILE by permit number

Comments included ☐ No ☑ Yes

General Information

Request Number: 3850 | Page 1

Information Verified By: KDP

Receiving Stream Name	Alabama River (Claiborne Lake)
Year File Was Created	
Previous File Name	
OR: Local Name (If applicable)	
Facility Name	International Paper Company - Pine Hill
ID Number	1876
Previous Discharger Name	Weyerhaeuser
Or-AKA (includes previous file name)	
12 Digit HUC Code	031502030805
River Basin	Alabama
County	Wilcox
Use Classification	F&W
Date of WLA Response	6/3/2022
Discharge Latitude	31.975375
Lat/Long Method	Arcview
Discharge Longitude	-87.459708
Approved TMDL?	☐ No ☑ Yes
Site Visit Completed?	☑ Yes ☐ No
Date of Site Visit	4/27/2022
Approval Date of TMDL	
Waterbody Impaired?	☐ Yes ☑ No
Antidegradation	☐ Yes ☑ No
Waterbody Tier Level	Tier I
Use Support Category	1
Other Point Sources?	☑ Yes ☐ No

Permit Information

Permit Number	AL0002674
Permit Status	Active

Sources Included in Model

Pine Hill Lagoon

Type of Discharger

- ☑ Municipal
- ☑ Industrial
- ☑ Semipublic/Private
- ☑ Mining

Waste Load Allocation Information

Modeled Reach Length	58.5 Miles	Date of Allocation	2/10/2022
Name of Model Used	QUAL2K	Allocation Type	2 Seasons
Model Completed by	Jacobs	Type of Model Used	Calibrated
Allocation Developed by	Consultant		

Waste Load Allocation Summary

Annual Effluent Limits

QW MGD

CBOD5

NH3-N

TKN

D.O.

Conventional Parameters

Qw	19.5 MGD	Qw	19.5 MGD
Season	Summer	Season	Winter
From	May	From	Nov
Through	Oct	Through	Apr
CBOD5	13500 lbs/day	CBOD5	19906 lbs/day
NH3-N		NH3-N	
TKN		TKN	
D.O.		D.O.	

Other Parameters

Qw	MGD	Qw	MGD
Season		Season	
From		From	
Through		Through	
TP		TP	
TN		TN	
TSS		TSS	

"Monitor Only" Parameters for Effluent:

Parameter	Frequency	Parameter	Frequency
TP	Monthly		
NO2+NO3-N	Monthly		
TKN	Monthly		

Water Quality Characteristics Immediately Upstream of Discharge

Parameter	Summer		Winter	
CBODu	1.43	mg/l	2.74	mg/l
NH3-N	6.75	mg/l	5.03	mg/l
Temperature	29.25	°C	21.36	°C
pH	7.71	su	7.75	su

Hydrology at Discharge Location

Drainage Area Qualifier: Exact

			Method Used to Calculate
Drainage Area	21005	sq mi	
Stream 7Q10	4387	cfs	ADEM Estimate w/USGS Gage Data
Stream 1Q10	3290	cfs	ADEM Estimate w/USGS Gage Data
Stream 7Q2	6386	cfs	ADEM Estimate w/USGS Gage Data
Annual Average	30642	cfs	ADEM Estimate w/USGS Gage Data

Comments and/or Notations

ATTACHMENT D

Close Form

Mixing Zone Analysis Summary

Open FILE by permit number

Page 1

General Information

Comments included: ☐ Yes ☑ No

Request Number: 3853

Year File Was Started:

Information Verified By: KDP

Date of MZ Response: 6/3/2022

Name of Receiving Stream: Alabama River (Claiborne Lake)

Previous stream name: Or-AKA (If applicable)

Facility Name: International Paper Company - Pine Hill

Previous Name of Discharger: Weyerhauser Or-AKA (If applicable)

Other Point Sources? ☐ Yes ☑ No

12 Digit HUC Code: 031502030805

Sources Included in the Model:

River Basin: Alabama

County: Wilcox

Use Classification: F&W

Discharge Latitude: 31.975375

Discharge Longitude: -87.459708

Site Visit Completed? ☑ Yes ☐ No

Date of Site Visit: 4/27/2022

Permit Information

Type of Discharger

- ▣ Municipal
- ▣ Industrial
- ▣ Semipublic/Private

Permit Number: AL0002674

Permit Status: Active

Hydrology

			Method Used to Calculate
Drainage Area	21005	sq mi	
Stream 7Q10	4387	cfs	ADEM Estimate w/USGS Gage Data
Stream 1Q10	3290	cfs	ADEM Estimate w/USGS Gage Data
Stream 7Q2	6386	cfs	ADEM Estimate w/USGS Gage Data
Annual Average	30642	cfs	ADEM Estimate w/USGS Gage Data

Date of MZ Analysis: 2/21/2022

Model Completed by: Jacobs

Discharge Design Flow: 19.5 MGD

Seasonal? ☐ Yes ☑ No

If not seasonal, only the summer sections will be used

Pollutant Category

Whole Effluent Toxicity (WET) ☑ Thermal ☐ Pathogens ☐

Mixing Zone Analysis Summary - Page 2

WET Parameters

Summer

Acute

Ambient Streamflow	3290	cfs
ZID Length	9.4	Meters
ZID IWC	8.1	%

Chronic

Ambient Streamflow		cfs
Mixing Zone Length		Meters
Mixing Zone IWC		%

Winter

Acute

Ambient Streamflow		cfs
ZID Length	9.4	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

Jacobs

NPDES Permit Renewal Application

International Paper Corporation Pine Hill Mill
Pine Hill, Alabama

Contents

Tables

Appendixes

Acronyms and Abbreviations

ADEM	Alabama Department of Environmental Management
ADT/d	air-dry tons per day
BOD_5	5-day biochemical oxygen demand
BMP	best management practice
BTA	best technology available
CFR	*Code of Federal Regulations*
DMR	discharge monitoring report
DO	dissolved oxygen
°F	degrees Fahrenheit
ELG	Effluent Limitations Guidelines and Standards
EPA	Environmental Protection Agency
ft/sec	feet per second
gpd	gallons per day
gpm	gallons per minute
mgd	million gallons per day
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
PM	paper machine
TSS	total suspended solids
WWTP	wastewater treatment plant

1.0 Introduction

The International Paper Corporation (IP) operates the Pine Hill Mill located in Pine Hill, Alabama. IP is herein submitting to the Alabama Department of Environmental Management (ADEM) an application for renewal of its National Pollutant Discharge Elimination System (NPDES) Permit number AL0002674. IP is currently authorized to discharge treated process and sanitary wastewaters, landfill leachate, non-contact cooling waters, and stormwaters associated with pulp and paper manufacturing to the Alabama River, an unnamed tributary to the Alabama River, and an unnamed tributary to Dunns Creek via 7 outfalls under its existing NPDES permit. The NPDES application for permit renewal is being submitted to ADEM to provide the information needed so that appropriate water quality and effluent guideline-based allocations are continued.

1.1 Site Description

Pine Hill Mill, located in Pine Hill in Wilcox County, Alabama, is a pulp and paper facility operating two paper machines. The IP Pine Hill Mill uses a combined unbleached kraft and semi-chemical process where the spent semi-chemical cooking liquor is burned within the unbleached kraft chemical recovery system. Paper Machine #1 produces unbleached Kraft linerboard from unbleached Kraft pulp, controlled soda semi-chemical (CSSC) pulp, and non-deinked secondary fiber. Paper Machine #2 produces unbleached corrugating medium from CSSC pulp and non-deinked secondary fiber. Production from unbleached Kraft pulp and CSSC pulp are subject to 40 CFR 430 Subpart C. Production from non-deinked secondary fiber is subject to 40 CFR 430 Subpart J. Additionally, any production from non-deinked secondary fiber on Paper Machine #2 in excess of 170 tons per day is subject to 40 CFR 430 Subpart J New Source Performance Standards (NSPS) requirements.

1.2 NPDES Permit Renewal Application

The Pine Hill Mill's current NPDES Permit expires on June 30, 2023. This application for permit renewal is being submitted to ADEM by January 1, 2023, which is 180 days prior to the expiration of the existing permit to ensure automatic continuation of the permit. This application includes a description of the facility and its discharges, the requested permit limitations, and the required completed ADEM Form 187 and U.S. Environmental Protection Agency (EPA) Forms 1, 2C, and 2F. This application package is organized as follows:

- Section 1: Introduction
- Section 2: Outfall Description
- Section 3: Derivation of Permit Limitations
- Section 4: Requested Permit Limits and Monitoring
- Appendix A: ADEM Form 187
- Appendix B: EPA Form 1
- Appendix C: EPA Form 2C
- Appendix D: EPA Form 2E
- Appendix E: EPA Form 2F

2.0 Outfall Descriptions

The IP Pine Hill Mill has 7 permitted outfalls in its current NPDES permit. One outfall is a combined stormwater and process wastewater outfall, one outfall receives leachate and stormwater from the solid waste landfill, and five receive stormwater from pulp and paper manufacturing activities.

At the time of the permit application facility outfalls DSN004 and DSN005 do not have any current industrial activity. However, the facility request that these outfalls remain in the permit in case the areas are used for industrial activity in the future. The area for DSN005 may be used for transportation equipment activities, as needed. The current NPDES permit only requires monitoring at outfalls DSN003 and DSN006 and these outfalls are considered representative of outfalls DSN004, DSN005, and DSN007.

Table 2-1 shows a list of the current outfalls and a description of the sources of wastewaters and/or stormwater for the outfalls. The two outfalls requested to be sampled as representative for permit compliance sampling and the rationale for their selection are also included in Table 2-1.

Table 2-1. NPDES Outfall Descriptions and Process Sampling

Application for NPDES Permit Renewal, AL0002674, IP Pine Hill Mill, Pine Hill, AL

Outfall	Description of Sources	2022 Application Sampling	EPA Form	Comments
Outfalls to be Permitted and Sampled with Application for Revocation and Reissuance				
DSN001	Process wastewaters from the manufacture of pulp and paperboard, landfill leachate, sanitary wastewaters, non-contact cooling water, and stormwater.	Yes	2C	DSN001 is the primary process water outfall at the Pine Hill Mill.
DSN002	Landfill leachate and stormwater from the landfill.	Yes	2C	DSN002 is a combined process water and stormwater outfall from the solid waste landfill.
DSN003	Stormwater associated with industrial activity including runoff from log storage area, debarking and chipping area, organo ash storage, general construction material and equipment storage area, access roads, and railroad right-of-way activities.	Yes	2F	DSN003 is the primary stormwater outfall for the mill that captures drainage from areas that are not routed through DSN001.
DSN004	Stormwater. Transportation of raw and finished products by truck and rail.	No	2F	At the time of submittal of the permit application there is no industrial activity in the drainage for outfall DSN004. It is requested that DSN006 will be sampled and considered as representative of Outfall 004 for the purposes of NPDES permit compliance sampling.
DSN005	Stormwater. Transportation of raw and finished products by truck and rail.	No	2F	At the time of submittal of the permit application there is no industrial activity in the drainage for outfall DSN005. It is requested that DSN006 will be sampled and considered as representative of Outfall 005 for the purposes of NPDES permit compliance sampling.
DSN006	Stormwater associated with industrial activity including runoff from general construction materials and equipment storage area, log storage area, and access roads.	Yes	2F	DSN006 receives stormwater primarily from areas associated with commercial traffic for delivery of raw materials for the mill.
DSN007	Stormwater associated with industrial activity including runoff from loading and unloading of organo ash, sludge and soil handling, and access roads.	Yes	2F	It is requested that DSN006 will be sampled and considered as representative of Outfall 007 for the purposes of NPDES permit compliance sampling.

3.0 Derivation of Permit Limitations

This section discusses the applicable effluent limitation guidelines (ELGs), ELG calculations, water quality calculations, and requested permit limitations for the Pine Hill Mill's permit renewal. There are no planned mill changes during the next permit cycle that will impact the production-based limits.

3.1 Applicable Effluent Limitation Guidelines

The Pine Hill Mill discharges process wastewaters via DSN001 to the Alabama River. Based on operations at the Pine Hill Mill, 40 CFR 430, the Subpart C (Unbleached Kraft) and Subpart J (Secondary Fiber) ELGs are applicable and provide the basis for the calculated allocations for the ELG-based limits presented in this section. Note that ADEM's previous permit rationales indicate production from secondary fiber in excess of 170 tons per day on Paper Machine 2 are subject to NSPS.

3.2 Effluent Limitation Guideline Calculations–DSN001

The Pine Hill Mill's current NPDES permit contains ELGs based on a daily unbleached kraft production rate of 2,710 tons per day, which was the daily average production for October 2021.

Production-based effluent limits are calculated using a reasonable measure of actual long-term production. The production values shown in Table 3-1 reflect historical values from January 2018 through October 2022. For these values, production is defined as off-the-machine production (including off-the-machine coating where applicable). Production furnished from unbleached Kraft pulp and CSSC pulp are subject to Subpart C. Production furnished from non-deinked secondary fiber is subject to Subpart J. The NPDES permit production basis is presented in Table 3-1.

Table 3-1. NPDES Permit Production Basis
Application for NPDES Permit Renewal, AL0002674, IP Pine Hill Mill, Pine Hill, AL

Process Description	Last 12 Months[1] Highest Monthly Average (1,000 lbs/day)	Highest Year of Last 5[2] Monthly Average (1,000 lbs/day)
PM1 Unbleached Kraft Production from Wood Pulp [3]	**3,200 (1,600 ADT/d)**	2,948 (1,474 ADT/d)
PM1 CSSC Kraft Production from Wood Pulp [4]	**188 (94 ADT/d)**	180 (90 ADT/d)
PM1 Secondary Fiber Production from Old Corrugated Container Pulp [5]	**272 (136 ADT/d)**	254 (127 ADT/d)
PM2 CSSC Kraft Production from Wood Pulp [3]	**1,324 (662 ADT/d)**	1,370 (685 ADT/d)
PM2 Secondary Fiber Production from Old Corrugated Container Pulp [5]	**560 280 (ADT/d)**	632 (316 ADT/d)

[1] Last 12 Months: November 2021 through October 2022

[2] Highest Year of Last 5: 2017 through 2021

[3] Measured as off-the-machine production furnished by unbleached Kraft pulp; regulated by 40 CFR 430 Subpart C (40 CFR 430.32)

[4] measured as off-the-machine production furnished by unbleached CSSC pulp; regulated by 40 CFR 430 Subpart C (40 CFR 430.32)

[5] Measured as off-the-machine production furnished by non-deinked secondary fiber; regulated by 40 CFR 430 Subpart J (40 CFR 430.102 and 105)

PM = paper machine

lbs/day = pounds per day

ADT/d = air-dry tons per day

The calculated ELG-based allocations for 5-day biochemical oxygen demand (BOD_5) and total suspended solids based on November 2021 through October 2022 production values are shown in Table 3-2. The calculated effluent limitation guideline-based allocations for pentachlorophenol and trichlorophenol are shown in Table 3-3. In previous permits, more stringent limits for BOD_5, TSS, pentachlorophenol, and trichlorophenol were retained from the previous permit rather than setting the limits based on the calculated production-based allocations.

In a permit modification request dated June 17, 2022, the IP Pine Hill Mill requested the BOD_5 limits for the winter season (November – April) be based on the effluent limitation guideline-based allocation and the summer season (May – October) be based on the recently updated QUAL2K water quality model that has been reviewed by the Water Quality Branch. The QUAL2K model is based on a BOD_5 loading of 13,500 lbs/day for the summer season and a BOD_5 loading of 19,906 lbs/day for the winter season. The winter season BOD_5 of 19,906 lbs/days was based on the October 2021 total daily average production of 2,710 tons/day. The more recent production values from March 2022 of 2772 tons per day result in an allowable monthly average BOD_5 discharge of 20,673 lbs/day.

Table 3-2. Calculated Effluent Limitation Guideline-based Allocations for BOD and TSS

Application for NPDES Permit Renewal, AL0002674, IP Pine Hill Mill, Pine Hill, AL

Process Description	Applicable Subcategory	Limit Basis	Production (1,000 lbs/day)	Allowable Limits (lbs/day)			
				BOD		TSS	
				Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
PM1 Unbleached Kraft Production	C	BCT	3,200	12,800	25,600	20,000	40,000
PM1 CSSC Kraft Production	C	BCT	188	752	1,503	1,175	2,349
PM1 Secondary Fiber Production	J	BPT	272	409	818	682	1,363
PM2 CSSC Kraft Production	C	BCT	1,324	5,298	10,596	8,278	16,556
PM2 Secondary Fiber Production	J	BPT / BCT	340	952	1.938	1,564	3,128
PM2 Secondary Fiber Production	J	NSPS[1]	220	462	858	506	968
TOTALS			**5,544**	**20,673**	**41,314**	**32,205**	**64,364**

PM = paper machine
BOD = 5-day biochemical oxygen demand
TSS – total suspended solids
lbs/day = pounds per day
[1] Paper Machine #2 production from secondary fiber in excess of 170 tons per day (340,000 lbs/day) is subject to NSPS

Table 3-3. Calculated Effluent Limitation Guideline-based Allocations for Pentachlorophenol and Trichlorophenol

Application for NPDES Permit Renewal, AL0002674, IP Pine Hill Mill, Pine Hill, AL

Process Description	Applicable Subcategory	Limit Basis	Production (1,000 lbs/day)	Allowable Limits (lbs/day)[1]	
				Pentachlorophenol	Trichlorophenol
				Daily Maximum	Daily Maximum
PM1 Unbleached Kraft Production	C	BAT	3,200	1.86	1.70
PM1 CSSC Kraft Production	C	BAT	188	0.12	0.11
PM1 Secondary Fiber Production	J	BAT	272	0.24	0.08
PM2 CSSC Kraft Production	C	BAT	1,324	0.85	0.78
PM2 Secondary Fiber Production	J	BAT	340	0.30	0.10
PM2 Secondary Fiber Production	J	NSPS[2]	220	0.19	0.07
TOTALS			**5,544**	**3.56**	**2.84**

PM = paper machine

lbs/day = pounds per day

[1] Limits for pentachlorophenol and trichlorophenol are not applicable if the discharger certifies non-use of chlorophenolic biocides. The Pine Hill Mill will continue to submit an annual certificate of non-use.

[2] Paper Machine #2 production from secondary fiber in excess of 170 tons per day (340,000 lbs/day) is subject to NSPS

3.3 Water Quality Calculations–DSN001

The Pine Hill Mill's process wastewater outfall (DSN001) discharges to the Alabama River, which is classified as Fish and Wildlife. The existing QUAL2K water quality model run by ADEM's Water Quality Branch was ran for a summer season (May – October) and a winter season (November – April).

The current summer season BOD_5 limit of 13,500 lbs/day is based on model results for maintaining at least a 5.0 mg/L dissolved oxygen concentration downstream in the Alabama River. The winter season BOD_5 limit of 19,906 lbs/day was based on the monthly average allowable BOD_5 from the ELGs. ADEM's water quality model for the winter season indicates additional BOD_5 loading is available while still being protective of the dissolved oxygen criterion of 5.0 mg/L. The Pine Hill Mill request the new winter season monthly average BOD_5 limit be based on the most recent production data.

Part IV. D.5. of the current permit limits BOD discharges when the dissolved oxygen at the five-foot depth at River Mil 121.8 is less than 5.3 mg/L:

> Maximum BOD (lbs/day) = 2.04 (Q) (D.O. -5)
>
> Where Q = the 24-hour flow in cfs determined for Miller's Ferry for the prior day and D.O. is the dissolved oxygen concentration in mg/L at the five-foot depth measured at River Mile 121.8.

Based on the segment of the Alabama River receiving the IP Pine Hill Mill discharge no longer being on the §303(d) list for low dissolved oxygen and the recent water quality model results the IP Pine Hill Mill requests the equation in Part IV.D.5. be removed from the permit.

4.0 Requested Permit Limits and Monitoring

This section discusses the requested permit limits and monitoring frequencies for the Pine Hill Mill's process wastewater outfall, DSN001. Table 4-1 summarizes the current permit limits as well as the requested permit limits for DSN001.

Table 4-1. Requested Permit Limits for Outfall DSN001

Application for NPDES Permit Renewal, AL0002674, IP Pine Hill Mill, Pine Hill, AL

Parameter	Units of Measure	Requested Limits		Season
		Monthly Average	Daily Maximum	
pH	s.u.	6.0 to 9.0		
BOD_5	lbs/day	20,673	31,010	November – April
BOD_5	lbs/day	13,500	20,250	May – October
TSS	lbs/day	32,205	64,364	–
Pentachlorophenol[1]	lbs/day	–	3.56	–
Trichlorophenol[1]	lbs/day	–	2.84	–
Total Ammonia Nitrogen	mg/L	–	Report	April - October
Total Kjeldahl Nitrogen	mg/L	–	Report	April - October
Total Nitrate plus Nitrite	mg/L	–	Report	April - October
Total Phosphorus	mg/L	–	Report	April - October
Flow	MGD	Report	Report	–

BOD_5 = 5-day biochemical oxygen demand
TSS – total suspended solids
s.u. = standard units
lbs/day – pounds per day
mg/L = milligrams per liter
MGD = million gallons per day
[1] Limits for pentachlorophenol and trichlorophenol are not applicable if the discharger certifies non-use of chlorophenolic biocides.

The Pine Hill Mill is not requesting changes to monitoring frequency or sample types for any outfalls in this renewal application. The Pine Hill Mill requests that the limitations and monitoring requirements remain the same for Outfall DSN002. The Pine hill mill requests that the limitations and monitoring requirements remain the same for the stormwater outfalls, including monitoring only be required at outfalls DSN003 and DSN006 (the representative outfalls). No significant changes to the facility have been made since the last permit modification request was submitted.

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

version 2.5

(Submission #: HPQ-845Q-BADDW, version 1)

Details

Submission ID HPQ-845Q-BADDW

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) 271-7943

Processing Information

Purpose of Application
Reissuance of Permit Due to Approaching Expiration

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
Reissuance

If applicable, briefly describe any planned changes at the facility that are included in this reissuance application:
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):
AL0002674

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

Is a new stormwater outfall being added?
No

Permit Information

Permit Number
AL0002674

Current Permittee Name
International Paper Company - Pine Hill Containerboard Mill

Permittee

Permittee Name
International Paper Company - Pine Hill

Mailing Address

PO Box 250

Pine Hill, AL 36769

Responsible Official

Prefix
Mr.

First Name	Last Name
Steve	*Webb*

Title
Mill Manager

Organization Name
International Paper Company - Pine Hill

Phone Type	Number	Extension
Business	3349632303	

Email
steve.webb@ipaper.com

Mailing Address

PO Box 250

Pine Hill, AL 36769

Existing Permit Contacts

Affiliation Type	Contact Information	Remove?
Permittee	International Paper Company - Pine Hill Containerboard Mill	Keep
Environmental Contact,DMR Contact,Facility Contact	Lance McCray	Remove

Affiliation Type	Contact Information	Remove?
Notification Recipient,Responsible Official	Steve Webb	Keep

Facility/Site Information

Facility/Site Name
International Paper Company - Pine Hill Containerboard Mill

Organization/Ownership Type
Corporation

Facility/Site Address or Location Description

7600 State Highway 10 West

Pine Hill, AL 36769

Facility/Site County
Wilcox

Detailed Directions to the Facility/Site
NONE PROVIDED

Facility Map

IP_PH_ADEM_Form_187_Attachment_3-Intake_and_Outfalls_Map.docx - 12/28/2022 10:26 AM

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
31.968430064838174,-87.47895708465575

SIC Code(s) [Please enter Primary SIC Code first followed by any additional applicable SIC Codes]
2631-Paperboard Mills

NAICS Code(s) [Please enter Primary NAICS Code first followed by any additional applicable NAICS Codes]
322130-Paperboard Mills

Facility/Site Contact

Prefix
Mrs.

First Name	Last Name
Shannon	*Dixon*

Title
Environmental Engineer

Organization Name
International Paper Company - Pine Hill

Phone Type	Number	Extension
Business	3349632311	

Email
shannon.dixon@ipaper.com

Address

PO Box 250

Pine Hill, AL 36769

DMR Contact(s) (1 of 1)

DMR Contact

Prefix
Mrs.

First Name	Last Name
Shannon	*Dixon*

Title
Environmental Engineer

Phone Type	Number	Extension
Business	3349632311	

Email
shannon.dixon@ipaper.com

Address
PO Box 250
Pine Hill, AL 36769

Applicant Business Entity Information

Address of Incorporation
220 East 42nd Street
New York, New York 10017

Agent Designated by the Corporation for Purposes of Service

Name	Address
C T Corporation System	2 North Jackson Street Suite 605 Montgomery, AL 36104

Please provide all corporate officers

Name	Title	Address
Tim S. Nicholls	Senior Vice President	6400 Poplar Avenue Memphis, TN 38197
Aimee K. Gregg	Senior Vice President	6400 Poplar Avenue Memphis, TN 38197

Does the applicant applying for coverage have a Parent Corporation?
Yes

Parent Corporation of Applicant

Name	Address
International Paper Company	6400 Poplar Avenue Memphis, TN 38197

Does the applicant applying for coverage have Subsidiary Corporations?
No

Enforcement History

Has the applicant been issued any Notices of Violation, Orders (Consent or Administrative/Unilateral), or Judicial Actions (Complaint, Settlement Agreement, Consent Decree, or Court Order) concerning water pollution or other permit violations within the State of Alabama in the past five years?
No

Business Activity

A facility with processes inclusive in the business areas shown below may be covered by Environmental Protection Agency's

(EPA) categorical effluent guideline standards. These facilities are termed ◆categorical users◆. If unsure, please call the Industrial Section at (334) 271-7943 to discuss or use the link below to contact the Permit Engineer for the county the facility is/will be located in.
Industrial Section Assignment Map

If your facility conducts or will be conducting any of the processes listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), please check the category of business activity:
Pulp, Paper, and Fiberboard Manufacturing

Give a brief description of all operations at this facility including primary products or services:
Pine Hill Mill, located in Pine Hill in Wilcox County, Alabama, is a pulp and paper facility operating two paper machines. The IP Pine Hill Mill uses a combined unbleached kraft and semi-chemical process where the spent semi-chemical cooking liquor is burned within the unbleached kraft chemical recovery system. Paper Machine #1 produces unbleached Kraft linerboard from unbleached Kraft pulp, controlled soda semi-chemical (CSSC) pulp, and non-deinked secondary fiber. Paper Machine #2 produces unbleached corrugating medium from CSSC pulp and non-deinked secondary fiber.

Water Supply

Water Sources (check all that apply):
Municipal Water Utility
Surface Water

Please specify the City of the Municipal Water Utility:
Pine Hill

Name of Utility	Million Gallons per Day (MGD)
Pine Hill Water Department	0.20

Operator of Surface Intake	Million Gallons per Day (MGD)
Alabama River	22.8
	Sum: 22.8

Cooling Water Intake Structure Information

Does the provider of your source water operate a surface water intake?
No

Is the provider a public water system (defined as a system which provides water to the public for human consumption or which provides only treated water, not raw water)?
Yes

Outfalls (1 of 2)

001

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
001

Receiving Water
Alabama River

Does the discharge enter the named receiving water via an unnamed tributary?
NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:
Process Water commingled with Stormwater

Estimated Average Daily Flow (MGD)
20.4

Monitoring/Sampling Point Location
31.975589206588815,-87.4620729920984

Outfalls (2 of 2)

002

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
002

Receiving Water
Alabama River

Does the discharge enter the named receiving water via an unnamed tributary?
NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:
Process Water commingled with Stormwater

Estimated Average Daily Flow (MGD)
0.22

Monitoring/Sampling Point Location
31.983876974958736,-87.46805310052487

Stormwater Outfalls (1 of 5)

003

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
003

Receiving Water
Alabama River

Does the discharge enter the named receiving water via an unnamed tributary?
NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:
Stormwater only (no comingled process waste water excluding air conditioner condensate and fire testing waters)

Monitoring/Sampling Point Location
31.97666700000000, -87.48861100000001

Stormwater Outfalls (2 of 5)

004

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
004

Receiving Water
Alabama River

Does the discharge enter the named receiving water via an unnamed tributary?
Unnamed Tributary

Indicate if either of the following characteristics apply to this discharge:
Stormwater only (no comingled process waste water excluding air conditioner condensate and fire testing waters)

Monitoring/Sampling Point Location
31.97361100000000, -87.49166700000001

Stormwater Outfalls (3 of 5)

005

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
005

Receiving Water
Dunns Creek

Does the discharge enter the named receiving water via an unnamed tributary?
NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:
Stormwater only (no comingled process waste water excluding air conditioner condensate and fire testing waters)

Monitoring/Sampling Point Location
31.96944400000000, -87.49166700000001

Stormwater Outfalls (4 of 5)

006

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
006

Receiving Water
Alabama River

Does the discharge enter the named receiving water via an unnamed tributary?
Unnamed Tributary

Indicate if either of the following characteristics apply to this discharge:
Stormwater only (no comingled process waste water excluding air conditioner condensate and fire testing waters)

Monitoring/Sampling Point Location
31.96666700000000, -87.48916700000000

Stormwater Outfalls (5 of 5)

007

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
007

Receiving Water
Alabama River

Does the discharge enter the named receiving water via an unnamed tributary?
Unnamed Tributary

Indicate if either of the following characteristics apply to this discharge:
Stormwater only (no comingled process waste water excluding air conditioner condensate and fire testing waters)

Monitoring/Sampling Point Location
31.97472200000000, -87.49527800000000

Anti-Degradation Evaluation

Is this a new or increased discharge that began after April 3, 1991?
No

Additional Information

Do you share an outfall with another facility?
No

Indicate if automatic sampling equipment or continuous wastewater flow metering equipment is being operated at this facility:

Current	Yes/No
Continuous Wastewater Flow Metering Equipment	Yes
Automatic Sampling Equipment	Yes

Indicate if installation automatic sampling equipment or continuous wastewater flow metering equipment planned at this facility:

Planned	Yes/No
Continuous Wastewater Flow Metering Equipment	N/A
Automatic Sampling Equipment	N/A

Please describe the equipment below:
Discharge pipe is equipped with totalizer for monitoring discharge flow, and ISCO samplers are used to sample treated effluent from DSN001.

Please attach the process schematic with sampling equipment locations.
IP_PH_ADEM_Form_187_Attachment_1-Water_Balance_Diagram.pptx - 12/28/2022 10:43 AM
Comment
NONE PROVIDED

Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics (Consider production processes as well as air or water pollution treatment processes that may affect the discharge.)?
No

Do you use biocides, corrosion inhibitors, or chemical additives in your cooling or blowdown water?
Yes

The applicant must provide a list of the following information for each biocide or chemical:

(1) Name and general composition of biocide or chemical (if composition is not provided on MSDS sheet)
(2) 48-hour or 96-hour LC50 data for organisms representative of the biota of the waterway into which the discharge will ultimately reach. For freshwater, the fathead minnow (Pimephales promelas) and cladoceran (Ceriodaphnia dubia) are the test organisms. For salt water, the mysid shrimp and the sheepshead minnow or inland silverside are the test organisms. Other acceptable aquatic organisms may be allowed by the Department if sufficient information is provided. If the MSDS sheet does not provide data for the organisms specified above, the facility must provide the data unless the Department grants approval for an alternate organism.
(3) Quantities to be used
(4) Frequencies of use
(5) Maximum proposed discharge concentrations
(6) EPA registration of number, if applicable and is not provided on the MSDS sheet.

List of Biocides

Please list biocides below:
See Form 187 Attachment 2 List of Biocides

Biocide/Corrosion Inhibitor Summary Sheet
Copy of IP_PH_ADEM_Form_187_Attachment_2-List_of_Biocides.xlsx - 12/28/2022 10:48 AM
Comment
NONE PROVIDED

Safety Data Sheets (SDS)
Biosperse XD9411 SDS.PDF - 12/29/2022 12:30 PM
Comment
The remainder Safety Data Sheets are uploaded in the Additional Attachments section.

Treatment

Is any form of wastewater treatment (see list below) practiced at this facility?
Yes

Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).
Biological treatment
Sedimentation

Biological treatment type:
Aerated Stabilization Basin

Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years?
No

Facility Operational Characteristics

Indicate whether the facility discharge is:
Continuous through the year

Comments:
NONE PROVIDED

Non-Discharged Wastes

Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system?
No

Does any outside firm remove any of the above checked wastes?
No

EPA Application Forms

All Applicants must submit certain EPA permit application forms. More than one application form may be required.

Form 1 - General Information Form required for all applications

Form 2C - Should be submitted for facilities with existing discharge(s) of process wastewater.

Form 2D - Should be submitted for facilities that have not yet commenced discharge(s) of process wastewater.

Form 2E - Should be submitted for facilities who discharge non-process wastewater, such as non-contact cooling water or boiler blowdown.

Form 2F - Should be submitted for all discharges of storm water associated with an industrial activity.
The EPA application forms are found on the Department's website here.

EPA Form 1
IP_PH_EPA_Form_1_complete.pdf - 12/29/2022 12:26 PM
Comment
NONE PROVIDED

Additional EPA Forms (EPA Form 2C, 2D, 2E and/or 2F)
EPA_Form_2F_complete.pdf - 12/29/2022 12:26 PM
IP_PH_EPA_Form_2C_complete.pdf - 12/29/2022 12:26 PM
Comment
NONE PROVIDED

Other attachments (as needed)
NONE PROVIDED
Comment
NONE PROVIDED

Additional Attachments

Please attach any additional information as needed.
IP_PH_NPDES_Permit_Application_Complete.pdf - 12/29/2022 10:26 AM
Millsperse MS7100 SDS.PDF - 12/29/2022 12:30 PM
Performax 4050 SDS.PDF - 12/29/2022 12:30 PM
Sodium Hypochlorite (12.5%) SDS.PDF - 12/29/2022 12:30 PM
Millsperse 955 SDS.PDF - 12/29/2022 12:30 PM
Amersite 2 SDS.PDF - 12/29/2022 12:30 PM
Comment
NONE PROVIDED

Application Preparer

Application Preparer

Prefix
Mrs.

First Name	Last Name
Shannon	*Dixon*

Title
Environmental Engineer

Organization Name
International Paper Company - Pine Hill

Phone Type	Number	Extension
Business	3349632311	

Email
shannon.dixon@ipaper.com

Address
PO Box 250
Pine Hill, AL 36769

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 lawthat 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 lawthat 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 Steven Webb on 12/29/2022 at 1:40 PM

APPENDIX A

ADEM Form 187

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM)
NPDES INDIVIDUAL PERMIT APPLICATION
SUPPLEMENTARY INFORMATION FOR INDUSTRIAL FACILITIES

Instructions: This form should be used to submit the required supplementary information for an application for an NPDES individual permit for industrial facilities. The completed application should be submitted to ADEM in duplicate. If insufficient space is available to address any item, please continue on an attached sheet of paper. Please mark "N/A" in the appropriate box when an item is not applicable to the applicant. **Please type or print legibly in blue or black ink.** Mail the completed application to:

ADEM-Water Division
Industrial Section
P O Box 301463
Montgomery, AL 36130-1463

PURPOSE OF THIS APPLICATION

- ☐ Initial Permit Application for New Facility*
- ☐ Initial Permit Application for Existing Facility*
- ☐ Modification of Existing Permit
- ■ Reissuance of Existing Permit
- ☐ Revocation & Reissuance of Existing Permit

* *An application for participation in the ADEM's Electronic Environmental (E2) Reporting must be submitted to allow permittee to electronically submit reports as required.*

SECTION A – GENERAL INFORMATION

1. Permittee Name: International Paper Company - Pine Hill Containerboard Mill
2. NPDES Permit Number: AL 0002674 (not applicable if initial permit application)
3. SID Permit Number (if applicable): IU
4. NPDES General Permit Number (if applicable): ALG
5. Facility Location (Front Gate): Latitude: 31.968482 Longitude: -87.479138
6. Responsible Official (as described on the last page of this application):

   Name: Steve Webb Title: Mill Manager

   Address: 7600 State Highway 10 West

   City: Pine Hill State: AL Zip: 36769

   Phone Number: (334) 963-2319 Email Address: steve.webb@ipaper.com
7. Designated Discharge Monitoring Report (DMR) Contact:

   Name: Shannon Dixon Title: Environmental Engineer

   Phone Number: (334) 963-2311 Email Address: shannon.dixon@ipaper.com
8. Type of Business Entity:

   ☒ Corporation ☐ General Partnership ☐ Limited Partnership ☐ Limited Liability Company ☐ Sole Proprietorship

   ☐ Other (Please Specify)
8. Complete this section if the Applicant's business entity is a Corporation

   a) Location of Incorporation:

   Address: 220 East 42nd Street

   City: New York County: New York State: NY Zip: 10017

   b) Parent Corporation of Applicant:

   Name: International Paper Company

   Address: 6400 Poplar Avenue

   City: Memphis State: TN Zip: 38197

c) Subsidiary Corporation(s) of Applicant:

Name: N/A

Address:

City: State: Zip:

d) Corporate Officers:

Name: Tim S. Nicholls, Senior Vice President - Industrial Packaging

Address: 6400 Poplar Avenue

City: Memphis State: TN Zip: 38197

Name: Amy K. Gregg, Vice President - Containerboard

Address: 6400 Poplar Avenue

City: Memphis State: TN Zip: 38197

e) Agent designated by the corporation for purposes of service:

Name: C T Corporation System

Address: 2 North Jackson Street, Suite 605

City: Montgomery State: AL Zip: 36104

9. If the Applicant's business entity is a Partnership, please list the general partners.

Name: N/A Name:

Address: Address:

City: State: Zip: City: State: Zip:

10. If the Applicant's business entity is a Proprietorship, please enter the proprietor's information.

Name: N/A

Address:

City: State: Zip:

11. Identify all Administrative Complaints, Notices of Violation, Directives, Administrative Orders, or Litigation concerning water if any, against the Applicant, its parent corporation or subsidiary corporations within the State of Alabama within the past five years (attach additional sheets if necessary):

Facility Name	Permit Number	Type of Action	Date of Action
None			

SECTION B – BUSINESS ACTIVITY

If your facility conducts or will be conducting any of the processes listed below (regardless of whether they generate wastewater, waste sludge, or hazardous waste), place a check beside the category of business activity (check all that apply):

Industrial Categories

- ☐ Aluminum Forming
- ☐ Asbestos Manufacturing
- ☐ Battery Manufacturing
- ☐ Can Making
- ☐ Canned and Preserved Fruit and Vegetables
- ☐ Canned and Preserved Seafood
- ☐ Cement Manufacturing
- ☐ Centralized Waste Treatment
- ☐ Carbon Black
- ☐ Coal Mining
- ☐ Coil Coating
- ☐ Copper Forming
- ☐ Electric and Electronic Components Manufacturing
- ☐ Electroplating
- ☐ Explosives Manufacturing
- ☐ Feedlots
- ☐ Ferroalloy Manufacturing
- ☐ Fertilizer Manufacturing
- ☐ Foundries (Metal Molding and Casting)
- ☐ Glass Manufacturing
- ☐ Grain Mills
- ☐ Gum and Wood Chemicals Manufacturing
- ☐ Inorganic Chemicals
- ☐ Iron and Steel
- ☐ Leather Tanning and Finishing
- ☐ Metal Finishing
- ☐ Meat Products
- ☐ Metal Molding and Casting
- ☐ Metal Products
- ☐ Nonferrous Metals Forming
- ☐ Nonferrous Metals Manufacturing
- ☐ Oil and Gas Extraction
- ☐ Organic Chemicals Manufacturing
- ☐ Paint and Ink Formulating
- ☐ Paving and Roofing Manufacturing
- ☐ Pesticides Manufacturing
- ☐ Petroleum Refining
- ☐ Phosphate Manufacturing
- ☐ Photographic
- ☐ Pharmaceutical
- ☐ Plastic & Synthetic Materials
- ☐ Plastics Processing Manufacturing
- ☐ Porcelain Enamel
- ☒ Pulp, Paper, and Fiberboard Manufacturing
- ☐ Rubber
- ☐ Soap and Detergent Manufacturing
- ☐ Steam and Electric
- ☐ Sugar Processing
- ☐ Textile Mills
- ☐ Timber Products
- ☐ Transportation Equipment Cleaning
- ☐ Waste Combustion
- ☐ Other (specify)_____

A facility with processes inclusive in these business areas may be covered by Environmental Protection (EPA) categorical standards. These facilities are termed "categorical users".

SECTION C – WASTEWATER DISCHARGE INFORMATION

1. Do you share an outfall with another facility? ☐ Yes ☒ No (If no, continue to C.2)

   For each shared outfall, provide the following:

Applicant's Outfall No.	Name of Other Permittee/Facility	NPDES Permit No.	Where is sample collected by Applicant?

2. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current:	Flow Metering	☒ Yes	☐ No	☐ N/A
	Sampling Equipment	☒ Yes	☐ No	☐ N/A
Planned:	Flow Metering	☐ Yes	☐ No	☒ N/A
	Sampling Equipment	☐ Yes	☐ No	☒ N/A

If so, please attach a schematic diagram of the sewer system indicating the present or future location of this equipment and describe the equipment below:

Discharge pipe is equiped with totalizer for monitoring discharge flow, and ISCO samplers are used to sample treated effluent from DSN001.

3. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics?

☐ Yes ☒ No (If no, continue to C.4)

Briefly describe these changes and their anticipated effects on the wastewater volume and characteristics:

4. List the trade name and chemical composition of all biocides and corrosion inhibitors used:

Trade Name	Chemical Composition
See Form 187 Attachment 2	

For each biocide and/or corrosion inhibitor used, please include the following information:

(1) 96-hour median tolerance limit data for organisms representative of the biota of the waterway into which the discharge will ultimately reach,
(2) quantities to be used,
(3) frequencies of use,
(4) proposed discharge concentrations, and
(5) EPA registration number, if applicable

SECTION D – WATER SUPPLY

Water Sources (check as many as are applicable):

☐ Private Well
■ Municipal Water Utility (Specify City):
■ Surface Water
☐ Other (Specify): Municipal Water from Town of Pine Hill

IF MORE THAN ONE WELL OR SURFACE INTAKE, PROVIDE DATA FOR EACH ON AN ATTACHMENT

City: 0.20 MGD* Well: _____ MGD* Well Depth: _____ Ft. Latitude: _____ Longitude: _____

Surface Intake Volume: 22.8 MGD* Intake Elevation in Relation to Bottom: 19 Ft.

Intake Elevation: _____ Ft. Latitude: 31.9822 Longitude: -87.4669

Name of Surface Water Source: Alabama River

*** MGD – Million Gallons per Day**

Cooling Water Intake Structure Information

Complete D.1 and D.2 if your water supply is provided by an outside source and not by an onsite water intake structure? (e.g., another industry, municipality, etc...)

1. Does the provider of your source water operate a surface water intake? ☐ Yes ☐ No
   (If yes, continue, if no, go to Section E.)

   a) Name of Provider:_____ b) Location of Provider:_____

   c) Latitude:_____ Longitude:_____

2. Is the provider a public water system (defined as a system which provides water to the public for human consumption or which provides only treated water, not raw water)? ☐ Yes ☐ No (If yes, go to Section E, if no, continue.)

Only to be completed if you have a cooling water intake structure or the provider of your water supply uses an intake structure and does not treat the raw water.

3. Is any water withdrawn from the source water used for cooling? ■ Yes ☐ No

4. Using the average monthly measurements over any 12-month period, approximately what percentage of water withdrawn is used exclusively for cooling purposes? 5 %

5. Does the cooling water consist of treated effluent that would otherwise be discharged? ☐ Yes ■ No
   (If yes, go to Section E, if no, complete D.6 – D.17)

6. a. Is the cooling water used in a once-through cooling system? ☐ Yes ■ No

   b. Is the cooling water used in a closed cycle cooling system? ■ Yes ☐ No

7. When was the intake installed? 1968
   (Please provide dates for all major construction/installation of intake components including screens)

8. What is the maximum intake volume? 43,200,000
   (maximum pumping capacity in gallons per day)

9. What is the average intake volume? 22,800,000
   (average intake pump rate in gallons per day average in any 30-day period)

10. What is the actual intake flow (AIF) as defined in 40 CFR §125.92(a)? 22.8 MGD

11. How is the intake operated? (e.g., continuously, intermittently, batch) continuously

12. What is the mesh size of the screen on your intake? vertical bars with approx. 4.75-inch centers

13. What is the intake screen flow-through area? 310 square feet

14. What is the through-screen design intake flow velocity? 0.22 ft/sec

15. What is the through-screen actual velocity (in ft/sec)? 0.11 ft/sec

16. What is the mechanism for cleaning the screen? (e.g., does it rotate for cleaning) manual cleaning by contract divers

17. Do you have any additional fish detraction technology on your intake? ☐ Yes ■ No

18. Have there been any studies to determine the impact of the intake on aquatic organisms? ☐ Yes ■ No (If yes, please provide.)

19. Attach a site map showing the location of the water intake in relation to the facility, shoreline, water depth, etc.

    See ADEM Form 187 Attachment 3

SECTION E – WASTE STORAGE AND DISPOSAL INFORMATION

Provide a description of the location of all sites involved in the storage of solids or liquids that could be accidentally discharged to a water of the state, either directly or indirectly via such avenues as storm water drainage, municipal wastewater systems, etc., which are located at the facility for which the NPDES application is being made. Where possible, the location should be noted on a map and included with this application:

Description of Waste	Description of Storage Location
See Form 187 Attachment 4	

SECTION F – COASTAL ZONE INFORMATION

Is the discharge(s) located within the 10-foot elevation contour and within the limits of Mobile or Baldwin County? ☐ Yes ☒ No

If yes, complete items F.1 – F.12:

		Yes	No
1.	Does the project require new construction?	☐	☐
2.	Will the project be a source of new air emissions?	☐	☐
3.	Does the project involve dredging and/or filling of a wetland area or water way?	☐	☐
	If Yes, has the Corps of Engineers (COE) permit been received?	☐	☐
	COE Project No. _____		
4.	Does the project involve wetlands and/or submersed grassbeds?	☐	☐
5.	Are oyster reefs located near the project site?	☐	☐
	If Yes, include a map showing project and discharge location with respect to oyster reefs		
6.	Does the project involve the site development, construction and operation of an energy facility as defined in ADEM Admin. Code r. 335-8-1-.02(bb)?	☐	☐
7.	Does the project involve mitigation of shoreline or coastal area erosion?	☐	☐
8.	Does the project involve construction on beaches or dune areas?	☐	☐
9.	Will the project interfere with public access to coastal waters?	☐	☐
10.	Does the project lie within the 100-year floodplain?	☐	☐
11.	Does the project involve the registration, sale, use, or application of pesticides?	☐	☐
12.	Does the project propose or require construction of a new well or to alter an existing groundwater well to pump more than 50 gallons per day (GPD)?	☐	☐
	If yes, has the applicable permit for groundwater recovery or for groundwater well installation been obtained?	☐	☐

SECTION G – ANTI-DEGRADATION EVALUATION

In accordance with 40 CFR §131.12 and the ADEM Admin. Code r. 335-6-10-.04 for anti-degradation, the following information must be provided, if applicable. It is the applicant's responsibility to demonstrate the social and economic importance of the proposed activity. If further information is required to make this demonstration, attach additional sheets to the application.

1. Is this a new or increased discharge that began after April 3, 1991? ☐ Yes ☒ No
   If yes, complete G.2 below. If no, go to Section H.

2. Has an Anti-Degradation Analysis been previously conducted and submitted to the Department for the new or increased discharge referenced in G.1? ☐ Yes ☐ No

   If yes, do not complete this section. If no, and the discharge is to a Tier II waterbody as defined in ADEM Admin. Code r. 335-6-10-.12(4), complete G.2.A – G.2.F below and ADEM Forms 311 and 313 (attached). ADEM Form 313 must be provided for each alternative considered technically viable.

Information required for new or increased discharges to high quality waters:

A. What environmental or public health problem will the discharger be correcting?

B. How much will the discharger be increasing employment (at its existing facility or as the result of locating a new facility)?

C. How much reduction in employment will the discharger be avoiding?

D. How much additional state or local taxes will the discharger be paying?

E. What public service to the community will the discharger be providing?

F. What economic or social benefit will the discharger be providing to the community?

SECTION H – EPA Application Forms

All Applicants must submit EPA permit application forms. More than one application form may be required from a facility depending on the number and types of discharges or outfalls found. The EPA application forms are found on the Department's website at http://www.adem.alabama.gov/programs/water/waterforms.cnt . The EPA application forms must be submitted in duplicate as follows:

1. All applicants must submit Form 1.
2. Applicants for existing industrial facilities (including manufacturing facilities, commercial facilities, mining activities, and silvicultural activities) which discharge process wastewater must submit Form 2C.
3. Applicants for new industrial facilities which propose to discharge process wastewater must submit Form 2D.
4. Applicants for new and existing industrial facilities which discharge only non-process wastewater (i.e., non-contact cooling water and/or sanitary wastewater) must submit Form 2E.
5. Applicants for new and existing facilities whose discharge is composed entirely of storm water associated with industrial activity must submit Form 2F, unless exempted by § 122.26(c)(1)(ii). If the discharge is composed of storm water and non-storm water, the applicant must also submit Forms 2C, 2D, and/or 2E, as appropriate (in addition to Form 2F).

SECTION I – ENGINEERING REPORT/BMP PLAN REQUIREMENTS

See ADEM 335-6-6-.08(i) & (j)

SECTION J– RECEIVING WATERS

Outfall No.	Receiving Water(s)	303(d) Segment?		Included in TMDL?*	
001, 002, 003,	Alabama River	☐ Yes	☒ No	☐ Yes	☒ No
004, 006, 007		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
005	Dunns Creek	☐ Yes	☒ No	☐ Yes	☒ No
		☐ Yes	☐ No	☐ Yes	☐ No

*If a TMDL Compliance Schedule is requested, the following should be attached as supporting documentation:

(1) Justification for the requested Compliance Schedule (e.g. time for design and installation of control equipment, etc.);

(2) Monitoring results for the pollutant(s) of concern which have not previously been submitted to the Department (sample collection dates, analytical results (mass and concentration), methods utilized, MDL/ML, etc. should be submitted as available);

(3) Requested interim limitations, if applicable;

(4) Date of final compliance with the TMDL limitations; and,

(5) Any other additional information available to support requested compliance schedule.

SECTION K – APPLICATION CERTIFICATION

The information contained in this form must be certified by a responsible official as defined in ADEM Administrative Code r. 335-6-6-.09 "signatories to permit applications and reports" (see below).

"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."

Signature of Responsible Official:_____ Date Signed:_____

Name: Steve Webb Title: Mill Manager

If the Responsible Official signing this application is not identified in Section A.7, provide the following information:

Mailing Address: P.O. Box 250

City: Pine Hill State: AL Zip: 36769

Phone Number: (334) 963-2319 Email Address: steve.webb@ipaper.com

335-6-6-.09 SIGNATORIES TO PERMIT APPLICATIONS AND REPORTS.

(1) The application for an NPDES permit shall be signed by a responsible official, as indicated below:

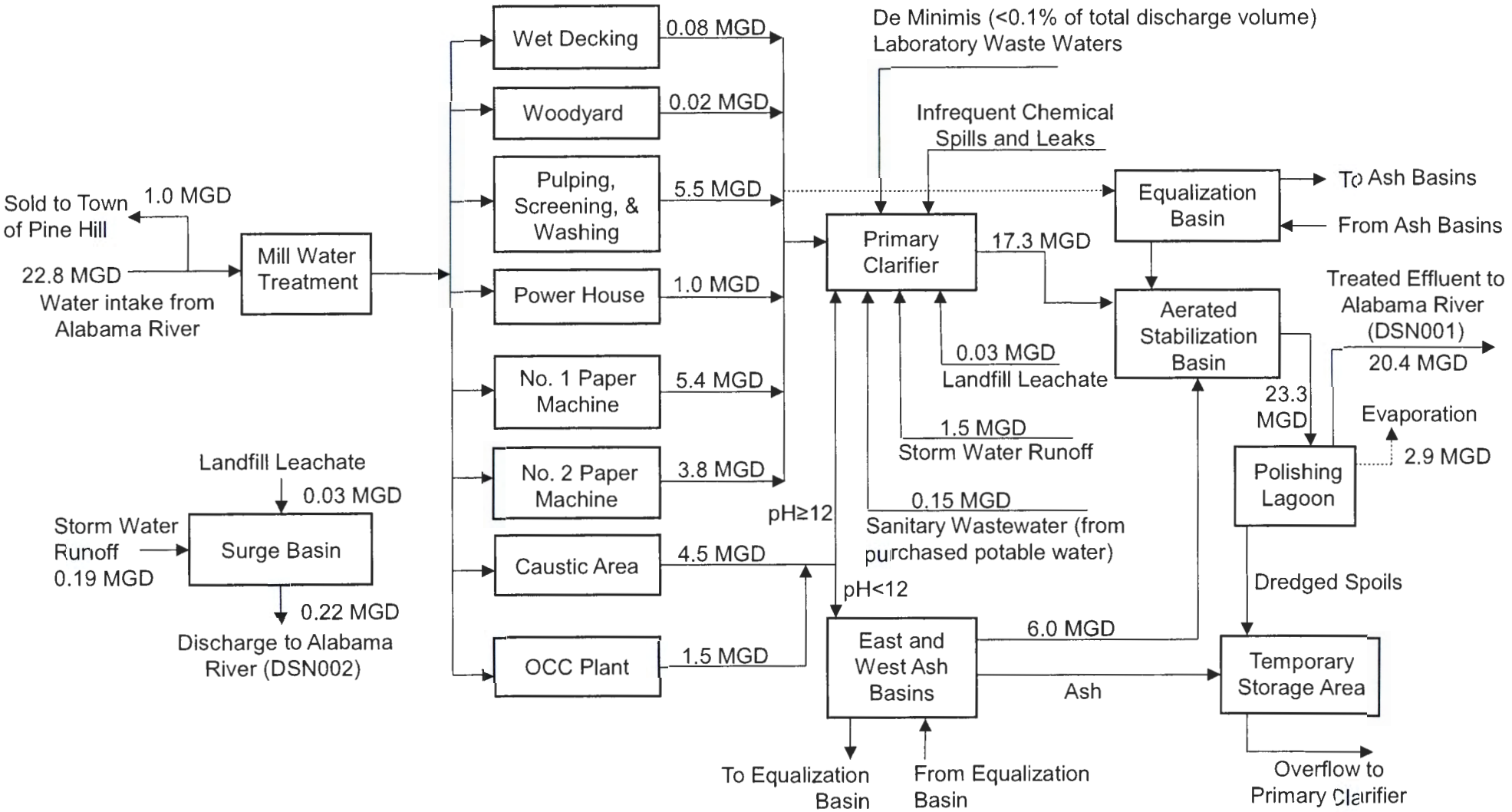
(a) In the case of a corporation, by a principal executive officer of at least the level of vice president, or a manager assigned or delegated in accordance with corporate procedures, with such delegation submitted in writing if required by the Department, who is responsible for manufacturing, production, or operating facilities and is authorized to make management decisions which govern the operation of the regulated facility;

(b) In the case of a partnership, by a general partner;

(c) In the case of a sole proprietorship, by the proprietor; or

(d) In the case of a municipal, state, federal, or other public entity, by either a principal executive officer, or ranking elected official.

ADEM Form 187 Attachment 1
Line Drawing



ADEM Form 187 Attachment 2
Biocides and/or Corrosion Inhibitors

Product Name (Active Component(s))	Product Type	96-Hour Median Tolerance Limit	Quantity To Be Used	Frequency of Use	Proposed Discharge Concentration (mg/L) [1]	EPA Registration Number
Amersite 2 (36% sodium bisulfate)	Corrosion Inhibitor	369 mg/L	65 lbs/day	Continuous	0.38	254504001-5425
Calcium Hypochlorite (75% calcium hypochlorite with calcium oxychloride)	Biocide	0.088 mg/L	10 lbs/day	Continuous	0.059	Not provided by SDS
Performax 4050 (5-10% potassium hydroxide, 1.5-5% Triazole derivative-, 15-20% inorganic salt)	Corrosion Inhibitor	500 mg/L	30 lbs/day	Continuous	0.18	Not provided by SDS
Millsperse 955 (50% zinc chloride)	Corrosion Inhibitor	0.164 mg/L	120 lbs/day	Continuous	0.70	Not provided by SDS
Millsperse MS7100 (70% TKPP)	Corrosion Inhibitor	100 mg/L	300 lbs/day	Continuous	1.76	254504001-5294
Sodium Hypochlorite (12.5% sodium hypochlorite)	Biocide	0.22 mg/L	6400 lbs/day	Continuous	37.6	Not provided by SDS
Biosperse XD941 I (18% proprietary halogenated complex, 10% sodium hydroxide)	Biocide	3.8 mg/L	20 lbs/day	Continuous	0.12	3377-55-74655

[1] These components are not routinely tested. Concentrations shown are based on a daily average flow of 20.4 mgd and assume components are not degraded or otherwise transformed by the various treatment units before discharge.

ADEM Form 187 Attachment 3
Intake and Outfall Locations

ADEM Form 187 Attachment 4
Waste Storage and Disposal Information

Solids / Liquids	Storage Location
Ash and Sludge	Temporary Storage Area
Wood Waste	Industrial Waste Landfill (on site) or Temporary Storage Area
Lime Mud	Industrial Waste Landfill and Lime Kiln area
Putrescible Waste	Gate 5 -East of Shipping Area
Used Oil	Storage containers in paper machine building, pulp mill, and woodyard
Wood Chips	West of Pulp Mill
Diesel Fuel Tank(s)	Powerhouse Air Compressor (2) - 1,000 gallons each
	Heavy Equipment Shop - 800 gallons
	Fire Pump House - 450 gallons
	Old Fire Station - 300 gallons
	Labor and Relief Building- 300 gallons
	Maintenance Shop (Contractor) - 1,800 gallons
	Maintenance Shop (Contractor) - 1,600 gallons
	Maintenance Shop (Contractor) - 500 gallons
Gasoline Tank(s)	West of Training Center - 1,000 gallons
	Labor and Relief Building -290 gallons
	East of Lime Kiln (Burke's)- 400 gallons
	Maintenance Shop (Contractor)-280 gallons
Chemical Tote Bins	North of Store Room
Hydraulic Oil	Oil Storage Building
Waste Solvent (parts washer)	Maintenance Shop

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110043808742	AL0002674	International Paper - Pine Hill	

Form 1 NPDES

EPA

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

GENERAL INFORMATION

SECTION 1. ACTIVITIES REQUIRING AN NPDES PERMIT (40 CFR 122.21(f) and (f)(1))

Activities Requiring an NPDES Permit

1.1 Applicants *Not Required* to Submit Form 1

1.1.1	Is the facility a new or existing **publicly owned treatment works**? If yes, STOP. Do NOT complete Form 1. Complete Form 2A. ☑ No	1.1.2	Is the facility a new or existing **treatment works treating domestic sewage**? If yes, STOP. Do NOT complete Form 1. Complete Form 2S. ☑ No

1.2 Applicants *Required* to Submit Form 1

1.2.1	Is the facility a **concentrated animal feeding operation** or a **concentrated aquatic animal production facility?** ☐ Yes ➔ Complete Form 1 ***and*** Form 2B. ☑ No	1.2.2	Is the facility an **existing** manufacturing, commercial, mining, or silvicultural **facility** that **is currently discharging process wastewater?** ☑ Yes ➔ Complete Form 1 ***and*** Form 2C. ☐ No
1.2.3	Is the facility a **new** manufacturing, commercial, mining, or silvicultural **facility** that has **not yet commenced to discharge**? ☐ Yes ➔ Complete Form 1 ***and*** Form 2D. ☑ No	1.2.4	Is the facility a **new or existing** manufacturing, commercial, mining, or silvicultural **facility** that **discharges only nonprocess wastewater?** ☐ Yes ➔ Complete Form 1 ***and*** Form 2E. ☑ No
1.2.5	Is the facility a **new or existing facility** whose discharge is composed entirely of **stormwater associated with industrial activity** or whose discharge is composed of **both stormwater and non-stormwater**? ☑ Yes ➔ Complete Form 1 ***and*** Form 2F unless exempted by 40 CFR 122.26(b)(14)(x) or (b)(15). ☐ No		

SECTION 2. NAME, MAILING ADDRESS, AND LOCATION (40 CFR 122.21(f)(2))

Name, Mailing Address, and Location

2.1 Facility Name

International Paper Company - Pine Hill Mill

2.2 EPA Identification Number

110043808742

2.3 Facility Contact

Name (first and last)	Title	Phone number
Clint Diamond	EHS & S Manager	(334) 963-2256

Email address
clint.diamond@ipaper.com

2.4 Facility Mailing Address

Street or P.O. box
P.O. Box 250

City or town	State	ZIP code
Pine Hill	AL	36769

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110043808742	AL0002674	International Paper - Pine Hill	

Name, Mailing Address, and Location Continued

2.5	**Facility Location**		
	Street, route number, or other specific identifier 7600 State Highway 10 West		
	County name Wilcox	County code (if known)	
	City or town Pine Hill	State AL	ZIP code 36769

SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(f)(3))

SIC and NAICS Codes

3.1	**SIC Code(s)**	**Description** (optional)
	2631	Paperboard Manufacture
	2611	Kraft Pulp Manufacture

3.2	**NAICS Code(s)**	**Description** (optional)
	322121	Paper (except newsprint) Mills
	322130	Pulp Mill producing paperboard

SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(f)(4))

Operator Information

4.1	**Name of Operator**
	International Paper Company
4.2	Is the name you listed in Item 4.1 also the owner? ☑ Yes ☐ No
4.3	**Operator Status** ☐ Public—federal ☐ Public—state ☐ Other public (specify)_____ ☑ Private ☐ Other (specify) _____
4.4	**Phone Number of Operator**
	(334) 963-4391

Operator Information Continued

4.5	**Operator Address**		
	Street or P.O. Box P.O. Box 250		
	City or town Pine Hill	State AL	ZIP code 36769
	Email address of operator steve.webb@ipaper.com		

SECTION 5. INDIAN LAND (40 CFR 122.21(f)(5))

Indian Land

5.1	Is the facility located on Indian Land? ☐ Yes ☑ No

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110043808742	AL0002674	International Paper - Pine Hill	

SECTION 6. EXISTING ENVIRONMENTAL PERMITS (40 CFR 122.21(f)(6))

Existing Environmental Permits

6.1 **Existing Environmental Permits** (check all that apply and print or type the corresponding permit number for each)

☐ NPDES (discharges to surface water)	☐ RCRA (hazardous wastes)	☐ UIC (underground injection of fluids)
☐ PSD (air emissions)	☐ Nonattainment program (CAA)	☐ NESHAPs (CAA)
☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☑ Other (specify) See EPA Form 1 Attachment 1

SECTION 7. MAP (40 CFR 122.21(f)(7))

Map

7.1 Have you attached a topographic map containing all required information to this application? (See instructions for specific requirements.)

☑ Yes ☐ No ☐ CAFO—Not Applicable (See requirements in Form 2B.)

SECTION 8. NATURE OF BUSINESS (40 CFR 122.21(f)(8))

Nature of Business

8.1 Describe the nature of your business.

International Paper Company's Pine Hill Mill manufactures unbleached Kraft linerboard and corrugating medium from virgin Kraft pulp, controlled soda semi-chemical pulp, and secondary fiber.

SECTION 9. COOLING WATER INTAKE STRUCTURES (40 CFR 122.21(f)(9))

Cooling Water Intake Structures

9.1 Does your facility use cooling water?

☑ Yes ☐ No ➔ SKIP to Item 10.1.

9.2 Identify the source of cooling water. (Note that facilities that use a cooling water intake structure as described at 40 CFR 125, Subparts I and J may have additional application requirements at 40 CFR 122.21(r). Consult with your NPDES permitting authority to determine what specific information needs to be submitted and when.)

Alabama River

SECTION 10. VARIANCE REQUESTS (40 CFR 122.21(f)(10))

Variance Requests

10.1 Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(m)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)

☐ Fundamentally different factors (CWA Section 301(n))	☐ Water quality related effluent limitations (CWA Section 302(b)(2))
☐ Non-conventional pollutants (CWA Section 301(c) and (g))	☐ Thermal discharges (CWA Section 316(a))
☑ Not applicable	

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110043808742	AL0002674	International Paper - Pine Hill Mill	

SECTION 11. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

11.1 In Column 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Activities Requiring an NPDES Permit	☐ w/ attachments
☑ Section 2: Name, Mailing Address, and Location	☐ w/ attachments
☑ Section 3: SIC Codes	☐ w/ attachments
☑ Section 4: Operator Information	☐ w/ attachments
☑ Section 5: Indian Land	☐ w/ attachments
☑ Section 6: Existing Environmental Permits	☑ w/ attachments
☑ Section 7: Map	☑ w/ topographic map ☐ w/ additional attachments
☑ Section 8: Nature of Business	☐ w/ attachments
☑ Section 9: Cooling Water Intake Structures	☐ w/ attachments
☑ Section 10: Variance Requests	☐ w/ attachments
☑ Section 11: Checklist and Certification Statement	☐ w/ attachments

11.2 **Certification Statement**

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.

Name (print or type first and last name)	Official title
Steve Webb	Mill Manager
Signature	Date signed

EPA Form 1 Attachment 1
List of Existing Environmental Permits

Type of Permit	Permit Number
NPDES Permit	AL0002674
RCRA	
Industrial Waste Landfill Permit	66-02
Major Source Operating Permit	109-0001
Scrap Tire Receiver's License	S0000007779
ADECA Certificate of Use	OWR-0074
Department of the Army Nationwide Permit	SAM-2021-00601-DCH
Air Permit – No.1 Diesel Fire Pump - Replacement	109-0001-X021
Air Permit – Emergency Recovery Boiler Engine	109-0001-X020
Air Permit – No. 2 Paper Machine	109-0001-X019
Air Permit – No. 1 Paper Machine	109-0001-X018
Air Permit – Scale House Engine - Replacement	109-0001-X017
Air Permit – Condensate Stripper	109-0001-X016
Air Permit – Thermal Oxidizer	109-0001-X015
Air Permit – Green Liquor Semi-Chemical Washers	109-0001-X013
Air Permit – Green Liquor Semi-Chemical Evaporators	109-0001-X012
Air Permit – Green Liquor Semi-Chemical Digester	109-0001-X011
Air Permit – No. 2 Power Boiler	109-0001-X010
Air Permit – No. 2 Smelt Dissolving Tank	109-0001-X009
Air Permit – No. 2 Chemical Recovery Boiler	109-0001-X008
Air Permit – Kamyr Digester System	109-0001-Z006
Air Permit – No. 1 Lime Kiln	109-0001-Z002

EPA Form 1 Attachment 2
Topographic Map of IP Pine Hill Mill

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110043808742	AL0002674	International Paper - Pine Hill	

Form 2C NPDES | EPA

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater
EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below.

Outfall Number	Receiving Water Name	Latitude	Longitude
DSN001	Alabama River	31° 58′ 30″ N	87° 27′ 30″ W
DSN002	Alabama River	31° 59′ 2″ N	87° 28′ 7″ W
		° ′ ″	° ′ ″

SECTION 2. LINE DRAWING (40 CFR 122.21(g)(2))

Line Drawing

2.1 Have you attached a line drawing to this application that shows the water flow through your facility with a water balance? (See instructions for drawing requirements. See Exhibit 2C–1 at end of instructions for example.)

☑ Yes ☐ No

SECTION 3. AVERAGE FLOWS AND TREATMENT (40 CFR 122.21(g)(3))

Average Flows and Treatment

3.1 For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.

****Outfall Number**** DSN001

Operations Contributing to Flow

Operation	Average Flow
See EPA Form 2C Attachment 2	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
See EPA Form 2C Attachment 2		

Average Flows and Treatment Continued

3.1 cont.

****Outfall Number**** DSN002

Operations Contributing to Flow

Operation	Average Flow
See EPA Form 2C Attachment 2	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
See EPA Form 2C Attachment 2		

****Outfall Number**** _____

Operations Contributing to Flow

Operation	Average Flow
	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge

System Users

3.2 Are you applying for an NPDES permit to operate a privately owned treatment works?

☐ Yes ☑ No ➔ SKIP to Section 4

3.3 Have you attached a list that identifies each user of the treatment works?

☐ Yes ☐ No

SECTION 4. INTERMITTENT FLOWS (40 CFR 122.21(g)(4))

Intermittent Flows

4.1 Except for storm runoff, leaks, or spills, are any discharges described in Sections 1 and 3 intermittent or seasonal?

☐ Yes ☑ No ➔ SKIP to Section 5.

4.2 Provide information on intermittent or seasonal flows for each applicable outfall. Attach additional pages, if necessary.

Outfall Number	Operation (list)	Frequency		Flow Rate		Duration
		Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days

SECTION 5. PRODUCTION (40 CFR 122.21(g)(5))

Applicable ELGs

5.1 Do any effluent limitation guidelines (ELGs) promulgated by EPA under Section 304 of the CWA apply to your facility?

☑ Yes ☐ No ➔ SKIP to Section 6.

5.2 Provide the following information on applicable ELGs.

ELG Category	ELG Subcategory	Regulatory Citation
Pulp, Paper, and Paperboard	Subpart C - Unbleached Kraft	40 CFR 430
Pulp, Paper, and Paperboard	Subpart J - Secondary Fiber Non-Deink	40 CFR 430

Production-Based Limitations

5.3 Are any of the applicable ELGs expressed in terms of production (or other measure of operation)?

☑ Yes ☐ No ➔ SKIP to Section 6.

5.4 Provide an actual measure of daily production expressed in terms and units of applicable ELGs.

Outfall Number	Operation, Product, or Material	Quantity per Day	Unit of Measure
	See EPA Form 2C Attachment 3		

SECTION 6. IMPROVEMENTS (40 CFR 122.21(g)(6))

Upgrades and Improvements

6.1 Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?

☐ Yes ☑ No ➔ SKIP to Item 6.3.

6.2 Briefly identify each applicable project in the table below.

Brief Identification and Description of Project	Affected Outfalls (list outfall number)	Source(s) of Discharge	Final Compliance Dates	
			Required	Projected

6.3 Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? *(optional item)*

☐ Yes ☐ No ☐ Not applicable

SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(g)(7))

Effluent and Intake Characteristics

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

Table A. Conventional and Non-Conventional Pollutants

7.1 Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of your outfalls?

☐ Yes ☑ No ➔ SKIP to Item 7.3.

7.2 If yes, indicate the applicable outfalls below. Attach waiver request and other required information to the application.

Outfall Number _____ Outfall Number _____ Outfall Number _____

7.3 Have you completed monitoring for all Table A pollutants at each of your outfalls for which a waiver has not been requested and attached the results to this application package?

☑ Yes ☐ No; a waiver has been requested from my NPDES permitting authority for all pollutants at all outfalls.

Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants

7.4 Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories listed in Exhibit 2C-3? (See end of instructions for exhibit.)

☑ Yes ☐ No ➔ SKIP to Item 7.8.

7.5 Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B?

☑ Yes ☐ No

7.6 List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3.

Primary Industry Category	Required GC/MS Fraction(s) (Check applicable boxes.)			
Pulp and Paperboard Mills	☑ Volatile	☑ Acid	☑ Base/Neutral	☑ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide

Effluent and Intake Characteristics Continued

7.7	Have you checked "Testing Required" for all required pollutants in Sections 2 through 5 of Table B for each of the GC/MS fractions checked in Item 7.6? ☑ Yes ☐ No
7.8	Have you checked "Believed Present" or "Believed Absent" for all pollutants listed in Sections 1 through 5 of Table B where testing is not required? ☑ Yes ☐ No
7.9	Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testing is required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believed Present" in your discharge? ☑ Yes ☐ No
7.10	Does the applicant qualify for a small business exemption under the criteria specified in the instructions? ☐ Yes ➔ Note that you qualify at the top of Table B, then SKIP to Item 7.12. ☑ No
7.11	Have you provided (1) quantitative data for those Sections 2 through 5, Table B, pollutants for which you have determined testing is required or (2) quantitative data or an explanation for those Sections 2 through 5, Table B, pollutants you have indicated are "Believed Present" in your discharge? ☑ Yes ☐ No
Table C. Certain Conventional and Non-Conventional Pollutants	
7.12	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table C for all outfalls? ☑ Yes ☐ No
7.13	Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an ELG and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"? ☑ Yes ☐ No
Table D. Certain Hazardous Substances and Asbestos	
7.14	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table D for all outfalls? ☑ Yes ☐ No
7.15	Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) by providing quantitative data, if available? ☑ Yes ☐ No
Table E. 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)	
7.16	Does the facility use or manufacture one or more of the 2,3,7,8-TCDD congeners listed in the instructions, or do you know or have reason to believe that TCDD is or may be present in the effluent? ☐ Yes ➔ Complete Table E. ☑ No ➔ SKIP to Section 8.
7.17	Have you completed Table E by reporting *qualitative* data for TCDD? ☐ Yes ☑ No

SECTION 8. USED OR MANUFACTURED TOXICS (40 CFR 122.21(g)(9))

Used or Manufactured Toxics

8.1	Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct? ☐ Yes ☑ No ➔ SKIP to Section 9.
8.2	List the pollutants below.

1.	4.	7.
2.	5.	8.
3.	6.	9.

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SECTION 9. BIOLOGICAL TOXICITY TESTS (40 CFR 122.21(g)(11))

Biological Toxicity Tests

9.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made within the last three years on (1) any of your discharges or (2) on a receiving water in relation to your discharge?

☑ Yes ☐ No ➔ SKIP to Section 10.

9.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
48 hour acute toxicity		☑ Yes ☐ No	08/02/2022
		☐ Yes ☐ No	
		☐ Yes ☐ No	

SECTION 10. CONTRACT ANALYSES (40 CFR 122.21(g)(12))

Contract Analyses

10.1 Were any of the analyses reported in Section 7 performed by a contract laboratory or consulting firm?

☑ Yes ☐ No ➔ SKIP to Section 11.

10.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm	Tuscaloosa Testing Labs, Inc.		
Laboratory address	3516 Greensboro Avenue		
Phone number	(205) 345-0816		
Pollutant(s) analyzed	All pollutants except BOD5, TSS, pH, flow, and temp.		

SECTION 11. ADDITIONAL INFORMATION (40 CFR 122.21(g)(13))

Additional Information

11.1 Has the NPDES permitting authority requested additional information?

☐ Yes ☑ No ➔ SKIP to Section 12.

11.2 List the information requested and attach it to this application.

1.	4.
2.	5.
3.	6.

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SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

12.1 In Column 1 below, mark the sections of Form 2C that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2
☑ Section 1: Outfall Location	☐ w/ attachments
☑ Section 2: Line Drawing	☑ w/ line drawing ☐ w/ additional attachments
☑ Section 3: Average Flows and Treatment	☑ w/ attachments ☐ w/ list of each user of privately owned treatment works
☑ Section 4: Intermittent Flows	☐ w/ attachments
☑ Section 5: Production	☑ w/ attachments
☑ Section 6: Improvements	☐ w/ attachments ☐ w/ optional additional sheets describing any additional pollution control plans
☑ Section 7: Effluent and Intake Characteristics	☐ w/ request for a waiver and supporting information ☐ w/ explanation for identical outfalls ☐ w/ small business exemption request ☐ w/ other attachments ☑ w/ Table A ☑ w/ Table B ☑ w/ Table C ☑ w/ Table D ☑ w/ Table E ☐ w/ analytical results as an attachment
☑ Section 8: Used or Manufactured Toxics	☐ w/ attachments
☑ Section 9: Biological Toxicity Tests	☐ w/ attachments
☑ Section 10: Contract Analyses	☐ w/ attachments
☑ Section 11: Additional Information	☐ w/ attachments
☑ Section 12: Checklist and Certification Statement	☐ w/ attachments

12.2 **Certification Statement**

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.

Name (print or type first and last name)	Official title
Steve Webb	Mill Manager
Signature	Date signed

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii))[1]

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent: Maximum Daily Discharge (required)	Effluent: Maximum Monthly Discharge (if available)	Effluent: Long-Term Average Daily Discharge (if available)	Effluent: Number of Analyses	Intake (Optional): Long-Term Average Value	Intake (Optional): Number of Analyses
☐	Check here if you have applied to your NPDES permitting authority for a waiver for *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☐	Concentration	mg/L	91.0	47.4	47.7	471		
			Mass	lbs/day	15,808	10,347	7,796	471		
2.	Chemical oxygen demand (COD)	☐	Concentration	mg/L	275			1		
			Mass	lbs/day	55,309			1		
3.	Total organic carbon (TOC)	☐	Concentration	mg/L	29.2			1		
			Mass	lbs/day	5,873			1		
4.	Total suspended solids (TSS)	☐	Concentration	mg/L	156.0	62.9	63.4	473		
			Mass	lbs/day	31,896	16,543	10,524	473		
5.	Ammonia (as N)	☐	Concentration	ppm	8.3	8.3	3.8	21		
			Mass	lbs/day	1,247	1,247	643	21		
6.	Flow	☐	Rate	mgd	37.7	32.3	20.4	1036		
7.	Temperature (winter)	☐	°C	°C	24.1					
	Temperature (summer)	☐	°C	°C						
8.	pH (minimum)	☐	Standard units	s.u.	6.7			473		
	pH (maximum)	☐	Standard units	s.u.	8.5			473		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.											
Section 1. Toxic Metals, Cyanide, and Total Phenols												
1.1	Antimony, total (7440-36-0)	☑	☐	☐	Concentration	mg/L	< 0.060			1		
					Mass	lbs/day	< 12.1			1		
1.2	Arsenic, total (7440-38-2)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 2.01			1		
1.3	Beryllium, total (7440-41-7)	☑	☐	☐	Concentration	mg/L	< 0.005			1		
					Mass	lbs/day	< 1.01			1		
1.4	Cadmium, total (7440-43-9)	☑	☐	☐	Concentration	mg/L	< 0.005			1		
					Mass	lbs/day	< 1.01			1		
1.5	Chromium, total (7440-47-3)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 2.01			1		
1.6	Copper, total (7440-50-8)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 2.01			1		
1.7	Lead, total (7439-92-1)	☑	☐	☐	Concentration	mg/L	< 0.005			1		
					Mass	lbs/day	< 1.01			1		
1.8	Mercury, total * (7439-97-6)	☑	☐	☐	Concentration	mg/L	< 0.0002			2		
					Mass	lbs/day	< 0.0402			2		
1.9	Nickel, total (7440-02-0)	☑	☐	☐	Concentration	mg/L	< 0.040			1		
					Mass	lbs/day	< 8.04			1		
1.10	Selenium, total (7782-49-2)	☑	☐	☐	Concentration	mg/L	< 0.020			1		
					Mass	lbs/day	< 4.02			1		
1.11	Silver, total (7440-22-4)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 2.01			1		

* Maximum daily discharge value for mercury is from a composite sample collected 4/12/2022 analyzed using EPA Method 200.7. A grab sample was collected on 4/11/2022 using the EPA 1669 sampling method and EPA 1631E analytical method with results of <0.5 ng/L.

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 2.01			1		
1.13	Zinc, total (7440-66-6)	☑	☐	☐	Concentration	mg/L	< 0.020			1		
					Mass	lbs/day	< 4.02			1		
1.14	Cyanide, total (57-12-5)	☑	☐	☐	Concentration	mg/L	< 0.020			1		
					Mass	lbs/day	< 3.94			1		
1.15	Phenols, total	☑	☐	☐	Concentration	mg/L	< 0.020			1		
					Mass	lbs/day	< 3.94			1		
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☑	☐	☐	Concentration	µg/L	< 20.0			1		
					Mass	lbs/day	< 3.94			1		
2.2	Acrylonitrile (107-13-1)	☑	☐	☐	Concentration	µg/L	< 20.0			1		
					Mass	lbs/day	< 3.94			1		
2.3	Benzene (71-43-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.4	Bromoform (75-25-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.5	Carbon tetrachloride (56-23-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.6	Chlorobenzene (108-90-7)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.7	Chlorodibromomethane (124-48-1)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.8	Chloroethane (75-00-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☑	☐	☐	Concentration	µg/L	< 20.0			1		
					Mass	lbs/day	< 3.94			1		
2.10	Chloroform (67-66-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.11	Dichlorobromomethane (75-27-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.12	1,1-dichloroethane (75-34-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.13	1,2-dichloroethane (107-06-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.14	1,1-dichloroethylene (75-35-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.15	1,2-dichloropropane (78-87-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.16	1,3-dichloropropylene (542-75-6)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.17	Ethylbenzene (100-41-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.18	Methyl bromide (74-83-9)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.19	Methyl chloride (74-87-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.20	Methylene chloride (75-09-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.23	Toluene (108-88-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.24	1,2-trans-dichloroethylene (156-60-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.25	1,1,1-trichloroethane (71-55-6)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.26	1,1,2-trichloroethane (79-00-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.27	Trichloroethylene (79-01-6)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
2.28	Vinyl chloride (75-01-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.985			1		
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
3.2	2,4-dichlorophenol (120-83-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
3.3	2,4-dimethylphenol (105-67-9)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01			1		
3.4	4,6-dinitro-o-cresol (534-52-1)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01			1		
3.5	2,4-dinitrophenol (51-28-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01			1		

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
3.7	4-nitrophenol (100-02-7)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01			1		
3.8	p-chloro-m-cresol (59-50-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
3.9	Pentachlorophenol (87-86-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01	< 1.01		1		
3.10	Phenol (108-95-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
3.11	2,4,6-trichlorophenol (88-05-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.2	Acenaphthylene (208-96-8)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.3	Anthracene (120-12-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.4	Benzidine (92-87-5)	☑	☐	☐	Concentration	µg/L	< 10.0			1		
					Mass	lbs/day	< 2.01			1		
4.5	Benzo (a) anthracene (56-55-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.6	Benzo (a) pyrene (50-32-8)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.8	Benzo (ghi) perylene (191-24-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.9	Benzo (k) fluoranthene (207-08-9)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.11	Bis (2-chloroethyl) ether (111-44-4)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01			1		
4.14	4-bromophenyl phenyl ether (101-55-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.15	Butyl benzyl phthalate (85-68-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.16	2-chloronaphthalene (91-58-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.18	Chrysene (218-01-9)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.19	Dibenzo (a,h) anthracene (53-70-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.21	1,3-dichlorobenzene (541-73-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.22	1,4-dichlorobenzene (106-46-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.23	3,3-dichlorobenzidine (91-94-1)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01			1		
4.24	Diethyl phthalate (84-66-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.25	Dimethyl phthalate (131-11-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.26	Di-n-butyl phthalate (84-74-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.27	2,4-dinitrotoluene (121-14-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01			1		
4.28	2,6-dinitrotoluene (606-20-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 1.01			1		
4.29	Di-n-octyl phthalate (117-84-0)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.31	Fluoranthene (206-44-0)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.32	Fluorene (86-73-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.34	Hexachlorobutadiene (87-68-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.35	Hexachlorocyclopentadiene (77-47-4)	☑	☐	☐	Concentration	µg/L	< 10.0			1		
					Mass	lbs/day	< 2.01			1		
4.36	Hexachloroethane (67-72-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.38	Isophorone (78-59-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.39	Naphthalene (91-20-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.40	Nitrobenzene (98-95-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.41	N-nitrosodimethylamine (62-75-9)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.42	N-nitrosodi-n-propylamine (621-64-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.43	N-nitrosodiphenylamine (86-30-6)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.44	Phenanthrene (85-01-8)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
4.45	Pyrene (129-00-0)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.46	1,2,4-trichlorobenzene (120-82-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.503			1		
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.2	α-BHC (319-84-6)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.3	β-BHC (319-85-7)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.4	γ-BHC (58-89-9)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.5	δ-BHC (319-86-8)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.6	Chlordane (57-74-9)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		
5.7	4,4'-DDT (50-29-3)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.8	4,4'-DDE (72-55-9)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.9	4,4'-DDD (72-54-8)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.10	Dieldrin (60-57-1)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.11	α-endosulfan (115-29-7)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.13	Endosulfan sulfate (1031-07-8)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.14	Endrin (72-20-8)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.15	Endrin aldehyde (7421-93-4)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.16	Heptachlor (76-44-8)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.17	Heptachlor epoxide (1024-57-3)	☑	☐	☐	Concentration	µg/L	< 0.05			1		
					Mass	lbs/day	< 0.010			1		
5.18	PCB-1242 (53469-21-9)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		
5.19	PCB-1254 (11097-69-1)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		
5.20	PCB-1221 (11104-28-2)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		
5.21	PCB-1232 (11141-16-5)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		
5.22	PCB-1248 (12672-29-6)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		
5.23	PCB-1260 (11096-82-5)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		
5.24	PCB-1016 (12674-11-2)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.25	Toxaphene (8001-35-2)	☑	☐	☐	Concentration	µg/L	< 0.5			1		
					Mass	lbs/day	< 0.101			1		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you believe all pollutants on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
☐	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
1.	Bromide (24959-67-9)	☐	☑	Concentration							
				Mass							
2.	Chlorine, total residual	☐	☑	Concentration							
				Mass							
3.	Color	☑	☐	Concentration	ADMI	471			1		
				Mass							
4.	Fecal coliform	☑	☐	Concentration	CFU/100m	< 10			1		
				Mass							
5.	Fluoride (16984-48-8)	☐	☑	Concentration							
				Mass							
6	Nitrate-nitrite	☑	☐	Concentration	mg/L	0.25	0.25	< 0.06	21		
				Mass	lbs/day	42.4	42.4	< 11.4	3		
7.	Nitrogen, total organic (as N)	☑	☐	Concentration	mg/L	39.1	39.1	8.7	20		
				Mass	lbs/day	6,555	6,555	1,524	20		
8.	Oil and grease	☑	☐	Concentration	mg/L	< 5.0			1		
				Mass	lbs/day	< 985			1		
9.	Phosphorus (as P), total (7723-14-0)	☑	☐	Concentration	ppm	11.6	11.6	1.86	21		
				Mass	lbs/day	1,743	1,743	313	21		
10.	Sulfate (as SO_4) (14808-79-8)	☑	☐	Concentration	mg/L	528			1		
				Mass	lbs/day	106,194			1		
11.	Sulfide (as S)	☑	☐	Concentration	mg/L	0.14			1		
				Mass	lbs/day	28.2			1		

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO_3) (14265-45-3)	☐	☑	Concentration							
				Mass							
13.	Surfactants	☑	☐	Concentration	mg/L	< 0.050			1		
				Mass	lbs/day	< 10.1			1		
14.	Aluminum, total (7429-90-5)	☑	☐	Concentration	mg/L	0.558			1		
				Mass	lbs/day	112			1		
15.	Barium, total (7440-39-3)	☑	☐	Concentration	mg/L	< 0.200			1		
				Mass	lbs/day	< 40.2			1		
16.	Boron, total (7440-42-8)	☑	☐	Concentration	mg/L	0.246			1		
				Mass	lbs/day	49.5			1		
17.	Cobalt, total (7440-48-4)	☐	☑	Concentration							
				Mass							
18.	Iron, total (7439-89-6)	☑	☐	Concentration	mg/L	0.142			1		
				Mass	lbs/day	28.6			1		
19.	Magnesium, total (7439-95-4)	☑	☐	Concentration	mg/L	6.93			1		
				Mass	lbs/day	1,394			1		
20.	Molybdenum, total (7439-98-7)	☐	☑	Concentration							
				Mass							
21.	Manganese, total (7439-96-5)	☑	☐	Concentration	mg/L	0.514			1		
				Mass	lbs/day	103			1		
22.	Tin, total (7440-31-5)	☐	☑	Concentration							
				Mass							
23.	Titanium, total (7440-32-6)	☐	☑	Concentration							
				Mass							

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24.	**Radioactivity**										
	Alpha, total	☑	☐	Concentration	pCi/L	3.08			1		
				Mass							
	Beta, total	☑	☐	Concentration	pCi/L	30.8			1		
				Mass							
	Radium, total	☐	☑	Concentration							
				Mass							
	Radium 226, total	☐	☑	Concentration							
				Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	☐	☑		
2.	Acetaldehyde	☐	☑		
3.	Allyl alcohol	☐	☑		
4.	Allyl chloride	☐	☑		
5.	Amyl acetate	☐	☑		
6.	Aniline	☐	☑		
7.	Benzonitrile	☐	☑		
8.	Benzyl chloride	☐	☑		
9.	Butyl acetate	☐	☑		
10.	Butylamine	☐	☑		
11.	Captan	☐	☑		
12.	Carbaryl	☐	☑		
13.	Carbofuran	☐	☑		
14.	Carbon disulfide	☐	☑		
15.	Chlorpyrifos	☐	☑		
16.	Coumaphos	☐	☑		
17.	Cresol	☐	☑		
18.	Crotonaldehyde	☐	☑		
19.	Cyclohexane	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	☐	☑		
21.	Diazinon	☐	☑		
22.	Dicamba	☐	☑		
23.	Dichlobenil	☐	☑		
24.	Dichlone	☐	☑		
25.	2,2-dichloropropionic acid	☐	☑		
26.	Dichlorvos	☐	☑		
27.	Diethyl amine	☐	☑		
28.	Dimethyl amine	☐	☑		
29.	Dintrobenzene	☐	☑		
30.	Diquat	☐	☑		
31.	Disulfoton	☐	☑		
32.	Diuron	☐	☑		
33.	Epichlorohydrin	☑	☐	Contained in paper mill resins	
34.	Ethion	☐	☑		
35.	Ethylene diamine	☐	☑		
36.	Ethylene dibromide	☐	☑		
37.	Formaldehyde	☑	☐	Contained in paper mill resins	
38.	Furfural	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	☐	☑		
40.	Isoprene	☐	☑		
41.	Isopropanolamine	☐	☑		
42.	Kelthane	☐	☑		
43.	Kepone	☐	☑		
44.	Malathion	☐	☑		
45.	Mercaptodimethur	☐	☑		
46.	Methoxychlor	☐	☑		
47.	Methyl mercaptan	☐	☑		
48.	Methyl methacrylate	☐	☑		
49.	Methyl parathion	☐	☑		
50.	Mevinphos	☐	☑		
51.	Mexacarbate	☐	☑		
52.	Monoethyl amine	☐	☑		
53.	Monomethyl amine	☐	☑		
54.	Naled	☐	☑		
55.	Naphthenic acid	☐	☑		
56.	Nitrotoluene	☐	☑		
57.	Parathion	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	☐	☑		
59.	Phosgene	☐	☑		
60.	Propargite	☐	☑		
61.	Propylene oxide	☐	☑		
62.	Pyrethrins	☐	☑		
63.	Quinoline	☐	☑		
64.	Resorcinol	☐	☑		
65.	Strontium	☐	☑		
66.	Strychnine	☐	☑		
67.	Styrene	☐	☑		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	☐	☑		
69.	TDE (tetrachlorodiphenyl ethane)	☐	☑		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	☐	☑		
71.	Trichlorofon	☐	☑		
72.	Triethanolamine	☐	☑		
73.	Triethylamine	☐	☑		
74.	Trimethylamine	☐	☑		
75.	Uranium	☐	☑		
76.	Vanadium	☐	☑		

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	☐	☑		
78.	Xylene	☐	☑		
79.	Xylenol	☐	☑		
80.	Zirconium	☑	☐	Contained in coating materials	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☑	

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii))[1]

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent				Intake (Optional)	
					Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you have applied to your NPDES permitting authority for a waiver for *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☐	Concentration	ppm	24.0		19.2	5		
			Mass	lbs/day	9.14		5.15	5		
2.	Chemical oxygen demand (COD)	☐	Concentration	mg/L	107			1		
			Mass	lbs/day	30.2			1		
3.	Total organic carbon (TOC)	☐	Concentration	mg/L	24.8			1		
			Mass	lbs/day	7.00			1		
4.	Total suspended solids (TSS)	☐	Concentration	ppm	251		114	5		
			Mass	lbs/day	94.3		31.6	5		
5.	Ammonia (as N)	☐	Concentration	mg/L	1.6			1		
			Mass	lbs/day	0.45			1		
6.	Flow	☐	Rate	mgd	0.07		0.03	5		
7.	Temperature (winter)	☐	°C	°C	20.1			1		
	Temperature (summer)	☐	°C	°C						
8.	pH (minimum)	☐	Standard units	s.u.	6.98			5		
	pH (maximum)	☐	Standard units	s.u.	8.60			5		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.											
Section 1. Toxic Metals, Cyanide, and Total Phenols												
1.1	Antimony, total (7440-36-0)	☑	☐	☐	Concentration	mg/L	< 0.060			1		
					Mass	lbs/day	< 0.0169			1		
1.2	Arsenic, total (7440-38-2)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 0.0028			1		
1.3	Beryllium, total (7440-41-7)	☑	☐	☐	Concentration	mg/L	< 0.005			1		
					Mass	lbs/day	< 0.00141			1		
1.4	Cadmium, total (7440-43-9)	☑	☐	☐	Concentration	mg/L	< 0.005			1		
					Mass	lbs/day	< 0.00141			1		
1.5	Chromium, total (7440-47-3)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 0.00282			1		
1.6	Copper, total (7440-50-8)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 0.00282			1		
1.7	Lead, total (7439-92-1)	☑	☐	☐	Concentration	mg/L	< 0.005			1		
					Mass	lbs/day	< 0.00141			1		
1.8	Mercury, total (7439-97-6)	☑	☐	☐	Concentration	mg/L	< 0.0002			1		
					Mass	lbs/day	< 0.0000564			1		
1.9	Nickel, total (7440-02-0)	☑	☐	☐	Concentration	mg/L	< 0.040			1		
					Mass	lbs/day	< 0.0113			1		
1.10	Selenium, total (7782-49-2)	☑	☐	☐	Concentration	mg/L	< 0.020			1		
					Mass	lbs/day	< 0.00564			1		
1.11	Silver, total (7440-22-4)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 0.00282			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)	☑	☐	☐	Concentration	mg/L	< 0.010			1		
					Mass	lbs/day	< 0.00282			1		
1.13	Zinc, total (7440-66-6)	☑	☐	☐	Concentration	ppm	0.63		0.23	5		
					Mass	lbs/day	0.17		0.05	5		
1.14	Cyanide, total (57-12-5)	☑	☐	☐	Concentration	mg/L	0.025			1		
					Mass	lbs/day	0.00705			1		
1.15	Phenols, total	☑	☐	☐	Concentration	mg/L	< 0.020			1		
					Mass	lbs/day	< 0.00564			1		
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☑	☐	☐	Concentration	µg/L	< 20.0			1		
					Mass	lbs/day	< 0.00564			1		
2.2	Acrylonitrile (107-13-1)	☑	☐	☐	Concentration	µg/L	< 20.0			1		
					Mass	lbs/day	< 0.00564			1		
2.3	Benzene (71-43-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.4	Bromoform (75-25-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.5	Carbon tetrachloride (56-23-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.6	Chlorobenzene (108-90-7)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.7	Chlorodibromomethane (124-48-1)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.8	Chloroethane (75-00-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☑	☐	☐	Concentration	µg/L	< 20.0			1		
					Mass	lbs/day	< 0.00564			1		
2.10	Chloroform (67-66-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.11	Dichlorobromomethane (75-27-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.12	1,1-dichloroethane (75-34-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.13	1,2-dichloroethane (107-06-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.14	1,1-dichloroethylene (75-35-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.15	1,2-dichloropropane (78-87-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.16	1,3-dichloropropylene (542-75-6)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.17	Ethylbenzene (100-41-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.18	Methyl bromide (74-83-9)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.19	Methyl chloride (74-87-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.20	Methylene chloride (75-09-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.23	Toluene (108-88-3)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.24	1,2-trans-dichloroethylene (156-60-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.25	1,1,1-trichloroethane (71-55-6)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.26	1,1,2-trichloroethane (79-00-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.27	Trichloroethylene (79-01-6)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
2.28	Vinyl chloride (75-01-4)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
3.2	2,4-dichlorophenol (120-83-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
3.3	2,4-dimethylphenol (105-67-9)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
3.4	4,6-dinitro-o-cresol (534-52-1)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
3.5	2,4-dinitrophenol (51-28-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
3.7	4-nitrophenol (100-02-7)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
3.8	p-chloro-m-cresol (59-50-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
3.9	Pentachlorophenol (87-86-5)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141	< 0.00141		1		
3.10	Phenol (108-95-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
3.11	2,4,6-trichlorophenol (88-05-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.2	Acenaphthylene (208-96-8)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.3	Anthracene (120-12-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.4	Benzidine (92-87-5)	☑	☐	☐	Concentration	µg/L	< 10.0			1		
					Mass	lbs/day	< 0.00282			1		
4.5	Benzo (a) anthracene (56-55-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.6	Benzo (a) pyrene (50-32-8)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.8	Benzo (ghi) perylene (191-24-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.9	Benzo (k) fluoranthene (207-08-9)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.11	Bis (2-chloroethyl) ether (111-44-4)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
4.14	4-bromophenyl phenyl ether (101-55-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.15	Butyl benzyl phthalate (85-68-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.16	2-chloronaphthalene (91-58-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.18	Chrysene (218-01-9)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.19	Dibenzo (a,h) anthracene (53-70-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.21	1,3-dichlorobenzene (541-73-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.22	1,4-dichlorobenzene (106-46-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.23	3,3-dichlorobenzidine (91-94-1)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
4.24	Diethyl phthalate (84-66-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.25	Dimethyl phthalate (131-11-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.26	Di-n-butyl phthalate (84-74-2)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.27	2,4-dinitrotoluene (121-14-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
4.28	2,6-dinitrotoluene (606-20-2)	☑	☐	☐	Concentration	µg/L	< 5.0			1		
					Mass	lbs/day	< 0.00141			1		
4.29	Di-n-octyl phthalate (117-84-0)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.31	Fluoranthene (206-44-0)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.32	Fluorene (86-73-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.34	Hexachlorobutadiene (87-68-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.35	Hexachlorocyclopentadiene (77-47-4)	☑	☐	☐	Concentration	µg/L	< 10.0			1		
					Mass	lbs/day	< 0.00282			1		
4.36	Hexachloroethane (67-72-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.38	Isophorone (78-59-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.39	Naphthalene (91-20-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.40	Nitrobenzene (98-95-3)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.41	N-nitrosodimethylamine (62-75-9)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.42	N-nitrosodi-n-propylamine (621-64-7)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.43	N-nitrosodiphenylamine (86-30-6)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.44	Phenanthrene (85-01-8)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
4.45	Pyrene (129-00-0)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.46	1,2,4-trichlorobenzene (120-82-1)	☑	☐	☐	Concentration	µg/L	< 2.5			1		
					Mass	lbs/day	< 0.000705			1		
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.2	α-BHC (319-84-6)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.3	β-BHC (319-85-7)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.4	γ-BHC (58-89-9)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.5	δ-BHC (319-86-8)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.6	Chlordane (57-74-9)	☑	☐	☐	Concentration	µg/L	< 5.00			1		
					Mass	lbs/day	< 0.00141			1		
5.7	4,4'-DDT (50-29-3)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.8	4,4'-DDE (72-55-9)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.9	4,4'-DDD (72-54-8)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.10	Dieldrin (60-57-1)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.11	α-endosulfan (115-29-7)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.13	Endosulfan sulfate (1031-07-8)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.14	Endrin (72-20-8)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.15	Endrin aldehyde (7421-93-4)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.16	Heptachlor (76-44-8)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.17	Heptachlor epoxide (1024-57-3)	☑	☐	☐	Concentration	µg/L	< 0.0500			1		
					Mass	lbs/day	< 0.000014			1		
5.18	PCB-1242 (53469-21-9)	☑	☐	☐	Concentration	µg/L	< 0.500			1		
					Mass	lbs/day	< 0.00014			1		
5.19	PCB-1254 (11097-69-1)	☑	☐	☐	Concentration	µg/L	< 0.500			1		
					Mass	lbs/day	< 0.00014			1		
5.20	PCB-1221 (11104-28-2)	☑	☐	☐	Concentration	µg/L	< 0.500			1		
					Mass	lbs/day	< 0.00014			1		
5.21	PCB-1232 (11141-16-5)	☑	☐	☐	Concentration	µg/L	< 0.500			1		
					Mass	lbs/day	< 0.00014			1		
5.22	PCB-1248 (12672-29-6)	☑	☐	☐	Concentration	µg/L	< 0.500			1		
					Mass	lbs/day	< 0.00014			1		
5.23	PCB-1260 (11096-82-5)	☑	☐	☐	Concentration	µg/L	< 0.500			1		
					Mass	lbs/day	< 0.00014			1		
5.24	PCB-1016 (12674-11-2)	☑	☐	☐	Concentration	µg/L	< 0.500			1		
					Mass	lbs/day	< 0.00014			1		

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.25	Toxaphene (8001-35-2)	☑	☐	☐	Concentration	µg/L	< 0.500			1		
					Mass	lbs/day	< 0.00014			1		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you believe all pollutants on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
☐	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
1.	Bromide (24959-67-9)	☐	☑	Concentration							
				Mass							
2.	Chlorine, total residual	☐	☑	Concentration							
				Mass							
3.	Color	☑	☐	Concentration	ADMI	33			1		
				Mass							
4.	Fecal coliform	☐	☑	Concentration	CFU/100m	7,636			1		
				Mass							
5.	Fluoride (16984-48-8)	☐	☑	Concentration							
				Mass							
6	Nitrate-nitrite	☐	☑	Concentration							
				Mass							
7.	Nitrogen, total organic (as N)	☑	☐	Concentration	mg/L	1.4			1		
				Mass	lbs/day	0.4			1		
8.	Oil and grease	☑	☐	Concentration	mg/L	< 5.0			1		
				Mass	lbs/day	< 1.41			1		
9.	Phosphorus (as P), total (7723-14-0)	☑	☐	Concentration	mg/L	0.68			1		
				Mass	lbs/day	0.192			1		
10.	Sulfate (as SO_4) (14808-79-8)	☑	☐	Concentration	mg/L	146			1		
				Mass	lbs/day	41.2			1		
11.	Sulfide (as S)	☐	☑	Concentration							
				Mass							

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO_3) (14265-45-3)	☐	☑	Concentration							
				Mass							
13.	Surfactants	☐	☑	Concentration	mg/L	< 0.050			1		
				Mass	lbs/day	< 0.0141			1		
14.	Aluminum, total (7429-90-5)	☑	☐	Concentration	mg/L	1.55			1		
				Mass	lbs/day	0.437			1		
15.	Barium, total (7440-39-3)	☐	☑	Concentration	mg/L	< 0.200			1		
				Mass	lbs/day	< 0.0564			1		
16.	Boron, total (7440-42-8)	☑	☐	Concentration	mg/L	0.144			1		
				Mass	lbs/day	0.0406			1		
17.	Cobalt, total (7440-48-4)	☐	☑	Concentration							
				Mass							
18.	Iron, total (7439-89-6)	☑	☐	Concentration	mg/L	37.10		14.84	5		
				Mass	lbs/day	6.81		3.33	5		
19.	Magnesium, total (7439-95-4)	☑	☐	Concentration	mg/L	31.8			1		
				Mass	lbs/day	8.97			1		
20.	Molybdenum, total (7439-98-7)	☐	☑	Concentration							
				Mass							
21.	Manganese, total (7439-96-5)	☑	☐	Concentration	ppm	0.69		0.36	5		
				Mass	lbs/day	0.29		0.11	5		
22.	Tin, total (7440-31-5)	☐	☑	Concentration							
				Mass							
23.	Titanium, total (7440-32-6)	☑	☐	Concentration	mg/L	0.0324			1		
				Mass	lbs/day	0.00914			1		

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24.	**Radioactivity**										
	Alpha, total	☐	☑	Concentration							
				Mass							
	Beta, total	☐	☑	Concentration							
				Mass							
	Radium, total	☐	☑	Concentration							
				Mass							
	Radium 226, total	☐	☑	Concentration							
				Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN002

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	☐	☑		
2.	Acetaldehyde	☐	☑		
3.	Allyl alcohol	☐	☑		
4.	Allyl chloride	☐	☑		
5.	Amyl acetate	☐	☑		
6.	Aniline	☐	☑		
7.	Benzonitrile	☐	☑		
8.	Benzyl chloride	☐	☑		
9.	Butyl acetate	☐	☑		
10.	Butylamine	☐	☑		
11.	Captan	☐	☑		
12.	Carbaryl	☐	☑		
13.	Carbofuran	☐	☑		
14.	Carbon disulfide	☐	☑		
15.	Chlorpyrifos	☐	☑		
16.	Coumaphos	☐	☑		
17.	Cresol	☐	☑		
18.	Crotonaldehyde	☐	☑		
19.	Cyclohexane	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	☐	☑		
21.	Diazinon	☐	☑		
22.	Dicamba	☐	☑		
23.	Dichlobenil	☐	☑		
24.	Dichlone	☐	☑		
25.	2,2-dichloropropionic acid	☐	☑		
26.	Dichlorvos	☐	☑		
27.	Diethyl amine	☐	☑		
28.	Dimethyl amine	☐	☑		
29.	Dintrobenzene	☐	☑		
30.	Diquat	☐	☑		
31.	Disulfoton	☐	☑		
32.	Diuron	☐	☑		
33.	Epichlorohydrin	☑	☐	Contained in paper mill resins	
34.	Ethion	☐	☑		
35.	Ethylene diamine	☐	☑		
36.	Ethylene dibromide	☐	☑		
37.	Formaldehyde	☑	☐	Contained in paper mill resins	
38.	Furfural	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	☐	☑		
40.	Isoprene	☐	☑		
41.	Isopropanolamine	☐	☑		
42.	Kelthane	☐	☑		
43.	Kepone	☐	☑		
44.	Malathion	☐	☑		
45.	Mercaptodimethur	☐	☑		
46.	Methoxychlor	☐	☑		
47.	Methyl mercaptan	☐	☑		
48.	Methyl methacrylate	☐	☑		
49.	Methyl parathion	☐	☑		
50.	Mevinphos	☐	☑		
51.	Mexacarbate	☐	☑		
52.	Monoethyl amine	☐	☑		
53.	Monomethyl amine	☐	☑		
54.	Naled	☐	☑		
55.	Naphthenic acid	☐	☑		
56.	Nitrotoluene	☐	☑		
57.	Parathion	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	☐	☑		
59.	Phosgene	☐	☑		
60.	Propargite	☐	☑		
61.	Propylene oxide	☐	☑		
62.	Pyrethrins	☐	☑		
63.	Quinoline	☐	☑		
64.	Resorcinol	☐	☑		
65.	Strontium	☐	☑		
66.	Strychnine	☐	☑		
67.	Styrene	☐	☑		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	☐	☑		
69.	TDE (tetrachlorodiphenyl ethane)	☐	☑		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	☐	☑		
71.	Trichlorofon	☐	☑		
72.	Triethanolamine	☐	☑		
73.	Triethylamine	☐	☑		
74.	Trimethylamine	☐	☑		
75.	Uranium	☐	☑		
76.	Vanadium	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	☐	☑		
78.	Xylene	☐	☑		
79.	Xylenol	☐	☑		
80.	Zirconium	☑	☐	Contained in coating materials	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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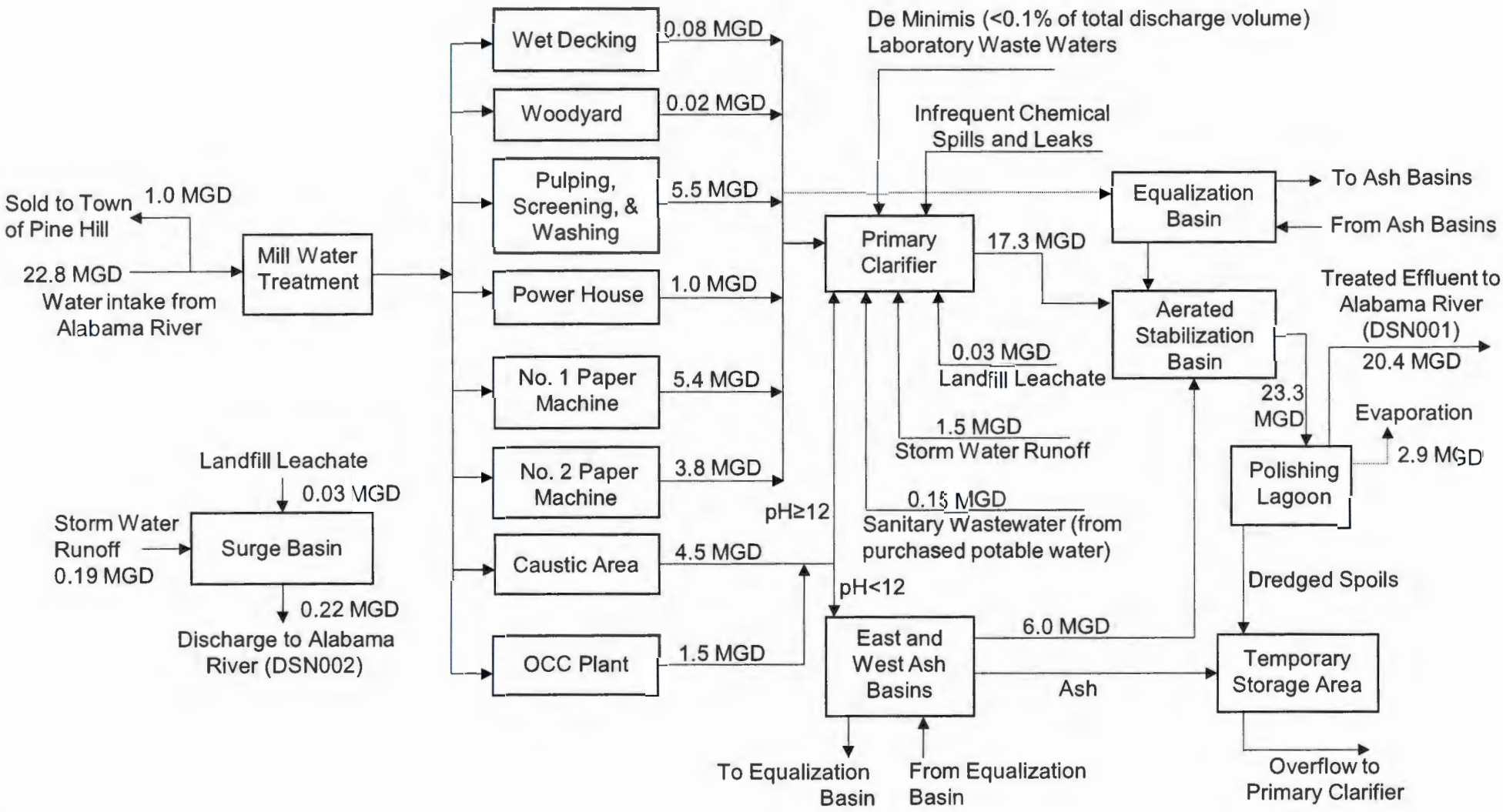
TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☑	

EPA Form 2C Attachment 1
Water Balance Diagram



EPA Form 2C Attachment 2
Operations Contributing to Flow

Outfall Number DSN001		
Operations Contributing to Flow		
Operation	**Average Flow**	
Woodyard	0.02 MGD	
Wet Decking	0.08 MGD	
Pulping, Screening, and Washing	5.3 MGD	
Evaporators, Power Boilers, and Recovery Furnace	1.0 MGD	
No. 1 Paper Machine	5.2 MGD	
No. 2 Paper Machine	4.7 MGD	
Caustic Area	4.3 MGD	
Old Corrugated Container (OCC) Recycling Plant	1.4 MGD	
Landfill Leachate	0.03 MGD	
Sanitary Wastewater	0.015 MGD	
Pulp and Paper Mill Stormwater Runoff	1.5 MGD	
Treatment Units		
Description	**Code from Table 2C-1**	**Final Disposal of Solid or Liquid Wastes Other Than by Discharge**
Primary Clarifier	1-U	Landfill and Land Disposal
Aerated Lagoons	3-B	
Sedimentation Basin	1-U	
Discharge to Surface Water	4-A	
Land Application	5-P	
Landfill	5-Q	

Outfall Number DSN002		
Operations Contributing to Flow		
Operation	**Average Flow**	
Landfill Stormwater Runoff	0.19 MGD	
Landfill Leachate	0.03 MGD	
Treatment Units		
Description	**Code from Table 2C-1**	**Final Disposal of Solid or Liquid Wastes Other Than by Discharge**
Sand Filtration	1-R	Discharge to Surface Water Only
Discharge to Surface Water	4-A	

EPA Form 2C Attachment 3
Production-Base Limitations Values

Outfall Number	Operation, Product, or Material	Last 12 Months [1] Highest Monthly Average	Highest Year of Last 5 [2] Monthly Average	Unit of Measure
DSN001	PM1 Unbleached Kraft [3]	1,600	1,474	air-dry tons per day
	PM1 CSSC Kraft [4]	94	90	air-dry tons per day
	PM1 Secondary Fiber [5]	136	127	air-dry tons per day
	PM2 CSSC Kraft [4]	662	685	air-dry tons per day
	PM2 Secondary Fiber [5]	280	316	air-dry tons per day

[1] March 2022

[2] Calendar Year 2017

[3] Measured as off-the-machine production furnished by unbleached Kraft pulp

[4] Measured as off-the-machine production furnished by unbleached CSSC pulp

[5] Measured as off-the-machine production furnished by non-deinked secondary fiber

PM1 = Paper Machine 1

PM2 = Paper Machine 2

CSSC = Controlled Soda Semi-Chemical

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Form 2F NPDES

EPA

U.S Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below

Outfall Number	Receiving Water Name	Latitude	Longitude
DSN003	Alabama River	31° 58′ 36″ N	87° 29′ 19″ W
DSN004	Alabama River via	31° 58′ 25″ N	87° 29′ 30″ W
DSN005	Dunns Creek via unnamed	31° 58′ 10″ N	87° 29′ 30″ W
DSN006	Alabama River via	31° 58′ 00″ N	87° 29′ 21″ W
DSN007	Alabama River via	31° 58′ 29″ N	87° 29′ 43″ W
		° ′ ″	° ′ ″

SECTION 2. IMPROVEMENTS (40 CFR 122.21(g)(6))

Improvements

2.1 Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?

☐ Yes ☑ No → SKIP to Section 3.

2.2 Briefly identify each applicable project in the table below.

Brief Identification and Description of Project	Affected Outfalls (list outfall numbers)	Source(s) of Discharge	Final Compliance Dates	
			Required	Projected

2.3 Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? (Optional Item)

☐ Yes ☐ No

SECTION 3. SITE DRAINAGE MAP (40 CFR 122.26(c)(1)(i)(A))

Site Drainage Map

3.1 Have you attached a site drainage map containing all required information to this application? (See instructions for specific guidance.)

☑ Yes ☐ No

SECTION 4. POLLUTANT SOURCES (40 CFR 122.26(c)(1)(i)(B))

Pollutant Sources

4.1 Provide information on the facility's pollutant sources in the table below.

Outfall Number	Impervious Surface Area (within a mile radius of the facility)		Total Surface Area Drained (within a mile radius of the facility)	
DSN003	850,000	*specify units* square ft	5,000,000	*specify units* square ft
DSN004	210,000	*specify units* square ft	420,000	*specify units* square ft
DSN005	400,000	*specify units* square ft	800,000	*specify units* square ft
DSN006	225,000	*specify units* square ft	450,000	*specify units* square ft
DSN007	35,000	*specify units* square ft	1,600,000	*specify units* square ft
		specify units		*specify units*

4.2 Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.)

See EPA Form 2F Attachment 2

4.3 Provide the location and a description of existing structural and non-structural control measures to reduce pollutants in stormwater runoff. (See instructions for specific guidance.)

Stormwater Treatment		
Outfall Number	**Control Measures and Treatment**	**Codes from Exhibit 2F–1 (list)**
	See EPA Form 2F Attachment 3	

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SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C))

Non-Stormwater Discharges

5.1 *I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges. Moreover, I certify that the outfalls identified as having non-stormwater discharges are described in either an accompanying NPDES Form 2C, 2D, or 2E application.*

Name (print or type first and last name)	Official title
Steve Webb	Mill Manager
Signature	Date signed

5.2 Provide the testing information requested in the table below.

Outfall Number	Description of Testing Method Used	Date(s) of Testing	Onsite Drainage Points Directly Observed During Test
N/A			
/			

SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D))

Significant Leaks or Spills

6.1 Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years.

There have been no significant leaks or spills of toxic or hazardous pollutants at the facility during the past three years.

SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E))

Discharge Information

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

7.1 Is this a new source or new discharge?

☐ Yes ➔ See instructions regarding submission of *estimated* data.

☑ No ➔ See instructions regarding submission of *actual* data.

Tables A, B, C, and D

7.2 Have you completed Table A for each outfall?

☐ Yes

☑ No

Representative sampling was approved for outfalls DSN004 and DSN005. Only outfalls DSN003, DSN006, and DSN007 wre sampled for the NPDESW permit renewal application.

Discharge Information Continued

7.3	Is the facility subject to an effluent limitation guideline (ELG) or effluent limitations in an NPDES permit for its process wastewater? ☑ Yes ☐ No ➔ SKIP to Item 7.5.
7.4	Have you completed Table B by providing quantitative data for those pollutants that are (1) limited either directly or indirectly in an ELG and/or (2) subject to effluent limitations in an NPDES permit for the facility's process wastewater? ☑ Yes ☐ No
7.5	Do you know or have reason to believe any pollutants in Exhibit 2F–2 are present in the discharge? ☑ Yes ☐ No ➔ SKIP to Item 7.7.
7.6	Have you listed all pollutants in Exhibit 2F–2 that you know or have reason to believe are present in the discharge and provided quantitative data or an explanation for those pollutants in Table C? ☑ Yes ☐ No
7.7	Do you qualify for a small business exemption under the criteria specified in the Instructions? ☐ Yes ➔SKIP to Item 7.18. ☑ No
7.8	Do you know or have reason to believe any pollutants in Exhibit 2F–3 are present in the discharge? ☑ Yes ☐ No ➔ SKIP to Item 7.10.
7.9	Have you listed all pollutants in Exhibit 2F–3 that you know or have reason to believe are present in the discharge in Table C? ☑ Yes ☐ No
7.10	Do you expect any of the pollutants in Exhibit 2F–3 to be discharged in concentrations of 10 ppb or greater? ☑ Yes ☐ No ➔ SKIP to Item 7.12.
7.11	Have you provided quantitative data in Table C for those pollutants in Exhibit 2F–3 that you expect to be discharged in concentrations of 10 ppb or greater? ☑ Yes ☐ No
7.12	Do you expect acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6-dinitrophenol to be discharged in concentrations of 100 ppb or greater? ☐ Yes ☑ No ➔ SKIP to Item 7.14.
7.13	Have you provided quantitative data in Table C for the pollutants identified in Item 7.12 that you expect to be discharged in concentrations of 100 ppb or greater? ☐ Yes ☐ No
7.14	Have you provided quantitative data or an explanation in Table C for pollutants you expect to be present in the discharge at concentrations less than 10 ppb (or less than 100 ppb for the pollutants identified in Item 7.12)? ☑ Yes ☐ No
7.15	Do you know or have reason to believe any pollutants in Exhibit 2F–4 are present in the discharge? ☐ Yes ☑ No ➔ SKIP to Item 7.17.
7.16	Have you listed pollutants in Exhibit 2F–4 that you know or believe to be present in the discharge and provided an explanation in Table C? ☐ Yes ☐ No
7.17	Have you provided information for the storm event(s) sampled in Table D? ☑ Yes ☐ No

Discharge Information Continued

Used or Manufactured Toxics

7.18 Is any pollutant listed on Exhibits 2F–2 through 2F–4 a substance or a component of a substance used or manufactured as an intermediate or final product or byproduct?

☐ Yes ☑ No → SKIP to Section 8.

7.19 List the pollutants below, including TCDD if applicable.

1.	4.	7.
2.	5.	8.
3.	6.	9.

SECTION 8. BIOLOGICAL TOXICITY TESTING DATA (40 CFR 122.21(g)(11))

Biological Toxicity Testing Data

8.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last three years?

☑ Yes ☐ No → SKIP to Section 9.

8.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
48 hour acute toxicity	Required by NPDES permit for D	☑ Yes ☐ No	08/02/2022
		☐ Yes ☐ No	
		☐ Yes ☐ No	

SECTION 9. CONTRACT ANALYSIS INFORMATION (40 CFR 122.21(g)(12))

Contract Analysis Information

9.1 Were any of the analyses reported in Section 7 (on Tables A through C) performed by a contract laboratory or consulting firm?

☑ Yes ☐ No → SKIP to Section 10.

9.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm	Tuscaloosa Testing Labs, Inc.	Pace Analytical Services, LLC	Pace Analytical Services, LLC
Laboratory address	3516 Greensboro Avenue Tuscaloosa, AL 35401	9608 Loiret Blvd Lenexa, KS 66219	multiple locations
Phone number	(205) 345-0816	(913) 599-5665	
Pollutant(s) analyzed	Ammonia (as N), COD, TKN, Total Phosphorus, Nitrate/Nitrite (as N), Total Organic Nitrogen, and Oil & Grease	Acute Toxicity	Organics, Metals

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SECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

10.1 In Column 1 below, mark the sections of Form 2F that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2
☑ Section 1	☐ w/ attachments (e.g., responses for additional outfalls)
☑ Section 2	☐ w/ attachments
☑ Section 3	☑ w/ site drainage map
☑ Section 4	☑ w/ attachments
☑ Section 5	☐ w/ attachments
☑ Section 6	☐ w/ attachments
☑ Section 7	☑ Table A ☐ w/ small business exemption request ☑ Table B ☐ w/ analytical results as an attachment ☑ Table C ☐ Table D
☑ Section 8	☐ w/attachments
☑ Section 9	☐ w/attachments (e.g., responses for additional contact laboratories or firms)
☑ Section 10	☐

10.2 **Certification Statement**

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.

Name (print or type first and last name)	Official title
Steve Webb	Mill Manager
Signature	Date signed

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))[1]

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.

	Pollutant or Parameter	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
		Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1.	Oil and grease	< 5.0 mg/L		< 5.0 mg/L		3	
2.	Biochemical oxygen demand (BOD_5)	21.0 mg/L	6.1 mg/L	16.33 mg/L		3 / 1	
3.	Chemical oxygen demand (COD)	113 mg/L	108 mg/L			1	
4.	Total suspended solids (TSS)	90.0 mg/L	70 mg/L	56.0 mg/L		3 / 1	
5.	Total phosphorus	0.26 mg/L	0.36 mg/L			1	
6.	Total Kjeldahl nitrogen (TKN)	1.2 mg/L	1.3 mg/L			1	
7.	Total nitrogen (as N)	1.2 mg/L	1.3 mg/L			1	
8.	pH (minimum)	6.8				3	
	pH (maximum)	7.9				3	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE B. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(A))[1]

List each pollutant that is limited in an effluent limitation guideline (ELG) that the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
Total ammonia nitrogen (as N)	< 0.100 mg/L	< 0.100 mg/L			1	
Nitrate plus nitrite	< 0.050 mg/L	< 0.050 mg/L			1	
Pentachlorophenol	< 0.005 mg/L	< 0.005 mg/L			1	
Trichlorophenol	< 0.0025 mg/L	< 0.0025 mg/L			1	
Aluminum, total	3.11 mg/L	3.03 mg/L			1	
Iron, total	3.89 mg/L	3.68 mg/L			1	
Zinc, total	0.0867 mg/L	0.189 mg/L			1	
Manganese, total	0.191 mg/L	0.206 mg/L			1	
Biochemical oxygen demand (BOD5)	21.0 mg/L	6.1 mg/L	16.33 mg/L		3 / 1	
pH	7.9		7.3		3	
Total suspended solids (TSS)	90.0 mg/L	70 mg/L	56.0 mg/L		3 / 1	
Total Phosphorus	0.26 mg/L	0.36 mg/L			1	
Total Kjeldahl nitrogen (TKN)	1.2 mg/L	1.3 mg/L			1	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. TOXIC POLLUTANTS, CERTAIN HAZARDOUS SUBSTANCES, AND ASBESTOS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(B) and (vii))[1]

List each pollutant shown in Exhibits 2F–2, 2F–3, and 2F–4 that you know or have reason to believe is present. Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
Fecal coliform	3,800 CFU/100 mL				1	
Sulfate (as SO4)	32.4 mg/L	33.5 mg/L			1	
Aluminum, total	3.11 mg/L	3.03 mg/L			1	
Boron, total	< 0.050 mg/L	< 0.050 mg/L			1	
Iron, total	3.89 mg/L	3.68 mg/L			1	
Magnesium, total	4.74 mg/L	5.07 mg/L			1	
Manganese, total	0.191 mg/L	0.206 mg/L			1	
Arsenic, total	< 0.010 mg/L	< 0.010 mg/L			1	
Chromium, total	< 0.010 mg/L	< 0.010 mg/L			1	
Copper, total	< 0.010 mg/L	< 0.010 mg/L			1	
Lead, total	< 0.005 mg/L	< 0.005 mg/L			1	
Mercury, total	< 0.0002 mg/L	< 0.0002 mg/L			1	
Nickel, total	< 0.040 mg/L	< 0.040 mg/L			1	
Selenium, total	< 0.020 mg/L	< 0.020 mg/L			1	
Zinc, total	0.0867 mg/L	0.189 mg/L			1	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN003

Form Approved 03/05/19
OMB No. 2040-0004

TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)
03/15/2022	1.62	0.6	74	11,280 gpm	1,870,130 gallons

Provide a description of the method of flow measurement or estimate.

The Rational Method was to estimate the maximum flow rate. A runoff coefficient of 1 was used for impervious areas and a runoff coefficient of 0.5 was used for other industrial areas.

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN006

Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))[1]

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.

	Pollutant or Parameter	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
		Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1.	Oil and grease	< 5.0 mg/L		< 5.0 mg/L		3	
2.	Biochemical oxygen demand (BOD_5)	23.0 mg/L	5.3 mg/l	16.0 mg/L		3 / 1	
3.	Chemical oxygen demand (COD)	146 mg/L	115 mg/L			1	
4.	Total suspended solids (TSS)	1,577 mg/L	110 mg/L	598 mg/L		3 / 1	
5.	Total phosphorus	0.32 mg/L	0.21 mg/L			1	
6.	Total Kjeldahl nitrogen (TKN)	1.5 mg/L	1.3 mg/L			1	
7.	Total nitrogen (as N)	1.5 mg/L	1.3 mg/L			1	
8.	pH (minimum)	8.3				3	
	pH (maximum)	8.7				3	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN006

Form Approved 03/05/19
OMB No. 2040-0004

TABLE B. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(A))[1]

List each pollutant that is limited in an effluent limitation guideline (ELG) that the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
Total ammonia nitrogen (as N)	< 0.100 mg/L	< 0.100 mg/L			1	
Nitrate plus nitrite	< 0.050 mg/L	< 0.050 mg/L			1	
Pentachlorophenol	< 0.005 mg/L	< 0.005 mg/L			1	
Trichlorophenol	< 0.0025 mg/L	< 0.0025 mg/L			1	
Aluminum, total	15.2 mg/L	10.1 mg/L			1	
Iron, total	17.8 mg/L	11.8 mg/L			1	
Zinc, total	0.0882 mg/L	0.0776 mg/L			1	
Manganese, total	0.192 mg/L	0.132 mg/L			1	
Biochemical oxygen demand (BOD5)	23.0 mg/L	5.3 mg/L	16.0 mg/L		3 / 1	
pH	8.7 s.u.		8.53 s.u.		3	
Total suspended solids (TSS)	1,577 mg/L	110 mg/L	598 mg/L		3 / 1	
Total Phosphorus	0.32 mg/L	0.21 mg/L			1	
Total Kjeldahl nitrogen (TKN)	1.5 mg/L	1.3 mg/L			1	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN006

Form Approved 03/05/19
OMB No. 2040-0004

TABLE C. TOXIC POLLUTANTS, CERTAIN HAZARDOUS SUBSTANCES, AND ASBESTOS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(B) and (vii))[1]

List each pollutant shown in Exhibits 2F–2, 2F–3, and 2F–4 that you know or have reason to believe is present. Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
Fecal coliform	2,700 CFU/100 mL				1	
Sulfate (as SO4)	2.7 mg/L	3.0 mg/L			1	
Aluminum, total	15.2 mg/L	10.1 mg/L			1	
Boron, total	< 0.050 mg/L	< 0.050 mg/L			1	
Iron, total	17.8 mg/L	11.8 mg/L			1	
Magnesium, total	9.96 mg/L	9.05 mg/L			1	
Manganese, total	0.192 mg/L	0.132 mg/L			1	
Arsenic, total	< 0.010 mg/L	< 0.010 mg/L			1	
Chromium, total	0.0234 mg/L	0.0165 mg/L			1	
Copper, total	0.0144 mg/L	0.0113 mg/L			1	
Lead, total	0.0125 mg/L	0.0085 mg/L			1	
Mercury, total	< 0.0002 mg/L				1	
Nickel, total	< 0.040 mg/L	< 0.040 mg/L			1	
Selenium, total	< 0.020 mg/L	< 0.020 mg/L			1	
Zinc, total	0.0882 mg/L	0.0776 mg/L			1	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN006

Form Approved 03/05/19
OMB No. 2040-0004

TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)
03/15/2022	1.62	0.6	74	1,301 gpm	168,310 gallons

Provide a description of the method of flow measurement or estimate.

The Rational Method was to estimate the maximum flow rate. A runoff coefficient of 1 was used for impervious areas and a runoff coefficient of 0.5 was used for other industrial areas.

Outfall DSN006 was approved as representative of outfalls DSN004 and DSN005.

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN007

Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))[1]

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.

	Pollutant or Parameter	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
		Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1.	Oil and grease	< 5.0 mg/L				1	
2.	Biochemical oxygen demand (BOD_5)	5.5 mg/L	5.2 mg/L			1	
3.	Chemical oxygen demand (COD)	193 mg/L	161 mg/L			1	
4.	Total suspended solids (TSS)	465 mg/L	455 mg/L			1	
5.	Total phosphorus	1.3 mg/L	1.1 mg/L			1	
6.	Total Kjeldahl nitrogen (TKN)	3.4 mg/L	3.6 mg/L			1	
7.	Total nitrogen (as N)	3.56 mg/L	3.6 mg/L			1	
8.	pH (minimum)	8.34				1	
	pH (maximum)						

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN007

Form Approved 03/05/19
OMB No. 2040-0004

TABLE B. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(A))[1]

List each pollutant that is limited in an effluent limitation guideline (ELG) that the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
Total ammonia nitrogen (as N)	0.16 mg/L	< 0.100 mg/L			1	
Nitrate plus nitrite	< 0.050 mg/L	< 0.050 mg/L			1	
Pentachlorophenol	< 0.005 mg/L	< 0.005 mg/L			1	
Trichlorophenol	< 0.0025 mg/L	< 0.0025 mg/L			1	
Aluminum, total	49.1 mg/L	48.4 mg/L			1	
Iron, total	53.0 mg/L	52.2 mg/L			1	
Zinc, total	0.216 mg/L	0.213 mg/L			1	
Manganese, total	1.22 mg/L	1.13 mg/L			1	
Biochemical oxygen demand (BOD5)	5.5 mg/L	5.2 mg/L			1	
pH	8.34 s.u.				1	
Total suspended solids (TSS)	465 mg/L	455 mg/L				
Total Phosphorus	1.3 mg/L	1.1 mg/L			1	
Total Kjeldahl nitrogen (TKN)	3.4 mg/L	3.6 mg/L			1	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN007

Form Approved 03/05/19
OMB No. 2040-0004

TABLE C. TOXIC POLLUTANTS, CERTAIN HAZARDOUS SUBSTANCES, AND ASBESTOS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(B) and (vii))[1]

List each pollutant shown in Exhibits 2F–2, 2F–3, and 2F–4 that you know or have reason to believe is present. Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
Fecal coliform	5,300 CFU/100 mL				1	
Sulfate (as SO4)		53.6 mg/L			1	
Aluminum, total	49.1 mg/L	48.4 mg/L			1	
Boron, total	< 0.050 mg/L	< 0.050 mg/L			1	
Iron, total	53.0 mg/L	52.2 mg/L			1	
Magnesium, total	13.4 mg/L	13.4 mg/L			1	
Manganese, total	1.22 mg/L	1.13 mg/L			1	
Arsenic, total	0.0139 mg/L	0.0106 mg/L			1	
Chromium, total	0.0675 mg/L	0.0667 mg/L			1	
Copper, total	0.059 mg/L	0.057 mg/L			1	
Lead, total	0.0334 mg/L	0.0318 mg/L			1	
Mercury, total	< 0.0002 mg/L				1	
Nickel, total	0.066 mg/L	0.0646 mg/L			1	
Selenium, total	< 0.020 mg/L	< 0.020 mg/L			1	
Zinc, total	0.216 mg/L	0.213 mg/L			1	

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number
110043808742	AL0002674	International Paper - Pine Hill	DSN007

Form Approved 03/05/19
OMB No. 2040-0004

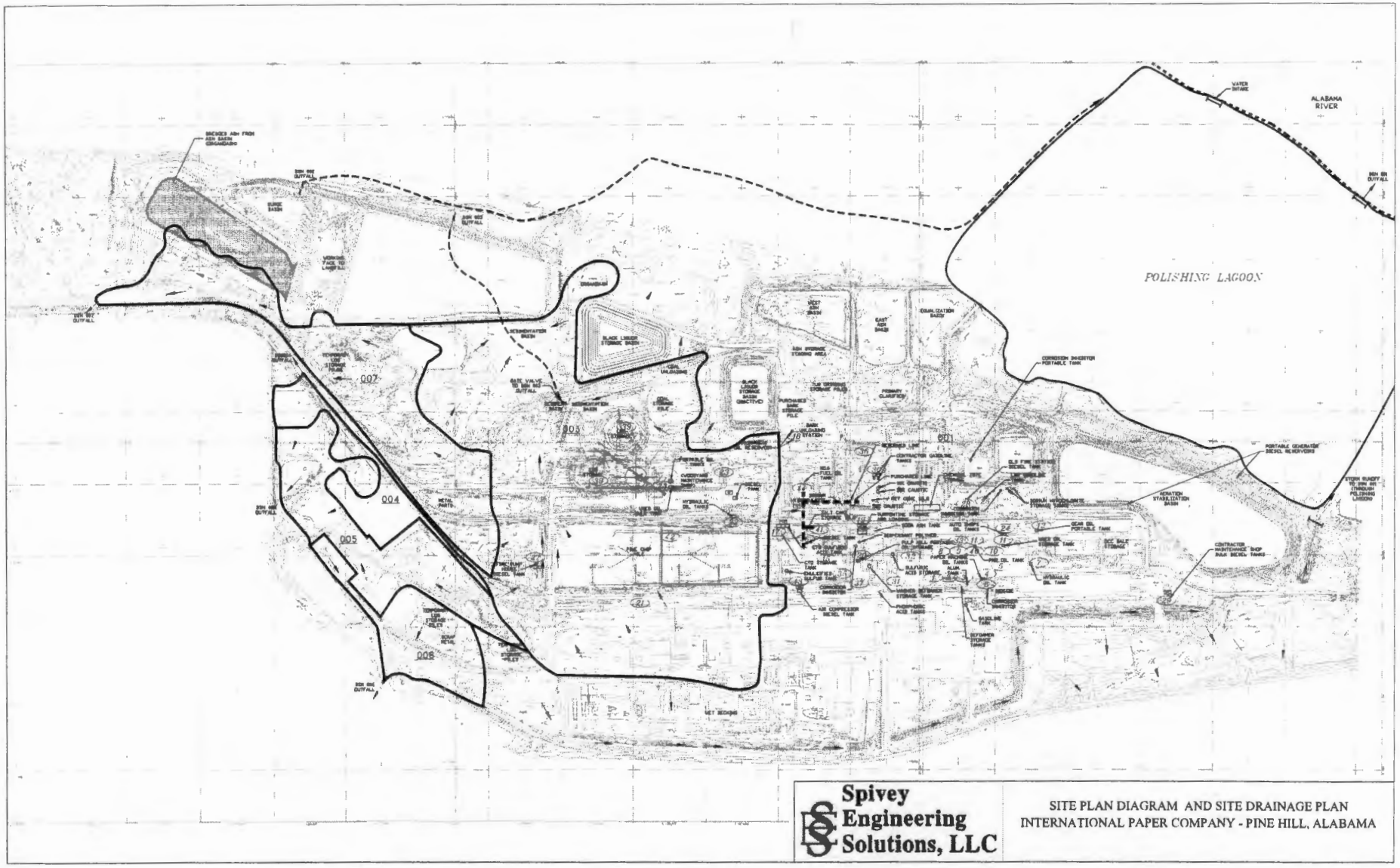
TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)
03/15/2022	1.62	0.6	74	3,152 gpm	598,440 gallons

Provide a description of the method of flow measurement or estimate.

The Rational Method was to estimate the maximum flow rate. A runoff coefficient of 1 was used for impervious areas and a runoff coefficient of 0.5 was used for other industrial areas.



Spivey Engineering Solutions, LLC

SITE PLAN DIAGRAM AND SITE DRAINAGE PLAN
INTERNATIONAL PAPER COMPANY - PINE HILL, ALABAMA

EPA Form 2F Attachment 2
Narrative Description of Significant Materials

Drainage Area and Outfall DSN 003

Industrial Activities Present in the Drainage Area

- Stacking, debarking, and chipping whole logs
- Transport and storage of wood chips
- Transport of raw and finished materials by truck and rail
- Organo-ash storage
- Facility access roads and railroad right-of-way activities

Significant Materials Treated, Stored, or Disposed with Exposure to Storm Water Runoff

- Logs
- Wood chips
- Ash
- Sludge
- Organo Ash

Materials Management Practices Employed to Minimize Contact with Storm Water

- Best Management Practices (BMP) Plan

Significant Materials Loading and Access Areas

- Log Unloading Area
- Chip Unloading Area
- Coal Unloading Area

Location, Method of Application, and Frequency of Application of Pesticides/Herbicides

Herbicides, including 2,4-D, Roundup, Atrazine, Garlon, Razor, Diuron 80, Glyphosate, Pramitol 25E, or other similar commercially available products, are applied twice per year by a certified applicator, typically during the spring, to control plant growth on the railroad right-of-way and in smaller locations around the mill site.

Drainage Area and Outfall DSN 004

Industrial Activities Present in the Drainage Area

- None

Significant Materials Treated, Stored, or Disposed with Exposure to Storm Water Runoff

- None

Materials Management Practices Employed to Minimize Contact with Storm Water

- Best Management Practices (BMP) Plan

Significant Materials Loading and Access Areas

- Not applicable

Location, Method of Application, and Frequency of Application of Pesticides/Herbicides

Herbicides, including 2,4-D, Roundup, Atrazine, Garlon, Razor, Diuron 80, Glyphosate, Pramitol 25E, or other similar commercially available products, are applied twice per year by a certified applicator, typically during the spring, to control plant growth on the railroad right-of-way and in smaller locations around the mill site.

Drainage Area and Outfall DSN 005

Industrial Activities Present in the Drainage Area

- None currently. The area may be used for transportation equipment activities as needed.

Significant Materials Treated, Stored, or Disposed with Exposure to Storm Water Runoff

- None

Materials Management Practices Employed to Minimize Contact with Storm Water

- Best Management Practices (BMP) Plan

Significant Materials Loading and Access Areas

- Not applicable

Location, Method of Application, and Frequency of Application of Pesticides/Herbicides

Herbicides, including 2,4-D, Roundup, Atrazine, Garlon, Razor, Diuron 80, Glyphosate, Pramitol 25E, or other similar commercially available products, are applied twice per year by a certified applicator, typically during the spring, to control plant growth in various locations within the drainage area.

Drainage Area and Outfall DSN 006

Industrial Activities Present in the Drainage Area

- Transport of raw materials by truck to the facility
- Scrap Metal Pickup
- Facility access roads

Significant Materials Treated, Stored, or Disposed with Exposure to Storm Water Runoff

- Log storage
- Scrap metal parts storage
- Gravel Ash

Materials Management Practices Employed to Minimize Contact with Storm Water

- Best Management Practices (BMP) Plan

Significant Materials Loading and Access Areas

- Main Log Gate
- Log Unloading Area

Location, Method of Application, and Frequency of Application of Pesticides/Herbicides

Herbicides, including 2,4-D, Roundup, Atrazine, Garlon, Razor, Diuron 80, Glyphosate, Pramitol 25E, or other similar commercially available products, are applied twice per year by a certified applicator, typically during the spring, to control plant growth on the railroad right-of-way and in smaller locations around the mill site.

Drainage Area and Outfall DSN 007

Industrial Activities Present in the Drainage Area

- Soil Handling
- Transport of ash, sludge, and soil
- Loading and unloading of Organo Ash

Significant Materials Treated, Stored, or Disposed with Exposure to Storm Water Runoff

- Miscellaneous debris
- Ash
- Sludge
- Excavated Soil
- Log storage
- Scrap metal parts storage

Materials Management Practices Employed to Minimize Contact with Storm Water

- Best Management Practices (BMP) Plan

Significant Materials Loading and Access Areas

- Temporary ash/sludge storage area
- Soil Handling Area
- Log Unloading Area

Location, Method of Application, and Frequency of Application of Pesticides/Herbicides

Herbicides, including 2,4-D, Roundup, Atrazine, Garlon, Razor, Diuron 80, Glyphosate, Pramitol 25E, or other similar commercially available products, are applied twice per year by a certified applicator, typically during the spring, to control plant growth on the railroad right-of-way and in smaller locations around the mill site.

EPA Form 2F Attachment 3
Location and Description of Existing Structural and Non-structural Controls

Drainage Area and Outfall DSN 003

Location and Description of Existing Structural Storm Water Pollution Control

- Drainage ditches with rip rap barriers to minimize erosion (Treatment Code 1-U)
- Vegetated drainage swales to capture and retain sediment (Treatment Code 1-U)
- Sediment barrier at the outfall, consisting of straw bales or a silt fence to reduce discharges of silt (Treatment Code 1-U)

Description of Storm Water Runoff Treatment Systems

- Sedimentation basin for new woodyard (Treatment Code 1-U)
- Sedimentation basin for drainage area of outfall DSN 003 (Treatment Codes 1-U and 4-A)

Description of Ultimate Disposal of Storm Water Treatment Residue

- Sediment basin residue disposed of appropriately (Treatment Code 5-P). Frequency of sediment basin clean-out on an as-needed basis.

Description of Non-Structural Pollution Control Measures Used for Storm Water Runoff

- Best Management Practices (BMP) Plan
- Spill Prevention, Control, and Countermeasures (SPCC) Plan

Drainage Area and Outfall DSN 004

Location and Description of Existing Structural Storm Water Pollution Control

- Vegetated drainage swales to capture and retain sediment (Treatment Code 1-U)

Description of Storm Water Runoff Treatment Systems

- None (Treatment Code 4-A)

Description of Ultimate Disposal of Storm Water Treatment Residue

- None

Description of Non-Structural Pollution Control Measures Used for Storm Water Runoff

- Best Management Practices (BMP) Plan

Drainage Area and Outfall DSN 005

Location and Description of Existing Structural Storm Water Pollution Control

- Vegetated drainage swales to capture and retain sediment (Treatment Code 1-U)
- Sediment barrier at the outfall, consisting of straw bales or a silt fence to reduce discharges of silt (Treatment Code 1-U)

Description of Storm Water Runoff Treatment Systems

- None (Treatment Code 4-A)

Description of Ultimate Disposal of Storm Water Treatment Residue

- None

Description of Non-Structural Pollution Control Measures Used for Storm Water Runoff

- Best Management Practices (BMP) Plan

Drainage Area and Outfall DSN 006

Location and Description of Existing Structural Storm Water Pollution Control

- Vegetated drainage swales to capture and retain sediment (Treatment Code 1-U)

Description of Storm Water Runoff Treatment Systems

- None (Treatment Code 4-A)

Description of Ultimate Disposal of Storm Water Treatment Residue

- None

Description of Non-Structural Pollution Control Measures Used for Storm Water Runoff

- Best Management Practices (BMP) Plan

Drainage Area and Outfall DSN 007

Location and Description of Existing Structural Storm Water Pollution Control

- Vegetated drainage swales to capture and retain sediment (Treatment Code 1-U)
- Sediment barrier at the outfall, consisting of straw bales or a silt fence to reduce discharges of silt (Treatment Code 1-U)

Description of Storm Water Runoff Treatment Systems

- None (Treatment Code 4-A)

Description of Ultimate Disposal of Storm Water Treatment Residue

- None

Description of Non-Structural Pollution Control Measures Used for Storm Water Runoff

- Best Management Practices (BMP) Plan

Jackson, Scott A

Subject: RE: IP Pine Hill Stormwater Outfalls

From: Hall, Johnathan <Johnathan.Hall@jacobs.com>
Sent: Thursday, April 27, 2023 10:03 AM
To: Jackson, Scott A <scott.jackson@adem.alabama.gov>; Shannon Dixon <shannon.dixon@ipaper.com>
Cc: Martin, J.P. <J.P.Martin@jacobs.com>
Subject: IP Pine Hill Stormwater Outfalls

Scott,

In response to your call earlier today regarding the IP Pine Hill NPDES permit application I've prepared the attached file for the stormwater outfall locations. Sorry about the original EPA Form 2F that was submitted not having the complete receiving water name visible.

Please let me know if you need anything else.

Regards,
Johnathan

Johnathan E. Hall, P.E.
Jacobs Engineering Group Inc.
4121 Carmichael Rd., Suite 400
Montgomery, AL 36106
251-593-1093 (mobile)
johnathan.hall@jacobs.com

EPA Form 2F Section 1. Outfall Locations

Outfall Number	Receiving Water Name	Latitude	Longitude
DSN003	Alabama River	31° 58' 36" N	87° 29' 19" W
DSN004	Alabama River via unnamed tributary	31° 58' 25" N	87° 29' 30" W
DSN005	Dunns Creek via unnamed tributary	31° 58' 10" N	87° 29' 30" W
DSN006	Alabama River via unnamed tributary	31° 58' 00" N	87° 29' 21" W
DSN007	Alabama River via unnamed tributary	31° 58' 29" N	87° 29' 43" W

SECTION 1. IDENTIFICATION

Product identifier

Trade name : Amersite™ 2
CORROSION INHIBITOR
™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Solenis LLC 500 Hercules Road Wilmington, Delaware 19808 United States of America (USA) RegulatoryRequestsNA@solenis.com	1-844-SOLENIS (844-765-3647) **Product Information** Contact your local Solenis representative

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H302 Harmful if swallowed.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Classification	Concentration (%)
SODIUM BISULFITE	7631-90-5	Acute Tox. 4; H302	>= 30 - < 40

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If breathed in, move person into fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
If eye irritation persists, consult a specialist.

If swallowed : IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Sulphur dioxide may be released if this material comes into

contact with acids, water and/or ice. In contact with moisture, sulfur dioxide forms sulfuric acid which is corrosive to skin and mucous membranes.
Harmful if swallowed.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : sodium sulphide residue
Sulphur oxides
Sodium oxides
sulfur oxides
sodium monoxide
sulfur dioxide
toxic fumes

Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Further information : Standard procedure for chemical fires.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Comply with all applicable federal, state, and local regulations.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours/dust.
Do not smoke.
Container hazardous when empty.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
SODIUM BISULFITE	7631-90-5	TWA	5 mg/m3	ACGIH
		TWA	5 mg/m3	NIOSH REL

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for

uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection	:	Wear as appropriate: Impervious clothing Safety shoes Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear resistant gloves (consult your safety equipment supplier).
Hygiene measures	:	Wash hands before breaks and at the end of workday. When using do not eat or drink. When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	light yellow light pink clear
Odour	:	pungent
Odour Threshold	:	No data available
pH	:	4.1
Melting point/freezing point	:	15 °F / -9 °C
Boiling point/boiling range	:	> 212 °F / 100 °C (1013 hPa)
Flash point	:	does not flash

Evaporation rate	:	> 1 Ethyl Ether
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	17.5000000 mmHg
Relative vapour density	:	> 1 AIR=1
Relative density	:	1.3 (68 °F / 20 °C)
Density	:	1.3 g/cm3 (77 °F / 25 °C)
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	excessive heat Freezing temperatures. Heat, flames and sparks.

		Heat Exposure to air. Exposure to moisture
Incompatible materials	:	Acids Alkali metals Alkaline earth metals aluminum magnesium Oxidizing agents Strong bases water
Hazardous decomposition products	:	Sulphur oxides Sodium oxides sodium sulfide residue toxic fumes

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute inhalation toxicity : Remarks: Excessive heat or contact with acids, water and/or ice, releases sulfur dioxide gas which may be harmful or deadly if inhaled.

Components:

SODIUM BISULFITE:

Acute oral toxicity : Assessment: The component/mixture is classified as acute oral toxicity, category 4.

Acute dermal toxicity : LD50 (Rat, male and female): > 2 g/kg
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

Skin corrosion/irritation

Not classified based on available information.

Components:

SODIUM BISULFITE:

Result : Not irritating to skin

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks : Unlikely to cause eye irritation or injury.
Solutions may be severely irritating or cause burns.

Components:

SODIUM BISULFITE:

Result : Not irritating to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

SODIUM BISULFITE:

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data is available on the product itself.

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 369 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Daphnia magna (Water flea)): 833.9 mg/l
Exposure time: 48 h

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

Components:

SODIUM BISULFITE:

Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 240 mg/l
Exposure time: 96 h
Method: Static
Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 119 mg/l
Exposure time: 48 h
Method: Static
Remarks: Mortality

Persistence and degradability

Product:

Biochemical Oxygen Demand (BOD) : Biochemical oxygen demand within 5 days
103 mg/l

Chemical Oxygen Demand (COD) : 59,000 mg/l
Method: Chemical oxygen demand

69,300 mg/l

Bioaccumulative potential

Components:

SODIUM BISULFITE:

Partition coefficient: n-octanol/water : Remarks: No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.

Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN number	:	UN 2693
Proper shipping name	:	Bisulfites, aqueous solutions, n.o.s.
Class	:	8
Packing group	:	III

IMDG-Code

UN number	:	UN 2693
Proper shipping name	:	BISULPHITES, AQUEOUS SOLUTION, N.O.S. (SODIUM BISULFITE)
Class	:	8
Packing group	:	III
EmS Code	:	F-A, S-B
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR

UN number	:	UN 2693
Proper shipping name	:	Bisulphites, aqueous solution, n.o.s. (SODIUM BISULFITE)
Class	:	8
Packing group	:	III
ERG Code	:	8L
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
SODIUM BISULFITE	7631-90-5	5000	13833

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory

PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIOC	:	On the inventory, or in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

Revision Date	:	02/04/2022

Full text of H-Statements

H302	:	Harmful if swallowed.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect

Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This SDS has been prepared by the Solenis Environmental Health and Safety Department.

US / EN

SECTION 1. IDENTIFICATION

Product identifier

Trade name : Biosperse™ XD9411
MICROBIOCIDE
™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries

Recommended use of the chemical and restrictions on use

Use of the Substance/Mixture : Biocide

Details of the supplier of the safety data sheet	**Emergency telephone number**
Solenis LLC 500 Hercules Road Wilmington, Delaware 19808 United States of America (USA) RegulatoryRequestsNA@solenis.com Solenis LLC	1-844-SOLENIS (844-765-3647) **Product Information** Contact your local Solenis representative

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Corrosive to metals : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

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

Precautionary statements :

Prevention:

P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.

Storage:

P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
HALGENATED COMPLEX	Trade Secret	Skin Corr. 1B; H314 Eye Dam. 1; H318	>= 15 - < 20
SODIUM HYDROXIDE	1310-73-2	Met. Corr. 1; H290 Skin Corr. 1; H314 Eye Dam. 1; H318	>= 10 - < 15

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
If breathed in, move person into fresh air.
Keep patient warm and at rest.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact	:	If on skin, rinse well with water. Wash contaminated clothing before re-use.
In case of eye contact	:	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye.
If swallowed	:	Get medical attention immediately. Do NOT induce vomiting. Rinse mouth with water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Cough lung edema (fluid buildup in the lung tissue) Difficulty in breathing Causes serious eye damage. Causes severe burns.
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	corrosive vapors Sodium oxides toxic fumes
Specific extinguishing	:	Product is compatible with standard fire-fighting agents.

methods

Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. When diluting, always add the product to water. Never add water to the product. Container hazardous when empty. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
SODIUM HYDROXIDE	1310-73-2	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.
Maintain eye wash station in immediate work area.

Skin and body protection : Wear as appropriate:
Impervious clothing
Chemical resistant apron
Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
Ensure that eyewash stations and safety showers are close to the workstation location.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour : sweet

Odour Threshold : No data available

pH	:	13
Melting point/freezing point	:	-6.01 °C
Boiling point/boiling range	:	101.66 °C
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	19 hPa (25 °C)
Relative vapour density	:	No data available
Relative density	:	1.320 (25 °C)
Density	:	1.320 g/cm3 (25 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.

Conditions to avoid	:	excessive heat Exposure to sunlight. Extremes of temperature and direct sunlight. Exposure to moisture
Incompatible materials	:	Acids Alcohols Aldehydes Ammonia halogenated hydrocarbons Metals organic nitro compounds Strong oxidizing agents strong reducing agents water
Hazardous decomposition products	:	**Bromine** **Chlorine** **corrosive vapors** **Sodium oxides** **toxic fumes**

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	LD 50 (Rat): 2,491 mg/kg
Acute inhalation toxicity	:	LC 50 (Rat): > 20.37 mg/l Test atmosphere: dust/mist
Acute dermal toxicity	:	LD 50 (Rat): > 2,000 mg/kg

Components:

SODIUM HYDROXIDE:

Acute oral toxicity	:	LD Lo (Rabbit): 500 mg/kg

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks: **Causes severe skin burns and eye damage.**
The feeling of irritation or pain may be delayed.

Components:

HALGENATED COMPLEX:

Result: Corrosive to skin

SODIUM HYDROXIDE:

Result: Corrosive to skin

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks: May cause irreversible eye damage.

Components:

HALGENATED COMPLEX:

Result: Corrosive to eyes

SODIUM HYDROXIDE:

Result: Corrosive to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC 50 (Bluegill (Lepomis macrochirus)): 3.8 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 4.8 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae	:	IC50 (Pseudokirchneriella subcapitata (green algae)): 2.6 mg/l End point: IC50 Exposure time: 96 h Test Type: static test

Ecotoxicology Assessment

Acute aquatic toxicity	:	Acute aquatic toxicity Category 2; Toxic to aquatic life.
Chronic aquatic toxicity	:	Not classified based on available information.

Components:

SODIUM HYDROXIDE:

Toxicity to fish	:	LC 50 (Western mosquitofish (Gambusia affinis)): 125 mg/l Exposure time: 96 h Method: Static Remarks: Mortality
Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 34.59 - 47.13 mg/l Exposure time: 48 h Remarks: Intoxication

Ecotoxicology Assessment

Acute aquatic toxicity	:	Acute aquatic toxicity Category 3; Harmful to aquatic life.
Chronic aquatic toxicity	:	Not classified based on available information.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

UN	3266	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM HYDROXIDE)	8	III	

U.S. DOT - RAIL

UN	3266	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM HYDROXIDE)	8	III	

U.S. DOT - INLAND WATERWAYS

UN	3266	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM HYDROXIDE)	8	III

TRANSPORT CANADA - ROAD

UN	3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE)	8	III

TRANSPORT CANADA - RAIL

UN	3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE)	8	III

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE)	8	III

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	3266	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM HYDROXIDE)	8	III

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	3266	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM HYDROXIDE)	8	III

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	3266	LIQUIDO CORROSIVO, BASICO, INORGANICO, N.E.P. (SODIUM HYDROXIDE)	8	III

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
SODIUM HYDROXIDE	1310-73-2	1000	10000

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Corrosive to metals
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

AICS : On the inventory, or in compliance with the inventory

DSL : This product contains one or more components that are not on the Canadian DSL and have annual quantity limits.

NZIOC : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

IECSC : Not in compliance with the inventory

TCSI : Not in compliance with the inventory

Biocides

3377-55-74655

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Danger, Corrosive., Causes irreversible eye damage and skin burns., Do not get in eyes, on skin or on clothing., Harmful if swallowed or absorbed through the skin.

TSCA list

The following substance(s) is/are subject to a Significant New Use Rule:
MERCURY 7439-97-6

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 01/22/2018

Full text of H-Statements

H290 : May be corrosive to metals.
H314 : Causes severe skin burns and eye damage.
H318 : Causes serious eye damage.

Full text of other abbreviations

Eye Dam. : Serious eye damage
Met. Corr. : Corrosive to metals
Skin Corr. : Skin corrosion

Further information
Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

US / EN

SECTION 1. IDENTIFICATION

Product identifier

Trade name : Millsperse™ 955
CORROSION INHIBITOR
™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Solenis LLC 500 Hercules Road Wilmington, Delaware 19808 United States of America (USA) RegulatoryRequestsNA@solenis.com	1-844-SOLENIS (844-765-3647) **Product Information** Contact your local Solenis representative

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1
Serious eye damage	:	Category 1
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
ZINC CHLORIDE	7646-85-7	Acute Tox. 4; H302 Skin Corr. 1; H314	>= 50 - < [illegible]

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
Keep patient warm and at rest.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water.
Wash contaminated clothing before re-use.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.

If swallowed : Get medical attention immediately.
Do NOT induce vomiting.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
Shortness of breath
lung edema (fluid buildup in the lung tissue)
Difficulty in breathing
Harmful if swallowed.
Causes serious eye damage.
May cause respiratory irritation.
Causes severe burns.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : hydrogen chloride
zinc oxide

zinc chloride fumes

Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Avoid formation of aerosol. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapours/dust. Do not smoke. When diluting, always add the product to water. Never add water to the product. Container hazardous when empty. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions.

Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ZINC CHLORIDE	7646-85-7	TWA (Fumes)	1 mg/m3	ACGIH
		STEL (Fumes)	2 mg/m3	ACGIH
		TWA (Fumes)	1 mg/m3	NIOSH REL
		ST (Fumes)	2 mg/m3	NIOSH REL
		TWA (Fumes)	1 mg/m3	OSHA Z-1
		TWA (Fumes)	1 mg/m3	OSHA P0
		STEL (Fumes)	2 mg/m3	OSHA P0

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles and face shield when there is

potential for exposure of the eyes or face to liquid, vapor or mist.
Maintain eye wash station in immediate work area.

Skin and body protection : Wear resistant gloves (consult your safety equipment supplier).
Wear as appropriate:
Impervious clothing
Chemical resistant apron
Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear.

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
Ensure that eyewash stations and safety showers are close to the workstation location.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	light yellow
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	+/- 0.7 1.8
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	+/- 30 281.5 °F (1013 hPa)
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	3.50 mmHg (68.00 °F)
Relative vapour density	:	0.06

AIR=1

Relative density	:	+/- 0.34 1.78 (68.00 °F)
Density	:	+/- 0.34 1.78 g/cm3 (68.00 °F)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Incompatible materials	:	Cyanides sulfides
Hazardous decomposition products	:	**Hydrogen chloride gas** **Zinc oxide fumes.** **zinc chloride fumes**

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 700 mg/kg Method: Calculation method

Components:

ZINC CHLORIDE:

Acute oral toxicity : LD 50 (Rat): 350 mg/kg

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks: Causes severe skin burns and eye damage.

Components:

ZINC CHLORIDE:

Result: Corrosive to skin

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks: May cause irreversible eye damage.

Components:

ZINC CHLORIDE:

Result: Possibly irritating to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

Components:

ZINC CHLORIDE:

Remarks: Lung

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity	:	Acute aquatic toxicity Category 1; Very toxic to aquatic life.
Chronic aquatic toxicity	:	Chronic aquatic toxicity Category 1; Very toxic to aquatic life with long lasting effects.

Components:

ZINC CHLORIDE:

Toxicity to fish	:	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 0.082 - 0.245 mg/l Exposure time: 96 h Test Type: flow-through test

Persistence and degradability

No data available

Bioaccumulative potential

Components:

ZINC CHLORIDE:

Bioaccumulation	:	Species: Banded bream (Tilapia sparrmanii) Bioconcentration factor (BCF): 120

Exposure time: 28 d
Concentration: 1.4 mg/l
Method: Flow through

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

UN	1840	Zinc chloride, solution	8	III	

U.S. DOT - RAIL

UN	1840	Zinc chloride, solution	8	III	

U.S. DOT - INLAND WATERWAYS

UN	1840	Zinc chloride, solution	8	III	

TRANSPORT CANADA - ROAD

UN	1840	ZINC CHLORIDE SOLUTION	8	III	

TRANSPORT CANADA - RAIL

UN	1840	ZINC CHLORIDE SOLUTION	8	III	

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1840	ZINC CHLORIDE SOLUTION	8	III	MARINE POLLUTANT:(ZINC CHLORIDE)

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1840	Zinc chloride solution	8	III

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1840	Zinc chloride solution	8	III

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1840	ZINC CHLORIDE SOLUTION	8	III

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ZINC CHLORIDE	7646-85-7	1000	2000

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

ZINC CHLORIDE	7646-85-7	50 %

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	On TSCA Inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 07/04/2018

Full text of H-Statements

H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Skin Corr.	:	Skin corrosion

Further information

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

US / EN

SECTION 1. IDENTIFICATION

Product identifier

Trade name : Millsperse™ MS7100
CORROSION INHIBITOR
™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Solenis LLC 500 Hercules Road Wilmington, Delaware 19808 United States of America (USA) RegulatoryRequestsNA@solenis.com	1-844-SOLENIS (844-765-3647) **Product Information** Contact your local Solenis representative

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

GHS label elements

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
INORGANIC SALT	Trade Secret	Eye Irrit. 2A; H319	>= 60 - < 70

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled	:	If breathed in, move person into fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye.
If swallowed	:	Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways)
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Oxides of phosphorus potassium oxide
Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.

Environmental precautions	:	Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.
Conditions for safe storage	:	Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required.
Eye protection	:	Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection	:	Wear resistant gloves (consult your safety equipment supplier). Wear as appropriate: Safety shoes
Hygiene measures	:	General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	colourless
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	10.0 - 10.8 No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	216 °F (1013 hPa)
Flash point	:	No data available
Evaporation rate	:	> 1 Ethyl Ether
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	16.0 mmHg (68 °F)
Relative vapour density	:	< 1
Relative density	:	ca. 1.74 (68.00 °F)
Density	:	1.71 - 1.80 g/cm3
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

Molecular weight	:	384 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Incompatible materials	:	Strong acids This product should not be used in conjunction with trimethylol propane or trimethylol propane-derived products. There is a possibility that bicyclic phosphates or phosphites can be produced as a result of the thermal decomposition of this product in combination with trimethylol propane, trimethylol propane-derived products or their corresponding trimethylol propane alkane homologs. Bicyclic phosphates and phosphites are a class of materials with acute neurotoxic properties which produce characteristic convulsive seizures in test animals.
Hazardous decomposition products	:	Oxides of phosphorus potassium oxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute dermal toxicity	:	Acute toxicity estimate: 4,167 mg/kg Method: Calculation method

Components:

INORGANIC SALT:

Acute oral toxicity	:	LD L0 (Rat): 4,640 mg/kg
Acute dermal toxicity	:	LD 50 (Rabbit): > 4,640 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Result: Repeated exposure may cause skin dryness or cracking.

Components:

INORGANIC SALT:

Result: Mildly irritating to skin

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Result: Mildly irritating to eyes

Remarks: Unlikely to cause eye irritation or injury.

Components:

INORGANIC SALT:

Result: Irritating to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h
		LC 50 (Opossum shrimp (Americamysis bahia)): > 100 mg/l Exposure time: 96 h

Ecotoxicology Assessment

Acute aquatic toxicity	:	Not classified based on available information.
Chronic aquatic toxicity	:	Not classified based on available information.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with all applicable local, state and federal regulations.
Contaminated packaging	:	Empty remaining contents.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	On TSCA Inventory

TSCA list
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 05/15/2019

Full text of H-Statements

H319 : Causes serious eye irritation.

Full text of other abbreviations

Eye Irrit. : Eye irritation

Further information

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration,

Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

US / EN

SECTION 1. IDENTIFICATION

Product identifier

Trade name : Performax™ 4050
COOLING WATER TREATMENT
™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Solenis LLC 500 Hercules Road Wilmington, Delaware 19808 United States of America (USA) RegulatoryRequestsNA@solenis.com	1-844-SOLENIS (844-765-3647) / 606-329-5705 **Product Information** 1-844-SOLENIS (844-765-3647)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
INORGANIC SALT	Trade Secret	Eye Irrit. 2A; H319	>= 15 - < 20
POTASSIUM COMPOUND	Trade Secret	Eye Irrit. 2A; H319	>= 5 - < 10
TRIAZOLE DERIVATIVE	Trade Secret	Acute Tox. 4; H302 Skin Corr. 1; H314 Eye Dam. 1; H318	>= 1.5 - < 5

Trade Secret Composition - conceal identity + concentration

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
If breathed in, move person into fresh air.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact	:	If on skin, rinse well with water. Wash contaminated clothing before re-use.
In case of eye contact	:	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye.
If swallowed	:	Get medical attention immediately. Do NOT induce vomiting. Rinse mouth with water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Causes serious eye damage. Causes severe burns.
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Oxides of phosphorus potassium oxide hydrogen cyanide in reducing atmospheres nitrogen oxides (NOx) carbon dioxide and carbon monoxide
Specific extinguishing	:	Product is compatible with standard fre-fi ghting agents.

methods

Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Container hazardous when empty. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Hand protection

Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist. Maintain eye wash station in immediate work area.
Skin and body protection	:	Wear resistant gloves (consult your safety equipment supplier). Wear as appropriate: Impervious clothing Chemical resistant apron Safety shoes Choose body protection according to the amount and concentration of the dangerous substance at the work place. Discard gloves that show tears, pinholes, or signs of wear.
Hygiene measures	:	Wash hands before breaks and at the end of workday. When using do not eat or drink. Ensure that eyewash stations and safety showers are close to the workstation location. When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	Yellow to brown
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	11.7
Melting point/freezing point	:	-24.4 °C
Boiling point/boiling range	:	100 °C (1,013.333333 hPa) Calculated Phase Transition Liquid/Gas
Flash point	:	93.4 °C Calculated Flash Point

Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	23.3333333 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.4 g/cm3 (77.0 °F)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Incompatible materials	:	Strong acids Strong oxidizing agents This product should not be used in conjunction with trimethylol propane or trimethylol propane-derived products. There is a possibility that bicyclic phosphates or phosphites can be produced as a result of the thermal decomposition of this

product in combination with trimethylol propane, trimethylol propane-derived products or their corresponding trimethylol propane alkane homologs. Bicyclic phosphates and phosphites are a class of materials with acute neurotoxic properties which produce characteristic convulsive seizures in test animals.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity

Not classified based on available information.

Components:

INORGANIC SALT:

Acute oral toxicity	:	LD L0 (Rat): 4,640 mg/kg
Acute dermal toxicity	:	LD 50 (Rabbit): > 4,640 mg/kg

TRIAZOLE DERIVATIVE:

Acute oral toxicity	:	LD 50 (Rat, Female): 735 mg/kg
Acute dermal toxicity	:	LD 50 (Rabbit): > 2,000 mg/kg Assessment: Not classified as acutely toxic by dermal absorption under GHS.

Skin corrosion/irritation

Causes severe burns.

Product:

Result: Repeated exposure may cause skin dryness or cracking.

Remarks: Causes severe skin burns and eye damage.

Components:

INORGANIC SALT:

Result: Mildly irritating to skin

POTASSIUM COMPOUND:

Result: Not irritating to skin

TRIAZOLE DERIVATIVE:

Result: Corrosive to skin

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks: May cause irreversible eye damage.

Components:

INORGANIC SALT:

Result: Irritating to eyes

POTASSIUM COMPOUND:

Result: Irritating to eyes

TRIAZOLE DERIVATIVE:

Result: Corrosive to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC 50 (Oncorhynchus mykiss (rainbow trout)): 580.1 mg/l Exposure time: 96 h Test Type: static test LC 50 (Pimephales promelas (fathead minnow)): 500.0 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	LC 50 (Water flea (Daphnia magna)): 883.9 mg/l Exposure time: 48 h Test Type: static test

Components:

TRIAZOLE DERIVATIVE:

Toxicity to fish	:	LC 50 (Lepomis macrochirus (Bluegill sunfish)): > 173 mg/l Exposure time: 96 h LC 50 (Oncorhynchus mykiss (rainbow trout)): ca. 25 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 280 mg/l Exposure time: 48 h
Toxicity to algae	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 26.2 mg/l Exposure time: 72 h Test Type: Growth inhibition EbC50 (Pseudokirchneriella subcapitata (green algae)): 32 mg/l Exposure time: 96 h Test Type: Growth inhibition
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC10 (Water flea (Daphnia magna)): 0.4 mg/l Exposure time: 21 d Test Type: semi-static test Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.

Persistence and degradability

Product:

Biochemical Oxygen Demand (BOD)	:	Biochemical oxygen demand within 5 days 5,000 mg/l

Chemical Oxygen Demand (COD)	:	168,000 mg/l Method: Chemical oxygen demand

Components:

POTASSIUM COMPOUND:

Biodegradability	:	Remarks: Not readily biodegradable.

TRIAZOLE DERIVATIVE:

Biodegradability	:	Result: Not readily biodegradable. Method: OECD Test Guideline 301F

Bioaccumulative potential

Components:

TRIAZOLE DERIVATIVE:

Partition coefficient: n-octanol/water	:	log Pow: 0.658

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information	:	**An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.** **Harmful to aquatic life with long lasting effects.**

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Dispose of in accordance with all applicable local, state and federal regulations.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

IATA-DGR

Not dangerous goods

IMDG-Code

Not dangerous goods

CFR

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA	:	On TSCA Inventory
AICS	:	Not in compliance with the inventory
NZIOC	:	On the inventory, or in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	Not in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 12/27/2017

Full text of H-Statements

H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Corr.	:	Skin corrosion

Further information

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

US / EN

SECTION 1. IDENTIFICATION

Product identifier

Trade name : SODIUM HYPOCHLORITE 12.5% EPA

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Solenis LLC 942 Brant St. Canada L7R 3X8 Burlington, ON Canada RegulatoryRequestsNA@solenis.com	1-844-SOLENIS (844-765-3647) / 606-329-5705 **Product Information** 1-844-SOLENIS (844-765-3647)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

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

Precautionary statements :

Prevention:

P234 Keep only in original packaging.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
SODIUM HYPOCHLORITE	7681-52-9	>= 15 - < 20
SODIUM HYDROXIDE	1310-73-2	>= 1.5 - < 5

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
If breathed in, move person into fresh air.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water.
Wash contaminated clothing before re-use.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.

Remove contact lenses.
Protect unharmed eye.

If swallowed : Get medical attention immediately.
Do NOT induce vomiting.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
discomfort in the chest
hair loss
lung edema (fluid buildup in the lung tissue)
Difficulty in breathing
Causes serious eye damage.
Causes severe burns.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Chlorine
hydrogen chloride
Sodium oxides
corrosive vapors
toxic fumes

Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Comply with all applicable federal, state, and local regulations.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours/dust.
When diluting, always add the product to water. Never add water to the product.
Container hazardous when empty.
Avoid contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
SODIUM HYDROXIDE	1310-73-2	CEILING	2 mg/m3	CAD AB OEL

		CEILING	2 mg/m3	CAD BC OEL
		CEILING	2 mg/m3	CAD ON OEL
		CEILING	2 mg/m3	OEL (QUE)
		CEILING	2 mg/m3	CAD AB OEL
		CEILING	2 mg/m3	CAD BC OEL
		CEILING	2 mg/m3	CAD ON OEL
		CEILING	2 mg/m3	OEL (QUE)
		CEILING	2 mg/m3	CAD MB OEL

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.
Maintain eye wash station in immediate work area.

Skin and body protection : Wear as appropriate:
Impervious clothing
Chemical resistant apron
Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
Ensure that eyewash stations and safety showers are close to the workstation location.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour	:	pungent
Odour Threshold	:	No data available
pH	:	13.0
Melting point/freezing point	:	-30 - -20 °C
Boiling point/boiling range	:	95 °F (1013 hPa)
Flash point	:	Not applicable
Evaporation rate	:	1 Ethyl Ether
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	< 17.5000 mmHg (68.00 °F)
Relative vapour density	:	0.6 AIR=1
Relative density	:	1.16 (68.00 °F)
Density	:	1.16 g/cm3 (68.00 °F)
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	3 - 8 mPa.s (10 - 30 °C)
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.

Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	excessive heat Do not allow evaporation to dryness. Exposure to sunlight. Exposure to moisture Exposure to light.
Incompatible materials	:	Acids Alcohols Ammonia Combustible material ethers halogenated hydrocarbons Hydrocarbons isocyanates Metals Organic materials organic nitro compounds oxidizable substances Reducing agents Strong oxidizing agents water
Hazardous decomposition products	:	**acid vapors** **Chlorine** **corrosive vapors** **hydrogen chloride** **Oxygen** **Sodium oxides** **toxic fumes**

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity

Not classified based on available information.

Components:

SODIUM HYPOCHLORITE:

Acute oral toxicity	:	LD 50 (Rat): > 5 g/kg
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 20,000 mg/kg

SODIUM HYDROXIDE:

Acute oral toxicity : LD Lo (Rabbit): 500 mg/kg

Skin corrosion/irritation

Causes severe burns.

Product:

Assessment: Corrosive to skin
Result: Corrosive to skin

Remarks: **Causes severe skin burns and eye damage.**
The feeling of irritation or pain may be delayed.

Components:

SODIUM HYPOCHLORITE:

Result: Corrosive to skin

SODIUM HYDROXIDE:

Assessment: Corrosive to skin
Result: Corrosive to skin

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Result: Corrosive to eyes
Assessment: Corrosive to eyes

Remarks: May cause irreversible eye damage.

Components:

SODIUM HYPOCHLORITE:

Result: Corrosive to eyes

SODIUM HYDROXIDE:

Result: Corrosive to eyes
Assessment: Corrosive to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Components:

SODIUM HYPOCHLORITE:

Genotoxicity in vitro : Test Type: Ames test
Species: Salmonella typhimurium
Metabolic activation: without metabolic activation
Result: negative

: Test Type: comet assay
Species: Human lymphocytes
Metabolic activation: without metabolic activation
Result: positive

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Mouse (male)
Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

Components:

SODIUM HYPOCHLORITE:

Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

SODIUM HYPOCHLORITE

Toxicity to fish : LC 50 (Rainbow trout,donaldson trout (Oncorhynchus

mykiss)): 0.05 - 0.071 mg/l
Exposure time: 96 h
Method: Flow through
Remarks: Mortality

LC 50 (Fathead minnow (Pimephales promelas)): 0.06 - 0.11 mg/l
Exposure time: 96 h
Method: Flow through
Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Water flea (Daphnia magna)): 0.045 - 0.068 mg/l
Exposure time: 48 h
Method: Flow through
Remarks: Mortality

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 1

SODIUM HYDROXIDE

Toxicity to fish : LC 50 (Western mosquitofish (Gambusia affinis)): 125 mg/l
Exposure time: 96 h
Method: Static
Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 34.59 - 47.13 mg/l
Exposure time: 48 h
Remarks: Intoxication

Persistence and degradability

Components:

SODIUM HYPOCHLORITE

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : **An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.**
Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Dispose of in accordance with all applicable local, state and federal regulations.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

UN/ID No.	:	UN 1791
Proper shipping name	:	Hypochlorite solution
Class	:	8
Packing group	:	III
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852

IMDG-Code

UN number	:	UN 1791
Proper shipping name	:	HYPOCHLORITE SOLUTION
Class	:	8
Packing group	:	III
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

TDG

UN number	:	UN 1791
Proper shipping name	:	HYPOCHLORITE SOLUTION
Class	:	8

Packing group	:	III
Labels	:	8
Marine pollutant	:	yes()

SECTION 15. REGULATORY INFORMATION

The components of this product are reported in the following inventories:

DSL	On the inventory, or in compliance with the inventory
TSCA	On the inventory, or in compliance with the inventory
NZIOC	Not in compliance with the inventory
IECSC	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 05/05/2017

Full text of H-Statements referred to under sections 2 and 3.

Further information

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

International Paper

International Paper
Pine Hill Mill
7600 Hwy 10 W
Pine Hill, AL 36769

June 6, 2023

Mr. Scott Jackson
Water Division
Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, AL 36130-1463

Subject: International Paper Pine Hill Mill
NPDES Permit Application – AL0002674
Stream Monitoring Reduction Request

Dear Mr. Jackson,

The International Paper (IP) Pine Hill Mill located in Pine Hill, Alabama submitted an application for a renewal of its National Pollutant Discharge Eliminations System (NPDES) permit AL0002674 on January 1, 2023. IP Pine Hill is submitting the following supplemental request for stream monitoring reduction as the receiving section of the Alabama River is no longer listed on the 303(d) List of Impaired Waters.

Part IV. Section D of IP Pine Hill's NPDES permit has required the mill to monitor the Alabama River for dissolved oxygen (D.O.) content as well as pH, temperature and BOD. The current NPDES permit states that surveys will be performed between June 1 and October 31 each year. In particular, the D.O. is measured at Station C seven (7) days per week to determine if discharge can occur. Dependent upon results, the Pine Hill Mill is required to monitor various other predetermined monitoring stations to evaluate the impact of the mill effluent on the river as a whole.

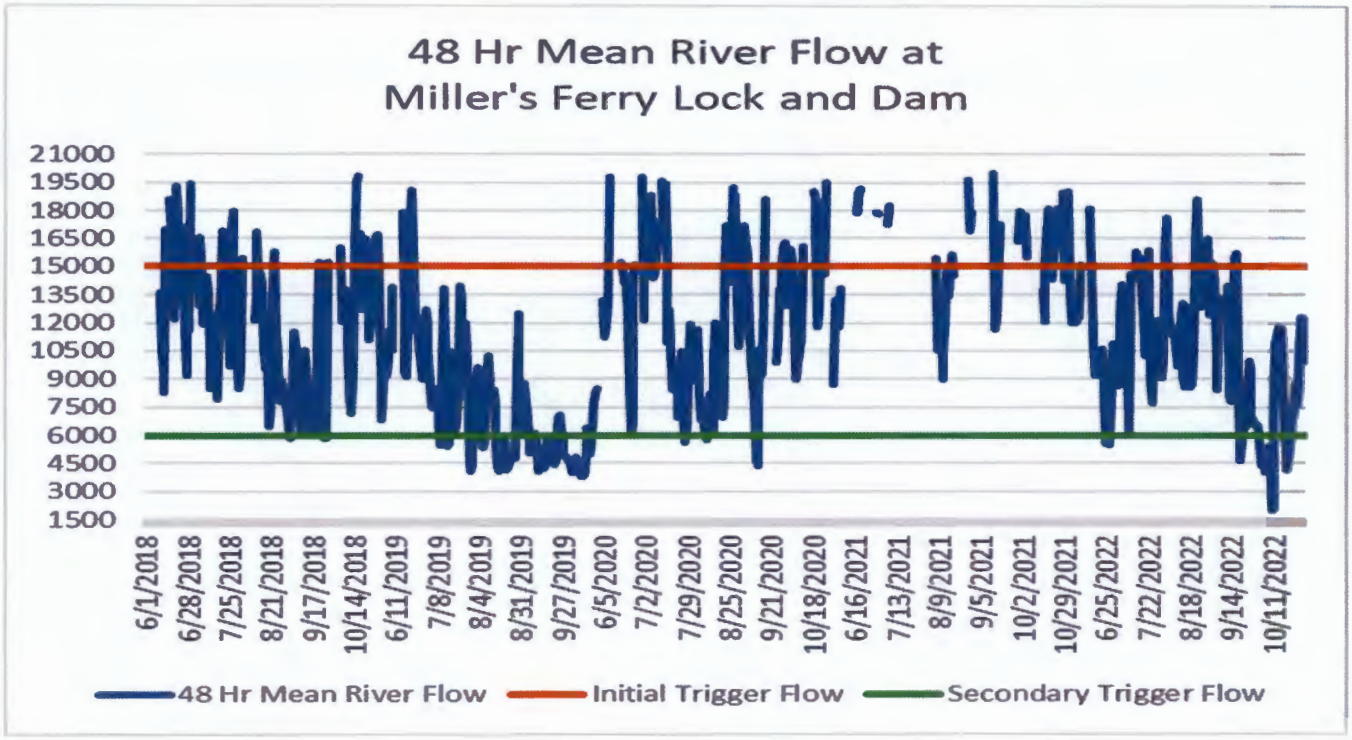
From June 2018 through October 2022, IP's river monitoring program conducted 1,692 D.O. measurements over nine stations. **Table 1** provides a summary of the D.O. concentrations measured during this time period for each of the stations and for the overall dataset.

International Paper

Table 1. IP Pine Hill River Monitoring - D.O. Concentration Summary for June 2018 - October 2022											
	All Stations	Station C River Mile 121.8 (Oil Dock)	Station A River Mile 124.6	Station B River Mile 123.3	Station C River Mile 121.8	Station 1 River Mile 121.2	Station 2 River Mile 120.5	Station 3 River Mile 118.2	Station 4 River Mile 116.0	Station 5 River Mile 112.0	Stations 6-10 River Mile 107.8, 104.8, 100.2, 96.0, and 91.1
Number of Measurements	1692	764	116	116	116	116	116	116	116	116	0
Minimum DO, mg/L	4.8	5.2	4.9	4.9	5.0	4.8	4.8	4.9	5.0	5.1	No sample
Maximum DO, mg/L	10.1	9.8	9.6	9.0	8.9	8.9	10.1	8.8	9.8	8.9	No sample
Average DO, mg/L	6.5	6.8	6.5	6.4	6.5	6.4	6.4	6.4	6.5	6.6	No sample
10^{th} Percentile Concentration, mg/L	5.4	5.8	5.5	5.4	5.5	5.4	5.4	5.5	5.5	5.5	No sample
Number of Concentrations < 5.0 mg/L	6	0	1	2	0	1	1	1	0	0	No sample
Percent of Concentrations ≤ 5.0 mg/L	0.35	0.00	0.06	0.12	0.00	0.06	0.06	0.06	0.00	0.00	No sample

The following graphs display 2018-2022 D.O. data obtained daily and during river surveys at Pine Hill Station "C" and the 48-hour mean river flow at Miller's Ferry Lock and Dam. As you will see the data shows the natural variability in the river. At no time during the past five (5) years has the Pine Hill Mill been required to cease discharge due to low D.O. or continue river surveying past Station "5" (river mile 112).

International Paper



Based on the data provided, natural variability and the removal of this section of the Alabama River from the 303(d) List of Impaired Waters, a reduction in stream monitoring requirements will not adversely impact the Alabama River. Therefore, the following stream monitoring reductions are requested:

Permit Condition	Current Permit Condition	Proposed Permit Condition	Justification
Part IV D.1.	Between June 1 and October 31, the permittee shall conduct stream monitoring at Station "C" mile 121.8 and evaluate Miller's Ferry Lock and Dam 48-hour mean river flows five days per discharge week.	Between July 1 and August 31, the permittee shall conduct stream monitoring at Station "C" mile 121.8 and evaluate Miller's Ferry Lock and Dam 48-hour mean river flows five days per discharge week.	Data obtained for the past five (5) years (764 data points) includes 3 data points that were below 5.4 mg/L with results being 5.2 mg/L on initial measurements and recovering at 5.4 mg/L within 2-4 hrs. Miller's Ferry Lock and Dam 48-hour mean river flows were 7,898, 12,125 and 4,273, respectively. See charts IP Pine Hill D.O. at Oil Dock (located at Station "C") and 48 Mean River Flow at Miller's Ferry Lock and Dam.
Part IV D.7.	For the period from June 1 to October 31, any discharge week where the mean 48-hour Alabama River flow falls below 15000 CFS as measured at Miller's Ferry Lock and Dam, the permittee shall conduct a river survey in	Eliminate this requirement	Data obtained for the past five (5) years confirms river flow is seasonal and this section of the Alabama River is no longer listed on the 303(d) List of Impaired Waters.

	accordance with specific condition 8 of the permit.		
Part IV D.8.	Stream monitoring parameters shall be: (1) D.O. at the 5' depth (2) water temperature (3) pH and (4) BOD5	Eliminate BOD5	This section of the Alabama River is no longer listed on the 303(d) List of Impaired Waters and BOD5 does not provide real time data.
Part IV D.9.	For any discharge week, June 1 to October 31, which the mean 48-hour Alabama River flow falls below 6000 CFS as measure at Miller's Ferry Lock and Dam for one or more days on which it is evaluated, the permittee shall conduct 2 river surveys in accordance with specific conditions 8 of this permit.	For any discharge week, July 1 – August 31, which the mean 48-hour Alabama River flow falls below 6000 CFS as measure at Miller's Ferry Lock and Dam and the D.O. at Station "C" mile 121.8 is less than 5.4 mg/L, the permittee shall conduct one (1) river survey in accordance with specific conditions 8 of this permit.	Data obtained for the past five (5) years confirms river flow is seasonal and this section of the Alabama River is no longer listed on the 303(d) List of Impaired Waters.
Part IV D.11.b	Discharge Day: June 1 to October 31 is 0900 to 2100 when the Alabama River 48 hour mean is less than 15000 CFS	Discharge Day: July 1 to August 31 is 0900 to 2100 when the Alabama River 48 hour mean is less than 6000 CFS	Data obtained for the past five (5) years supports river flow is seasonal. IP Pine Hill discharge does not adversely impact the natural variability of river D.O. and this section of the Alabama River is no longer listed on the 303(d) List of Impaired Waters.
Part IV D.11.d	Stream Monitoring Season: June 1 to October 31	Stream Monitoring Season: July 1 to August 31	Data obtained for the past five (5) years supports river

International Paper

			flow is seasonal. IP Pine Hill discharge does not adversely impact the natural variability of river D.O. and this section of the Alabama River is no longer listed on the 303(d) List of Impaired Waters.

Thank you,

Steve Webb
Mill Manager

International Paper

International Paper
Pine Hill Mill
7600 Hwy 10 W
Pine Hill, AL 36769

November 30, 2023

Dear Mr. Jackson:

International Paper – Pine Hill in receipt of the preliminary draft permit received via mail on October 24, 2023. As requested, International Paper – Pine Hill is providing our comments on the draft permit.

Comments on Preliminary Draft Permit:

1. **Page 1 of 30 – Discharge Limitations and Monitoring Requirements**: Please revise the Seasonal description for Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value from once per month of *All Months* to once per month during the growing season of *April, May, June, July, August, September, October* as the other nutrients are sampled and reported.

2. **Page 1 of 30 - Discharge Limitations and Monitoring Requirements:** Please revise Footnote 4 to align with Stream Monitoring Season.

3. **Page 28 of 30 – Stream Monitoring:** IP – Pine Hill request Stream Monitoring D. 1. be changed from October 31 to August 31.

4. **Page 29 of 30 – Stream Monitoring:** IP – Pine Hill request D. 7. be changed to read the following: For any discharge week, July 1 to August 31, which the mean 48-hour Alabama River flow falls below 6000 CFS as measured at Miller's Ferry Lock and Dam and the D.O. at Station "C" mile 121.8 is less than 5.4 mg/L, the permittee shall conduct one (1) river survey in accordance with specific condition 6 of this permit.

5. **Page 29 of 30 – Stream Monitoring:** IP – Pine Hill request D. 9. b and d. be changed from October 31 to August 31.

Thank you,

Steve Webb
Mill Manager