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OCT 28 2025

MR. MICHAEL CLOSSON
MILL MANAGER
INTERNATIONAL PAPER - RIVERDALE
601 COUNTY ROAD 78
SELMA, AL 36703

RE: REVISED DRAFT PERMIT
NPDES PERMIT NUMBER AL0003018

Dear Mr. Closson:

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

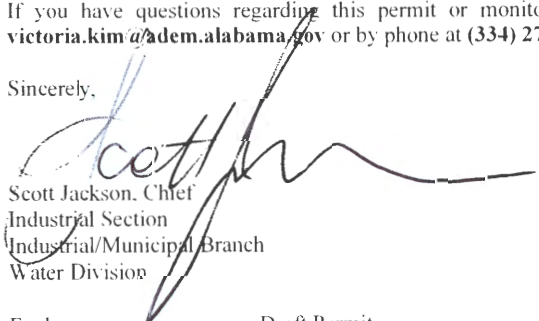
1. The user has logged in to E2 since October 1, 2019; and
2. The E2 user account is set up using a unique email address.

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

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

If you have questions regarding this permit or monitoring requirements, please contact Victoria Kim by e-mail at victoria.kim@adem.alabama.gov or by phone at (334) 271-7895.

Sincerely,


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

Enclosure: Draft Permit

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



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

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

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



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: INTERNATIONAL PAPER – RIVERDALE

FACILITY LOCATION: INTERNATIONAL PAPER – RIVERDALE
601 COUNTY RD 78
SELMA, ALABAMA 36703
DALLAS COUNTY

PERMIT NUMBER: AL0003018

RECEIVING WATERS: DSN002, DSN003 – ALABAMA RIVER
DSN004 – DSN006 – UNNAMED TRIBUTARY TO ALABAMA RIVER

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
Water Division Chief

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PART I: DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS**A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS**

The following outfalls and associated permit limitations shall apply only during periods when the facility is operating under Tier I conditions:

DSN0021, DSN0031, DSN002Y1, DSN003Y1, DSN03A1, DSN03AS

Tier I represents the facility's current operating configuration. Tier I requirements shall remain in effect until completion of the No. 16 Paper Machine modification and commencement of production under Tier II.

The following permit limitations shall apply only during periods when the facility is operating under Tier II conditions:

DSN0022, DSN0032, DSN002Y2, DSN003Y2

Tier II will begin upon completion of the No. 16 Paper Machine modification and the initiation of production under the revised configuration, and shall remain in effect through the expiration date of this permit.

The Permittee shall provide written notification to the Department within thirty (30) days of completing the No. 16 Paper Machine modification and commencing production under Tier II.

The following permit limitations shall apply regardless of the operations being performed at the facility:

DSN002Q, DSN003Q, DSN002T, DSN003T, DSN004Q, DSN005Q, DSN006Q, DSN03B1, DSN03BS

DSN0021, DSN0031: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities 3/ 4/ 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	23583 Monthly Average	45976 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Daily	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	48499 Monthly Average	91377 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 I Det. (As N) (00630) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Pentachlorophenol (39032) Effluent Gross Value 5/	*****	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	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/ Flow is to be determined for both outfall lines and the value shall be the sum of the two flow determinations. Sampling for the remaining parameters is to be performed at outfall DSN003 only, except on days when the entire discharge is routed through DSN002 and then sampling shall be performed at DSN002. When monitoring is not required for parameters at a specific outfall, the Permittee shall enter “*9” on the discharge monitoring report.
- 5/ In lieu of monitoring for this parameter, the permittee may certify non-use of chlorophenolic containing compounds according to the requirements at 40 CFR 430.105 and 40 CFR 430.124 by entering “*9” on the discharge monitoring report.
- 6/ Monitoring is only required during Tier I of the permit. If the facility is not operating under Tier I of the permit during a monitoring period, the facility should report “No Discharge” on the discharge monitoring report for this outfall. No more than one (1) scenario shall be reported with analytical values during the same monitoring period. The scenario that the facility is operating under the majority of the monitoring period shall apply.

DSN0021, DSN0031 (Continued): Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities 3/ 4/ 8/

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
Flow, In Conduit or Thru Treatment Plant (50050) 4/ Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Totalizer	All Months
# of Events (51484) 6/ Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	# Exceedances	Monthly	Not Applicable	Jun, Jul, Aug, Sep, Oct
Certification - River Monitoring (51946) 7/ Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0; No=1	Monthly	Not Applicable	Jun, Jul, Aug, Sep, Oct
Trichlorophenol (81848) 5/ Effluent Gross Value	*****	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months

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- 1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.
- 2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.
- 3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.
- 4/ Flow is to be determined for both outfall lines and the value shall be the sum of the two flow determinations. Sampling for the remaining parameters is to be performed at outfall DSN003 only, except on days when the entire discharge is routed through DSN002 and then sampling shall be performed at DSN002. When monitoring is not required for parameters at a specific outfall, the Permittee shall enter “*9” on the discharge monitoring report.
- 5/ In lieu of monitoring for this parameter, the permittee may certify non-use of chlorophenolic containing compounds according to the requirements at 40 CFR 430.105 and 40 CFR 430.124 by entering “*9” on the discharge monitoring report.
- 6/ For compliance purposes, the permittee should report the number of times that the BOD5 exceeds the maximum level calculated in accordance with the equation detailed in Part IV.F of the permit.
- 7/ The Permittee shall report “0” to indicate compliance with the reporting requirements found at Part IV.F. of the permit.
- 8/ Monitoring is only required during Tier I of the permit. If the facility is not operating under Tier I of the permit during a monitoring period, the facility should report “No Discharge” on the discharge monitoring report for this outfall. No more than one (1) scenario shall be reported with analytical values during the same monitoring period. The scenario that the facility is operating under the majority of the monitoring period shall apply.

DSN0022, DSN0032: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities 3/ 4/ 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	18888 Monthly Average	37487 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Daily	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	34531 Monthly Average	67270 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
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Pentachlorophenol (39032) Effluent Gross Value 5/	*****	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	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/ Flow is to be determined for both outfall lines and the value shall be the sum of the two flow determinations. Sampling for the remaining parameters is to be performed at outfall DSN003 only, except on days when the entire discharge is routed through DSN002 and then sampling shall be performed at DSN002. When monitoring is not required for parameters at a specific outfall, the Permittee shall enter "*9" on the discharge monitoring report. .
- 5/ In lieu of monitoring for these parameters, the permittee may certify non-use of chlorophenolic containing compounds according to the requirements at 40 CFR 430.105 and 40 CFR 430.124 by entering *9 on the discharge monitoring report.
- 6/ Monitoring is only required during Tier II of the permit. If the facility is not operating under Tier II of the permit during a monitoring period, the facility should report "No Discharge" on the discharge monitoring report for this outfall. No more than one (1) scenario shall be reported with analytical values during the same monitoring period. The scenario that the facility is operating under the majority of the monitoring period shall apply.

DSN0022, DSN0032 (Continued): Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities 3/ 4/ 8/

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
Flow, In Conduit or Thru Treatment Plant (50050) 4/ Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Totalizer	All Months
# of Events (51484) 6/ Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	# Exceedances	Monthly	Not Applicable	Jun, Jul, Aug, Sep, Oct
Certification - River Monitoring (51946) 7/ Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0;No =1	Monthly	Not Applicable	Jun, Jul, Aug, Sep, Oct
Trichlorophenol (81848) Effluent Gross Value 5/	*****	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	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/ Flow is to be determined for both outfall lines and the value shall be the sum of the two flow determinations. Sampling for the remaining parameters is to be performed at outfall DSN003 only, except on days when the entire discharge is routed through DSN002 and then sampling shall be performed at DSN002. When monitoring is not required for parameters at a specific outfall, the Permittee shall enter “*9” on the discharge monitoring report.
- 5/ In lieu of monitoring for these parameters, the permittee may certify non-use of chlorophenolic containing compounds according to the requirements at 40 CFR 430.105 and 40 CFR 430.124 by entering *9 on the discharge monitoring report.
- 6/ For compliance purposes, the permittee should report the number of times that the BOD5 exceeds the conditions detailed in Part IV.F of the Permit.
- 7/ The Permittee shall report “0” to indicate compliance with the reporting requirements found at Part IV.F. of the permit.
- 8/ Monitoring is only required during Tier II of the permit. If the facility is not operating under Tier II of the permit during a monitoring period, the facility should report “No Discharge” on the discharge monitoring report for this outfall. No more than one (1) scenario shall be reported with analytical values during the same monitoring period. The scenario that the facility is operating under the majority of the monitoring period shall apply.

DSN002Q, DSN003Q: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities - Certification of periodic submittals

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	Sample Type	Seasonal
Certification-BMP Submittal (85873) 1/ Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0; No=1	Quarterly	Not Applicable	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/ The permittee shall report a "0" to indicate compliance with the reporting requirements found at Part IV.E.9.d of this permit.

DSN002T, DSN003T: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities 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
Toxicity, Ceriodaphnia Chronic (61426) 3/ Effluent Gross Value	*****	0 Maximum Daily	pass=0; fail=1	*****	*****	*****	*****	Annually	Composite	All Months
Toxicity, Pimephales Chronic (61428) 3/ Effluent Gross Value	*****	0 Maximum Daily	pass=0; fail=1	*****	*****	*****	*****	Annually	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.C. for Effluent Toxicity and Biomonitoring Requirements.
- 4/ Sampling is to be performed at outfall DSN003 only, except on days when the entire discharge is routed through DSN002 and then sampling shall be performed at DSN002. When monitoring is not required for parameters at a specific outfall, the Permittee shall enter “*9” on the discharge monitoring report.

DSN002Y1, DSN003Y1: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities 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
Halogens, Adsorbable Organic (03594) Effluent Gross Value	1552 Monthly Average	2369 Maximum Daily	lbs/day	*****	*****	*****	*****	Annually	Composite	All Months
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (34675) 4/ Effluent Gross Value	*****	0.00000397 Maximum Daily	lbs/day	*****	*****	(Report) Maximum Daily	ppq	Annually	Composite	All Months

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- 1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.
- 2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.
- 3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.
- 4/ The quantity of flow used to calculate the mass discharge of all daily process wastewater discharges during the past 12 months of mill operation. Zero process discharge days shall not be used in the calculation of this average daily flow.
- 5/ Sampling is to be performed at outfall DSN003 only, except on days when the entire discharge is routed through DSN002 and then sampling shall be performed at DSN002. When monitoring is not required for parameters at a specific outfall, the Permittee shall enter “*9” on the discharge monitoring report.
- 6/ Monitoring is only required during Tier I of the permit. If the facility is not operating under Tier I of the permit during a monitoring period, the facility should report “No Discharge” on the discharge monitoring report for this outfall. No more than one (1) scenario shall be reported with analytical values during the same monitoring period. The scenario that the facility is operating under the majority of the monitoring period shall apply.

DSN002Y2, DSN003Y2: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities 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
Halogens, Adsorbable Organic (03594) Effluent Gross Value	613 Monthly Average	935 Maximum Daily	lbs/day	*****	*****	*****	*****	Annually	Composite	All Months
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (34675) 4/ Effluent Gross Value	*****	0.00000397 Maximum Daily	lbs/day	*****	*****	(Report) Maximum Daily	ppq	Annually	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/ The quantity of flow used to calculate the mass discharge of all daily process wastewater discharges during the past 12 months of mill operation. Zero process discharge days shall not be used in the calculation of this average daily flow.
- 5/ Sampling is to be performed at outfall DSN003 only, except on days when the entire discharge is routed through DSN002 and then sampling shall be performed at DSN002. When monitoring is not required for parameters at a specific outfall, the Permittee shall enter “*9” on the discharge monitoring report.
- 6/ Monitoring is only required during Tier II of the permit. If the facility is not operating under Tier II of the permit during a monitoring period, the facility should report “No Discharge” on the discharge monitoring report for this outfall. No more than one (1) scenario shall be reported with analytical values during the same monitoring period. The scenario that the facility is operating under the majority of the monitoring period shall apply.

DSN004Q, DSN006Q: Storm water from process areas 3/ 4/

DSN005Q: Storm water from process areas and fire tank overflow 3/ 4/

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

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency ²	Sample Type ¹	Seasonal
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Quarterly	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Quarterly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Estimate	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.

DSN03A1: Plant #1 (Hardwood) Bleach Plant 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
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Monthly	Calculated	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/ The flow measurement shall be a calculated value based on a material balance. The permittee shall maintain these calculations and assumptions with the monitoring records for each point.
- 4/ Monitoring is only required when the facility is operating under Tier I conditions. If the facility is not operating under Tier I during a required monitoring period, the Permittee shall report "No Discharge" on the discharge monitoring report (DMR) for the applicable outfall.

DSN03AS: Plant #1 (Hardwood) Bleach Plant 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
Chloroform (32106) Effluent Gross Value	5.285 Monthly Average	8.833 Maximum Daily	lbs/day	*****	*****	*****	*****	Semi-Annually	Grab	All Months
2,4,6-Trichlorophenol (34621) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
2,3,7,8-Tetrachlorodibenzo- P-Dioxin (34675) Effluent Gross Value	*****	*****	*****	*****	*****	9.9999 Maximum Daily	pg/l	Semi-Annually	Composite	All Months
2,3,7,8 Tetrachlorodibenzofuran (TCDF) (38691) Effluent Gross Value	*****	*****	*****	*****	*****	31.9 Maximum Daily	pg/l	Semi-Annually	Composite	All Months
Pentachlorophenol (39032) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
3,4,6-Trichloroguaiacol (51022) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
3,4,6-Trichlorocatechol (51024) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
3,4,5-Trichloroguaiacol (61024) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
3,4,5 Trichlorocatechol (73037) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	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/ The flow measurement shall be a calculated value based on a material balance. The permittee shall maintain these calculations and assumptions with the monitoring records for each point.
- 4/ Monitoring is only required when the facility is operating under Tier I conditions. If the facility is not operating under Tier I during a required monitoring period, the Permittee shall report "No Discharge" on the discharge monitoring report (DMR) for the applicable outfall.

DSN03AS (Continued): Plant #1 (Hardwood) Bleach Plant 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
Tetrachloroguaiacol (73047) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
Tetrachlorocatechol (73050) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
Trichlorosyringol (73054) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
4,5,6-Trichloroguaiacol (73088) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
2,4,5-Trichlorophenol (1) (77687) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
2,3,4,6-Tetrachlorophenol (77770) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	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/ The flow measurement shall be a calculated value based on a material balance. The permittee shall maintain these calculations and assumptions with the monitoring records for each point.
- 4/ Monitoring is only required when the facility is operating under Tier I conditions. If the facility is not operating under Tier I during a required monitoring period, the Permittee shall report "No Discharge" on the discharge monitoring report (DMR) for the applicable outfall.

DSN03B1: Plant #2 (Softwood) Bleach Plant (Tier I) 3/**Plant #2 Bleach Plant (Tier II) 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
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Monthly	Calculated	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/ The flow measurement shall be a calculated value based on a material balance. The permittee shall maintain these calculations and assumptions with the monitoring records for each point.
- 4/ Prior to reporting under the Tier II, the Permittee must submit written notification to the Department.

DSN03BS: Plant #2 (Softwood) Bleach Plant 3/ 4/ 6/

Plant #2 Bleach Plant (Tier II) 3/ 4/ 7/

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
Chloroform (32106) 6/ Effluent Gross Value	5.029 Monthly Average	8.406 Maximum Daily	lbs/day	*****	*****	*****	*****	Semi-Annually	Grab 5/	All Months
Chloroform (32106) 7/ Effluent Gross Value	4.074 Monthly Average	6.809 Maximum Daily	lbs/day	*****	*****	*****	*****	Semi-Annually	Grab 5/	All Months
2,4,6-Trichlorophenol (34621) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (34675) Effluent Gross Value	*****	*****	*****	*****	*****	9.9999 Maximum Daily	pg/l	Semi-Annually	Composite	All Months
2,3,7,8 Tetrachlorodibenzofuran (TCDF) (38691) Effluent Gross Value	*****	*****	*****	*****	*****	31.9 Maximum Daily	pg/l	Semi-Annually	Composite	All Months
Pentachlorophenol (39032) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
3,4,6-Trichloroguaiacol (51022) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
3,4,6-Trichlorocatechol (51024) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	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/ These limits apply to the bleach plant wastewater prior to treatment.
- 4/ See Part IV.G for required test methods and minimum levels.
- 5/ Six (6) grab samples, 40 ml each, for chloroform, shall be collected over a 24-hour period (one every four hours for twenty-four hours). Grab samples are to be obtained from each acid and alkaline sewer line. Grab samples collected from alkaline sewer lines may be combined by flow weighted composite into one sample for analysis in the lab. Grab samples collected from the acid sewer lines may be composited in the same manner. Samples are to be cooled during and after collection and are to be collected in such a manner that the samples do not contain entrained air. Samples may be collected manually or by an EPA approved automatic sampling device.
- 6/ These limitations shall apply from the effective date of the permit until modification of the No. 16 Paper Machine is complete and production occurs. During any monitoring period after commencement of Tier II limitations, the Permittee shall report “*9” on the DMR for this parameter.
- 7/ These limitations shall apply beginning with production from the modified No. 16 Paper Machine and remain in effect for the duration of the permit term. Prior to commencement of reporting under Tier II, the Permittee shall report “*9” on the DMR for this parameter.
- 8/ Prior to reporting under the Tier II, the Permittee must submit written notification to the Department.

DSN03BS (Continued): Plant #2 (Softwood) Bleach Plant 3/ 4/

Plant #2 Bleach Plant (Tier II) 3/ 4/ 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
3,4,5-Trichloroguaiacol (61024) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
3,4,5-Trichlorocatechol (73037) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
Tetrachloroguaiacol (73047) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
Tetrachlorocatechol (73050) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
Trichlorosyringol (73054) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
4,5,6-Trichloroguaiacol (73088) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
2,4,5-Trichlorophenol (1) (77687) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months
2,3,4,6-Tetrachlorophenol (77770) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	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/ These limits apply to the bleach plant wastewater prior to treatment.
- 4/ See Part IV.G for required test methods and minimum levels.
- 5/ Prior to reporting under the Tier II, the Permittee must submit written notification to the Department.

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 301(c), 301(g), 301(h), 301(k), or 316(a) of the FWPCA or for fundamentally different factors;
 - (9) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;
 - (10) When required by the reopener conditions in this permit;
 - (11) When required under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program);

- (12) Upon failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge permitted by this permit;
- (13) When required to correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions; or
- (14) When requested by the permittee and the Director determines that the modification has cause and will not result in a violation of federal or state law, regulations or rules.

5. Permit Termination

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

- a. Violation of any term or condition of this permit;
- b. The permittee's misrepresentation or failure to disclose fully all relevant facts in the permit application or during the permit issuance process or the permittee's misrepresentation of any relevant facts at any time;
- c. Materially false or inaccurate statements or information in the permit application or the permit;
- d. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;
- e. The permittee's discharge threatens human life or welfare or the maintenance of water quality standards;
- f. Permanent closure of the facility generating the wastewater permitted to be discharged by this permit or permanent cessation of wastewater discharge;
- g. New or revised requirements of any applicable standard or limitation that is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA that the Director determines cannot be complied with by the permittee; or
- h. Any other cause allowed by the ADEM Administrative Code, Chapter 335-6-6.

6. Permit Suspension

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

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

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

F. COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION

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

G. DISCHARGE OF WASTEWATER GENERATED BY OTHERS

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

PART III: OTHER PERMIT CONDITIONS**A. CIVIL AND CRIMINAL LIABILITY****1. Tampering**

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

2. False Statements

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

3. Permit Enforcement

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

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

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

(2) An action for damages;

(3) An action for injunctive relief; or

(4) An action for penalties.

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

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

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

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

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

4. Relief from Liability

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

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

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

C. PROPERTY AND OTHER RIGHTS

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

D. AVAILABILITY OF REPORTS

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

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES

1. If this permit was issued for a new discharger or new source, this permit shall expire eighteen months after the issuance date if construction of the facility has not begun during the eighteen-month period.
2. If this permit was issued or modified to allow the discharge of increased quantities of pollutants to accommodate the modification of an existing facility and if construction of this modification has not begun during the eighteen month period after issuance of this permit or permit modification, this permit shall be modified to reduce the quantities of pollutants allowed to be discharged to those levels that would have been allowed if the modification of the facility had not been planned.
3. Construction has begun when the owner or operator has:
 - a. begun, or caused to begin as part of a continuous on-site construction program:
 - (1) any placement, assembly, or installation of facilities or equipment; or
 - (2) significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or
 - b. entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

F. COMPLIANCE WITH WATER QUALITY STANDARDS

1. On the basis of the permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this permit should assure compliance with the applicable water quality standards.
2. Compliance with permit terms and conditions notwithstanding, if the permittee's discharge(s) from point sources identified in Provision I. A. of this permit cause or contribute to a condition in contravention of state water quality standards, the Department may require abatement action to be taken by the permittee in emergency situations or modify the permit pursuant to the Department's Rules, or both.
3. If the Department determines, on the basis of a notice provided pursuant to this permit or any investigation, inspection or sampling, that a modification of this permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the discharge until the permit has been modified.

G. GROUNDWATER

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

H. DEFINITIONS

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

3. Arithmetic Mean – means the summation of the individual values of any set of values divided by the number of individual values.
4. AWPCA - means the Alabama Water Pollution Control Act.
5. BOD – means the five-day measure of the pollutant parameter biochemical oxygen demand.
6. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.
7. CBOD – means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.
8. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.
9. Daily maximum - means the highest value of any individual sample result obtained during a day.
10. Daily minimum - means the lowest value of any individual sample result obtained during a day.
11. Day - means any consecutive 24-hour period.
12. Department - means the Alabama Department of Environmental Management.
13. Director - means the Director of the Department.
14. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other wastes into waters of the state". Code of Alabama 1975, Section 22-22-1(b)(8).
15. Discharge Monitoring Report (DMR) - means the form approved by the Director to accomplish reporting requirements of an NPDES permit.
16. DO – means dissolved oxygen.
17. 8HC – means 8-hour composite sample, including any of the following:
 - a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.
 - b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.
18. EPA - means the United States Environmental Protection Agency.
19. FC – means the pollutant parameter fecal coliform.
20. Flow – means the total volume of discharge in a 24-hour period.
21. FWPCA - means the Federal Water Pollution Control Act.
22. Geometric Mean – means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).
23. Grab Sample – means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.
24. Indirect Discharger – means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.
25. Industrial User – means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.
26. MGD – means million gallons per day.

27. Monthly Average – means, other than for fecal coliform bacteria, the arithmetic mean of the entire composite or grab samples taken for the daily discharges collected in one month period. The monthly average for fecal coliform bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period.
28. New Discharger – means a person, owning or operating any building, structure, facility or installation:
 - a. from which there is or may be a discharge of pollutants;
 - b. that did not commence the discharge of pollutants prior to August 13, 1979, and which is not a new source; and
 - c. which has never received a final effective NPDES permit for dischargers at that site.
29. NH3-N – means the pollutant parameter ammonia, measured as nitrogen.
30. Permit application - means forms and additional information that is required by ADEM Administrative Code Rule 335-6-6-.08 and applicable permit fees.
31. Point source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, . . . from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. Section 1362(14).
32. Pollutant - includes for purposes of this permit, but is not limited to, those pollutants specified in Code of Alabama 1975, Section 22-22-1(b)(3) and those effluent characteristics specified in Provision I. A. of this permit.
33. Privately Owned Treatment Works – means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a "POTW".
34. Publicly Owned Treatment Works – means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.
35. Receiving Stream – means the "waters" receiving a "discharge" from a "point source".
36. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
37. Significant Source – means a source which discharges 0.025 MGD or more to a POTW or greater than five percent of the treatment work's capacity, or a source which is a primary industry as defined by the U.S. EPA or which discharges a priority or toxic pollutant.
38. Solvent – means any virgin, used or spent organic solvent(s) identified in the F-Listed wastes (F001 through F005) specified in 40 CFR 261.31 that is used for the purpose of solubilizing other materials.
39. TKN – means the pollutant parameter Total Kjeldahl Nitrogen.
40. TON – means the pollutant parameter Total Organic Nitrogen.
41. TRC – means Total Residual Chlorine.
42. TSS – means the pollutant parameter Total Suspended Solids.
43. 24HC – means 24-hour composite sample, including any of the following:
 - a. the mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;
 - b. a sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected; or
 - c. a sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

44. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
45. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, Section 22-22-1(b)(2). Waters "include all navigable waters" as defined in Section 502(7) of the FWPCA, 22 U.S.C. Section 1362(7), which are within the State of Alabama.
46. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.
47. Weekly (7-day and calendar week) Average – is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

I. SEVERABILITY

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

PART IV: ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS**A. BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS****1. BMP Plan**

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

2. Plan Content

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

- a. Establish specific objectives for the control of pollutants:
 - (1) Each facility component or system shall be examined for its potential for causing a release of significant amounts of pollutants to waters of the State due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.
 - (2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g. precipitation), or circumstances to result in significant amounts of pollutants reaching surface waters, the plan should include a prediction of the direction, rate of flow, and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.
- b. Establish specific best management practices to meet the objectives identified under paragraph a. of this section, addressing each component or system capable of causing a release of significant amounts of pollutants to the waters of the State, and identifying specific preventative or remedial measures to be implemented;
- c. Establish a program to identify and repair leaking equipment items and damaged containment structures, which may contribute to contaminated stormwater runoff. This program must include regular visual inspections of equipment, containment structures and of the facility in general to ensure that the BMP is continually implemented and effective;
- d. Prevent the spillage or loss of fluids, oil, grease, gasoline, etc. from vehicle and equipment maintenance activities and thereby prevent the contamination of stormwater from these substances;
- e. Prevent or minimize stormwater contact with material stored on site;
- f. Designate by position or name the person or persons responsible for the day to day implementation of the BMP;
- g. Provide for routine inspections, on days during which the facility is manned, of any structures that function to prevent stormwater pollution or to remove pollutants from stormwater and of the facility in general. Routine inspections should be done at a frequency to ensure that the BMP is continually implemented and effective and in no case less frequent than once per year;
- h. Provide for the use and disposal of any material used to absorb spilled fluids that could contaminate stormwater;
- i. Develop a solvent management plan, if solvents are used on site. The solvent management plan shall include as a minimum lists of the solvents on site; the disposal method of solvents used instead of dumping, such as reclamation, contract hauling; and the procedures for assuring that solvents do not routinely spill or leak into the stormwater;
- j. Provide for the disposal of all used oils, hydraulic fluids, firefighting foams, solvent degreasing material, etc. in accordance with good management practices and any applicable state or federal regulations;
- k. Include a diagram of the facility showing the locations where stormwater exits the facility, the locations of any structure or other mechanisms intended to prevent pollution of stormwater or to remove pollutants from stormwater, the locations of any collection and handling systems;
- l. Provide control sufficient to prevent or control pollution of stormwater by soil particles to the degree required to maintain compliance with the water quality standard for turbidity applicable to the waterbody(s) receiving discharge(s) under this permit;
- m. Provide spill prevention, control, and/or management sufficient to prevent or minimize contaminated stormwater runoff. Any containment system used to implement this requirement shall be constructed of materials compatible with the

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

- n. Provide and maintain curbing, diking or other means of isolating process areas to the extent necessary to allow segregation and collection for treatment of contaminated stormwater from process areas;
- o. Be reviewed by plant engineering staff and the plant manager; and
- p. Bear the signature of the plant manager.

3. Compliance Schedule

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

4. Department Review

- a. When requested by the Director or his designee, the permittee shall make the BMP available for Department review.
- b. The Director or his designee may notify the permittee at any time that the BMP is deficient and require correction of the deficiency.
- c. The permittee shall correct any BMP deficiency identified by the Director or his designee within 30 days of receipt of notification and shall certify to the Department that the correction has been made and implemented.

5. Administrative Procedures

- a. A copy of the BMP shall be maintained at the facility and shall be available for inspection by representatives of the Department.
- b. A log of the routine inspection required above shall be maintained at the facility and shall be available for inspection by representatives of the Department. The log shall contain records of all inspections performed for the last three years and each entry shall be signed by the person performing the inspection.
- c. The permittee shall provide training for any personnel required to implement the BMP and shall retain documentation of such training at the facility. This documentation shall be available for inspection by representatives of the Department. Training shall be performed prior to the date that implementation of the BMP is required.
- d. BMP Plan Modification. The permittee shall amend the BMP plan whenever there is a change in the facility or change in operation of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.
- e. BMP Plan Review. The permittee shall complete a review and evaluation of the BMP plan at least once every three years from the date of preparation of the BMP plan. Documentation of the BMP Plan review and evaluation shall be signed and dated by the Plant Manager.

B. STORMWATER FLOW MEASUREMENT AND SAMPLING REQUIREMENTS

1. Stormwater Flow Measurement

- a. All stormwater samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches.
- b. The total volume of stormwater discharged for the event must be monitored, including the date and duration (in hours) and rainfall (in inches) for storm event(s) sampled. The duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event must be a minimum of 72 hours. This information must be recorded as part of the sampling procedure and records retained according to Part I.B. of this permit.
- c. The volume may be measured using flow measuring devices, or estimated based on a modification of the Rational Method using total depth of rainfall, the size of the drainage area serving a stormwater outfall, and an estimate of the runoff coefficient of the drainage area. This information must be recorded as part of the sampling procedure and records retained according to Part I.B. of this permit.

2. Stormwater Sampling

- a. A grab sample, if required by this permit, shall be taken during the first thirty minutes of the discharge (or as soon thereafter as practicable); and a flow-weighted composite sample, if required by this permit, shall be taken for the entire event or for the first three hours of the event.
- b. All test procedures will be in accordance with part I.B. of this permit.

C. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS

1. The permittee shall perform short-term chronic toxicity tests on the wastewater discharges required to be tested for chronic toxicity by Part I of this permit.
 - a. Test Requirements
 - (1) The samples shall be diluted using appropriate control water, to the Instream Waste Concentration (IWC) which is 4% effluent. The IWC is the actual concentration of effluent, after mixing, in the receiving stream during a 7-day, 10-year flow period.
 - (2) Any test result that shows a statistically significant reduction in survival, growth, or reproduction between the control and the test at the 95% confidence level indicate chronic toxicity and constitute noncompliance with this permit.
 - (3) Noncompliance with the toxicity limit will be demonstrated if the IC25 (Inhibition Concentration) for reproduction or growth is less than the IWC. The average reproduction for Ceriodaphnia shall be calculated by dividing the total number of live Ceriodaphnia young in each concentration by the total number of organisms used to initiate that concentration; the average growth for the fathead minnows shall be calculated by dividing the total weight of the surviving minnow larvae in each replicated by the total number of organisms used to initiate that replicate.
 - b. General Test Requirements
 - (1) A minimum of three (3) 24-hour composite samples shall be obtained for use in the above biomonitoring tests and collected every other day so that the laboratory receives water samples on the first, third, and fifth day of the seven-day test period. The holding time for each composite 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-02-013 or the most current edition or another control water selected by the permittee and approved by the Department.
 - (2) Effluent toxicity tests in which the control survival is less than 80%, *P. promelas* dry weight per surviving control organism is less than 0.25 mg, Ceriodaphnia number of young per surviving control organism is less than 15, Ceriodaphnia reproduction where less than 60% of surviving control females produce three broods or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the permittee shall rerun the tests as soon as practical within the monitoring period.
 - (3) In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.
 - c. Reporting Requirements
 - (1) The permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).
 - (2) Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 2 of this part, an effluent toxicity report containing the information in Section 2 shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.
 - d. Additional Testing Requirements
 - (1) If chronic toxicity is indicated (noncompliance with permit limit), the permittee shall perform two additional valid chronic toxicity tests in accordance with these procedures to determine the extent and duration of the toxic condition. The toxicity tests shall run consecutively beginning on the first calendar week 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/600/R-91-003, EPA/600/R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.)

e. Test Methods

The tests shall be performed in accordance with the latest edition of the "EPA Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms". The Larval Survival and Growth Test, Methods 1000.0, shall be used for the fathead minnow (*Pimephales promelas*) test and the Survival and Reproduction Test, Method 1002.0, shall be used for the cladoceran (*Ceriodaphnia dubia*) test.

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 these requirements or may decrease or increase 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 Operation

- (1) Discharge Operating schedule (if other than continuous)
- (2) Volume of discharge during sample collection to include Mean daily discharge on sample collection dates (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) Lapsed time from sample collection to delivery
 - (f) Lapsed time from sample collection to test initiation
 - (g) Sample temperature when received at the laboratory
- (2) Dilution Water
 - (a) Source
 - (b) Collection/preparation date(s) and time(s)
 - (c) Pretreatment (if applicable)
 - (d) Physical and chemical characteristics (water temperature, pH, alkalinity, hardness, 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) Specify if aeration was needed
 - (12) Feeding frequency, amount, and type of food
 - (13) Specify if (and how) pH control measures were implemented
 - (14) Light intensity (mean)
- e. Test Organisms
- (1) Scientific name
 - (2) Life stage and age
 - (3) Source
 - (4) Disease(s) treatment (if applicable)
- f. Quality Assurance
- (1) Reference toxicant utilized and source
 - (2) Date and time of most recent chronic reference toxicant test(s), raw data and current control chart(s). The most recent chronic reference toxicant test shall be conducted within 30 days of the routine.
 - (3) Dilution water utilized in reference toxicant test
 - (4) Results of reference toxicant test(s) (NOEC, IC25, PASS/FAIL, etc.), report concentration response relationship and evaluate test sensitivity
 - (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: NOECs, IC25s, PASS/FAIL, etc. (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) (NOEC, IC25, PASS/FAIL, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD) calculated for sub-lethal endpoints determined by hypothesis testing.
- h. Conclusions and Recommendations
- (1) Relationship between test endpoints and permit limits
 - (2) Actions to be taken

D. 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. 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.
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.

E. BEST MANAGEMENT PRACTICES (BMPS) FOR SPENT PULPING LIQUOR, SOAP, AND TURPENTINE MANAGEMENT, SPILL PREVENTION, AND CONTROL**1. Applicability**

This section applies to direct and indirect discharging pulp, paper, and paperboard mills with pulp production in Subparts B (Bleached Papergrade Kraft and Soda) and E (Papergrade Sulfite) of the Pulp and Paper Guidelines (40 CFR Part 430).

2. Specialized Definitions

- a. Action Level: A daily pollutant loading that when exceeded triggers investigative or corrective action. The mill shall determine action levels by a statistical analysis of six months of daily measurements collected at the mill. For example, the lower action level may be the 75th percentile of the running seven-day averages (that value exceeded by 25 percent of the running seven-day averages) and the upper action level may be the 90th percentile of the running seven-day averages (that value exceeded by 10 percent of the running seven-day averages).
- b. Equipment Items in Spent Pulping, Liquor, Soap, and Turpentine Service: Any process vessel, storage tank, pumping system, evaporator, heat exchanger, recovery furnace or boiler, pipeline, valve, fitting, or other device that contains, processes, transports, or comes into contact with spent pulping liquor, soap, or turpentine. Sometimes referred to as "equipment items".
- c. Immediate Process Area: The location at the mill where pulping, screening, knotting, pulp washing, pulping liquor concentration, pulping liquor processing, and chemical recovery facilities are located, generally the battery limits of the aforementioned processes. "Immediate process area" includes spent pulping liquor storage and spill control tanks located at the mill, whether or not they are located in the immediate process area.
- d. Intentional Diversion: The planned removal of spent pulping liquor, soap, or turpentine from equipment items in spent pulping liquor, soap, or turpentine service by the mill for any purpose including, but not limited to, maintenance, grade changes, or process shutdowns.
- e. Mill: The owner or operator of a direct or indirect discharging pulp, paper, or paperboard manufacturing facility subject to this section.

- f. Senior Technical Manager: The person designated by the mill manager to review the BMP Plan. The senior technical manager shall be the chief engineer at the mill, the manager of pulping and chemical recovery operations, or other such responsible person designated by the mill manager who has knowledge of and responsibility for pulping and chemical recovery operations.
- g. Soap: The product of reaction between the alkali in Kraft pulping liquor and fatty acid portions of the wood, which precipitate out when water is evaporated from the spent pulping liquor.
- h. Spent Pulping Liquor: For Kraft and soda mills “spent pulping liquor” means black liquor that is used, generated, stored, or processed at any point in the pulping and chemical recovery processes. For sulfite mills “spent pulping liquor” means any intermediate, final, or used chemical solution that is used, generated, stored, or processed at any point in the sulfite pulping and chemical recovery processes (e.g., ammonium-, calcium-, magnesium-, or sodium- based sulfite liquors).
- i. Turpentine: A mixture of terpenes, principally pinene, obtained by the steam distillation of pine gum recovered from the condensation of digester relief gases from the cooking of softwoods by the Kraft pulping process. Sometimes referred to as sulfite turpentine.

3. Requirement to Implement Best Management Practices

- a. The mill must implement the Best Management Practices (BMPs) specified in paragraphs (1) through (10) of this section. The primary objective of the BMPs is to prevent leaks and spills of spent pulping liquors, soap, and turpentine. The secondary objective is to contain, collect, and recover at the immediate process area, or otherwise control, those leaks, spills, and intentional diversions of spent pulping liquor, soap, and turpentine that do occur. BMPs must be developed according to best engineering practices and must be implemented in a manner that takes into account the specific circumstances at the mill.
- b. The BMPs are as follows:
 - (1) The mill must return spilled or diverted spent pulping liquors, soap, and turpentine to the process to the maximum extent practicable as determined by the mill, recover such materials outside the process, or discharge spilled or diverted material at a rate that does not disrupt the receiving wastewater treatment system.
 - (2) This program must include: The mill must establish a program to identify and repair leaking equipment items.
 - (i) Regular visual inspections (e.g., once per day) of process areas with equipment items in spent pulping liquor, soap, and turpentine service;
 - (ii) Immediate repairs of leaking equipment items, when possible. Leaking equipment items that cannot be repaired during normal operations must be identified, temporary means for mitigating the leaks must be provided, and the leaking equipment items repaired during the next maintenance outage;
 - (iii) Identification of conditions under which production will be curtailed or halted to repair leaking equipment items or to prevent pulping liquor, soap, and turpentine leaks and spills; and
 - (iv) A means for tracking repairs over time to identify those equipment items where upgrade or replacement may be warranted based on frequency and severity of leaks, spills, or failures.
 - (3) The mill must operate continuous, automatic monitoring systems that the mill determines are necessary to detect and control leaks, spills, and intentional diversions of spent pulping liquor, soap, and turpentine. These monitoring systems should be integrated with the mill process control system and may include, e.g., high level monitors and alarms on storage tanks; process area conductivity (or pH) monitors and alarms; and process area sewer, process wastewater, and wastewater treatment plant conductivity (or pH) monitors and alarms.
 - (4) The mill must establish a program of initial and refresher training of operators, maintenance personnel, and other technical and supervisory personnel who have the responsibility for operating, maintaining, or supervising the operation and maintenance of equipment items in spent pulping liquor, soap, and turpentine service. The refresher training must be conducted at least annually and the training program must be documented.
 - (5) The mill must prepare a brief report that evaluates each spill of spent pulping liquor, soap, or turpentine that is not contained at the immediate process areas and any intentional diversion of spent pulping liquor, soap, and turpentine that is not contained at the immediate process area. The report must describe the equipment items involved, the circumstances leading to the incident, the effectiveness of the corrective actions taken to contain and recover the spill or intentional diversion, and plans to develop changes to equipment and operating and maintenance practices as necessary to prevent recurrence. Discussion of the reports must be included as part of the annual refresher training.

- (6) The mill must establish a program to review any planned modifications to the pulping and chemical recovery facilities and any construction activities in the pulping and chemical recovery areas before these activities commence. The purpose of such review is to prevent leaks and spills of spent pulping liquor, soap, and turpentine during the planned modifications, and to ensure that construction and supervisory personnel are aware of possible liquor diversions and of the requirement to prevent leaks and spills of spent pulping liquors, soap, and turpentine during construction.
- (7) The mill must install and maintain secondary containment (i.e., containment constructed of materials impervious to pulping liquors) for spent pulping liquor bulk storage tanks equivalent to the volume of the largest tank plus sufficient freeboard for precipitation. An annual tank integrity testing program, if coupled with other containment or diversion structures, may be substituted for secondary containment for spent pulping liquor bulk storage tanks.
- (8) The mill must install and maintain secondary containment for turpentine bulk storage tanks.
- (9) The mill must install and maintain curbing, diking or other means of isolating soap and turpentine processing and loading areas from the wastewater treatment facilities.
- (10) The mill must conduct wastewater monitoring to detect leaks and spills, to track the effectiveness of the BMPs, and to detect trends in spent pulping liquor losses. Such monitoring must be performed in accordance with paragraph 9. of the following sections.

4. Requirement to Develop a BMP Plan

- a. The mill must prepare and implement a BMP Plan. The BMP Plan must be based on a detailed engineering review as described in paragraphs 4.b. and c. of this section. The BMP Plan must specify the procedures and the practices required for the mill to meet the requirements of paragraph 3. of the previous section, the construction the mill determines is necessary to meet those requirements including a schedule for such construction, and the monitoring program (including the statistically derived action levels) that will be used to meet the requirements of paragraph 9. of the following sections. The BMP Plan also must specify the period of time that the mill determines the action levels established under paragraph 8. of the following sections may be exceeded without triggering the responses specified in paragraph 9. of the following sections.
- b. The mill must conduct a detailed engineering review of the pulping and chemical recovery operations – including but not limited to process equipment, storage tanks, pipeline and pumping systems, loading and unloading facilities, and other appurtenant pulping and chemical recovery equipment items in spent pulping liquor, soap, and turpentine service – for the purpose of determining the magnitude and routing of potential leaks, spills, and intentional diversions of spent pulping liquors, soap, and turpentine during the following periods of operation:
 - (1) Process start-ups and shut downs;
 - (2) Maintenance;
 - (3) Production grade changes;
 - (4) Storm or other weather events;
 - (5) Power failures;
 - (6) Normal operations.
- c. As part of the engineering review, the mill must determine whether existing spent pulping liquor containment facilities are of adequate capacity for collection and storage of anticipated intentional liquor diversions with sufficient contingency for collection and containment of spills. The engineering review must also consider:
 - (1) The need for continuous, automatic monitoring systems to detect and control leaks and spills of spent pulping liquor, soap, and turpentine;
 - (2) The need for process wastewater diversion facilities to protect end-of-pipe wastewater treatment facilities from adverse effects of spills and diversions of spent pulping liquors, soap, and turpentine;
 - (3) The potential for contamination of storm water from the immediate process areas; and
 - (4) The extent to which segregation and/or collection and treatment of contaminated storm water from the immediate process areas is appropriate.

5. Amendment of BMP Plan

- a. The mill must amend its BMP Plan whenever there is a change in mill design, construction, operation, or maintenance that materially affects the potential for leaks or spills of spent pulping liquor, turpentine, or soap from the immediate process areas.
- b. The mill must complete a review and evaluation of the BMP Plan five years after the first BMP Plan is prepared and, except as provided in paragraph 5.a. of this section, once every five years thereafter. As a result of this review and evaluation, the mill must amend the BMP Plan within three months of the review if the mill determines that any new or modified management practices and engineered controls are necessary to reduce significantly the likelihood of spent pulping liquor, soap, and turpentine leaks, spills, or intentional diversions from the immediate process areas, including a schedule for implementation of such practices and controls.

6. Review and Certification of BMP Plan

The BMP Plan, and any amendments thereto, must be reviewed by the senior technical manager at the mill and approved and signed by the mill manager. Any person signing the BMP Plan or its amendments must certify to the Department under penalty of law that the BMP Plan (or its amendments) has been prepared in accordance with good engineering practices and in accordance with this permit and 40 CFR Part 430. The mill is not required to obtain approval from the Department of the BMP Plan or any amendments thereto.

7. Record Keeping Requirements

- a. The mill must maintain on its premises a complete copy of the current BMP Plan and the records specified in paragraph b. of this section and must make such BMP Plan and records available to the Department for review upon request.
- b. The mill must maintain the following records for three years from the date they are created:
 - (1) Records tracking the repairs performed in accordance with the repair program described in paragraph 3.b.(2) of the previous sections;
 - (2) Records of initial and refresher training conducted in accordance with paragraph 3.b.(4) of the previous sections;
 - (3) Reports prepared in accordance with paragraph 3.b.(5) of the previous sections; and
 - (4) Records of monitoring required by paragraph 3.b.(10) of the previous sections and paragraph 9. of the following sections.

8. Establishment of Wastewater Treatment System Influent Action Levels

- a. The mill must conduct a monitoring program, described in paragraph b. of this section, for the purpose of defining wastewater treatment system influent characteristics (or action levels), described in paragraph c. of this section, that will trigger requirements to initiate investigations on BMP effectiveness and to take corrective action.
- b. The mill must employ the following procedures in order to develop the action levels required by paragraph 8. of this section:
 - (1) Monitoring parameters: The mill must collect 24-hour composite samples and analyze the samples for a measure of organic content (e.g., Chemical Oxygen Demand (COD) or Total Organic Carbon (TOC)). Alternatively, the mill may use a measure related to spent pulping liquor losses measured continuously and averaged over 24 hours (e.g., specific conductivity or color).
 - (2) Monitoring locations: For direct discharges, monitoring must be conducted at the point influent enters the wastewater treatment system. For indirect dischargers monitoring must be conducted at the point of discharge to the POTW. For the purposes of this requirement, the mill may select alternate monitoring point(s) in order to isolate possible sources of spent pulping liquor, soap, or turpentine from other possible sources of organic wastewaters that are tributary to the wastewater treatment facilities (e.g., bleach plants, paper machines and secondary fiber operations).
- c. By the date described in paragraph 10.a.(3) of the following sections, each existing discharger must complete an initial six-month monitoring program using the procedures specified in paragraph 8.b. of this section and must establish initial action levels based on the results of this program. A wastewater treatment influent action level is a statistically determined pollutant loading determined by a statistical analysis of six months of daily measurements. The action levels must consist of a lower action level, which if exceeded will trigger the investigation requirements described in paragraph 9. of the

following section, and an upper action level, which if exceeded will trigger the corrective action requirements described in paragraph 9. of the following section.

- d. By the date prescribed in paragraph 10.a.(4) of the following sections, each existing discharger must complete a second six-month monitoring program using the procedures specified in paragraph 8.b. of this section and must establish revised action levels based on the results of that program. The initial action levels shall remain in effect until replaced by revised action levels.
- e. By the date prescribed in paragraph 10.b. of the following sections, each new source must complete a six-month monitoring program using the procedures specified in paragraph 8.b. of this section and must develop a lower action level and an upper action level based on the results of that program.
- f. Action levels developed under this paragraph must be revised using six months of monitoring data after any change in mill design, construction, operation, or maintenance that materially affects the potential for leaks or spills of spent pulping liquor, soap, or turpentine from the immediate process areas.

9. Monitoring, Corrective Action, and Reporting Requirements

- a. The mill must conduct daily monitoring of the influent to the wastewater treatment system in accordance with the procedures described in paragraph 8.b. of the previous section for the purpose of detecting leaks and spills, tracking the effectiveness of the BMPs, and detecting trends in spent pulping liquor losses.
- b. Whenever monitoring results exceed the lower action level for the period of time specified in the BMP Plan, the mill must conduct an investigation to determine the cause of such exceedance. Whenever monitoring results exceed the upper action level for the period of time specified in the BMP Plan, the mill must complete corrective action to bring the wastewater treatment system influent mass loading below the lower action level as soon as practicable.
- c. Although exceedances of the action levels will not constitute violations of the permit, failure to take the actions required by paragraph 9.b. of this section as soon as practicable will be a permit violation.
- d. The mill must report to the Department the results of the daily monitoring conducted pursuant to paragraph 9.a. of this section. Such reports must include a summary of the monitoring results, the number and dates of exceedances of the applicable action levels, and brief descriptions of any corrective actions taken to respond to such exceedances. **Submission of the BMP exceedances shall be quarterly by the 28th day of April, July, and October. A summary of the daily monitoring results shall be submitted annually by the 28th day of January.**

10. Compliance Deadlines

- a. Existing direct and indirect dischargers: Except as provided in paragraph 10.b. of this section for new sources, indirect discharging mills must meet the compliance deadlines set forth below. Except as provided in paragraph 10.b. of this section for new sources, direct discharging mills must meet the deadlines set forth below. If a deadline set forth below has passed at the time the permit is issued, the mill must achieve compliance with the BMP requirement(s) upon the permit effective date.
 - (1) **Prepare BMP Plans and certify to the Department** that the BMP Plan has been prepared in accordance with the permit and 40 CFR Part 430 not later than April 15, 1999;
 - (2) **Implement all BMPs** specified in paragraph 3. of the previous sections **that do not require the construction of containment or diversion structures or the installation of monitoring and alarm systems** not later than April 15, 1999.
 - (3) Establish initial action levels required by paragraph 8.c. of the previous sections not later than April 15, 1999.
 - (4) Commence operation of any new or upgraded continuous, automatic monitoring systems that the mill determines to be necessary under paragraph 3.(3) of the previous sections (other than those associated with construction of containment structures) not later than April 17, 2000.
 - (5) Complete construction and commence operation of any spent pulping liquor, collection, containment, diversion, or other facilities, including any associated continuous monitoring systems, necessary to fully implement BMPs specified in paragraph 3. of the previous sections not later than April 16, 2001.
 - (6) Establish revised action levels required by paragraph 3. of the previous sections, by not later than January 15, 2002.

- b. **New Sources:** Upon commencing discharge, new sources subject to this section must **implement all of the BMPs** specified in paragraph 3. of the previous sections, **prepare the BMP Plan** required by paragraph 4. of the previous sections, and **certify to the Department** that the BMP Plan has been prepared in accordance with this permit and 40 CFR part 430 as required by paragraph 6. of the previous sections, except that the **action levels** required by paragraph 8.e. of the previous sections **must be established not later than 12 months after commencement of discharge**, based on six months of monitoring data obtained prior to that date in accordance with the procedures specified in paragraph 8.b. of the previous sections.

F. RECEIVING STREAM WATER QUALITY MONITORING REQUIREMENTS

During the months of June through October inclusive, the permittee shall meet the following requirements:

The permittee shall monitor the Alabama River daily by sampling River Pump discharge for Dissolved Oxygen (D.O.) as measured at the five-foot depth at approximately Corp of Engineer's River Mile 221.4.

If the D. O. measured at Alabama River Mile 221.4 is less than 5.8 mg/l or the total 24-hour flow at Jones Bluff Lock and Dam is less than 6,000 cfs for two out of three consecutive days, monitoring of the Alabama River shall be performed on a once per week basis. Determination of river flows may be based on the discharge schedule at Jones Bluff Lock & Dam. Monitoring shall consist of analysis for D.O. and temperature, as measured at the five-foot depth and shall be conducted at midstream at Alabama River Miles 221.4, 219, 216, 212, 208, 204, 200 and 196. If the D.O. measured at Alabama River Mile 221.4 is less than 5.4 mg/l, monitoring at the above stations as specified shall be performed on a daily basis until D.O. levels at Alabama River Mile 221.4 are found to be greater than 5.4 mg/l.

When D.O. concentrations at the five-foot depth, as determined by the permittee, ADEM, EPA or its successor, are less than 5.0 mg/l in the interval between Alabama River Miles 196 and 221.4, the permittee shall take the steps necessary to maintain the D.O. at levels equal to or greater than 5.0 mg/l. Such steps may include the reduction of effluent discharged or the curtailment of production. If the D. O. at the five-foot depth, in the above specified interval, is less than 5.0 mg/l as a result of water above Alabama River Mile 221.4 being below this quality, or conditions otherwise not attributable to the permittee, the permittee shall not be required to take steps beyond ceasing discharging while such conditions exist.

When the 24-hour flow at the Jones Bluff Lock and Dam is less than 6,000 cfs, the permittee's total facility discharge for DSN002 and DSN003 for any 24-hour period shall be governed by the following:

Maximum BOD5 Discharged (lbs/day) = $3.69 * Q * (D.O. - 5.0)$, where

Q = total 24-hour flow in cfs corresponding to period of waste flow, as measured at Jones Bluff Lock and Dam.

D.O. = Dissolved Oxygen in mg/l measured at Alabama River Mile 221.4.

Monitoring data shall be submitted electronically to an email address provided to the facility by the Department on a monthly basis by the 28th day of the following month.

G. REQUIRED TEST METHODS AND MINIMUM LEVELS FOR INTERNAL BLEACH PLANT MONITORING AND REPORTING

Parameter	Test Method	Minimum Level⁵
TCDD ³	1613	10 pg/l
TCDF ⁴	1613	10 pg/l
Chloroform	601 ¹	0.5 ug/l ²
Trichlorosyringol	1653	2.5 ug/l
3,4,5 – Trichlorocatechol	1653	5.0 ug/l
3,4,6 – Trichlorocatechol	1653	5.0 ug/l
3,4,5 – Trichloroguaiacol	1653	2.5 ug/l
3,4,6 – Trichloroguaiacol	1653	2.5 ug/l
4,5,6 – Trichloroguaiacol	1653	2.5 ug/l
2,4,5 – Trichlorophenol	1653	2.5 ug/l
2,4,6 – Trichlorophenol	1653	2.5 ug/l
Tetrachlorocatechol	1653	5.0 ug/l
Tetrachloroguaiacol	1653	5.0 ug/l
2,3,4,6-Tetrachlorophenol	1653	2.5 ug/l
Pentachlorophenol	1653	5.0 ug/l
AOX	1650	20 ug/l

¹ Or other method as approved in 40 CFR 136

² An ML for chloroform was not promulgated in the Cluster Rules. The value in this permit is considered a matrix specific ML, typical of levels achieved in paper mill effluents as demonstrated through NCASI studies.

³ TCDD means 2,3,7,8-tetrachlorodibenzo-p-dioxin

⁴ TCDF means 2,3,7,8-tetrachlorodibenzo-p-furan

⁵ Minimum level means the level at which the analytical system gives recognizable signals and an acceptable calibration point.

EDWARD F. POOLOS
DIRECTOR

JEFFERY W. KITCHENS
DEPUTY DIRECTOR



KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
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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: April 30, 2025

Prepared By: Ed Hughes

NPDES Permit No. AL0003018

1. Name and Address of Applicant:

International Paper-Riverdale
601 County Road 78
Selma, AL 36703

2. Name and Address of Facility:

International Paper - Riverdale
601 County Rd 78
Selma, AL 36703

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

The facility is a Kraft pulp and paper mill which produces white top linerboard and bleached printing paper. The mill's operating areas include a woodyard, pulping, bleach plants, causticizing and lime recovery, recovery boilers, a power boiler, bark boilers, a tall oil reactor, wastewater treatment, and reciprocating internal combustion engines.

4. Applicant's Receiving Waters

<u>Receiving Waters</u>	<u>Classification</u>
Alabama River	Fish and Wildlife (F&W)
Unnamed Tributary to Alabama River	Fish and Wildlife (F&W)

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

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

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



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: April 30, 2025

PREPARED BY: Ed Hughes

REVISED DATE: August 20, 2025

REVISED DATE: October 8, 2025

REVISED DATE: November 3, 2025

RESIVED BY: Victoria Kim

Permittee Name: International Paper – Riverdale

Facility Name: International Paper – Riverdale

Permit Number: AL0003018

PERMIT IS REISSUANCE DUE TO EXPIRATION

DISCHARGE SERIAL NUMBERS (DSN) & DESCRIPTIONS:

DSN002/DSN003: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities

DSN004 & DSN006: Stormwater from process areas

DSN005: Storm water from process areas and fire tank overflow

DSN03A: Plant #1 (Hardwood) Bleach Plant

DSN03B: Plant #2 (Softwood) Bleach Plant

INDUSTRIAL CATEGORY: 40 CFR Part 430 – The Pulp, Paper, and Paperboard Point Source Category
430.22(a), 403.23, 430.24(a) & (d) Subpart B – Bleached Papergrade Kraft and Soda Subcategory
430.102(a), 430.104 Subpart J – Secondary Fiber Non-Deink Subcategory

MAJOR: Y

STREAM INFORMATION:

Receiving Stream: Alabama River / Unnamed Tributary to Alabama River

Classification: Fish & Wildlife / Fish & Wildlife

River Basin: Alabama Basin

7Q10: 3815 cfs / 0 cfs

7Q2: 6031 cfs / 0 cfs

1Q10: 2861 cfs / 0 cfs

Annual Average Flow: 27,310 cfs / 0 cfs

303(d) List: No / No

Impairment: N/A

TMDL: No /No

DISCUSSION:

This facility produces printing and communication paper from bleached kraft and white top and brown linerboard for packaging materials using bleached pulp and OCC recycle pulp.

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.

DSN0021/DSN0031: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities

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	23583 Monthly Average	45976 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months	EGL
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Daily	Grab	All Months	EGL
Solids, Total Suspended (00530) Effluent Gross Value	48499 Monthly Average	91377 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
Pentachlorophenol (39032) Effluent Gross Value	*****	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Totalizer	All Months	BPJ
# of Events (51484) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	# Exceedances	Monthly	Not Applicable	Jun, Jul, Aug, Sep, Oct	WQBEL
Certification - River Monitoring (51946) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0; No=1	Monthly	Not Applicable	Jun, Jul, Aug, Sep, Oct	WQBEL
Trichlorophenol (81848) Effluent Gross Value	*****	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months	BPJ

DSN0022/DSN0032: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities

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	18888 Monthly Average	37487 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months	EGL
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Daily	Grab	All Months	EGL
Solids, Total Suspended (00530) Effluent Gross Value	34531 Monthly Average	67270 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
Pentachlorophenol (39032) Effluent Gross Value	*****	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Totalizer	All Months	BPJ
# of Events (51484) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	# Exceedances	Monthly	Not Applicable	Jun, Jul, Aug, Sep, Oct	WQBEL
Certification - River Monitoring (51946) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0; No=1	Monthly	Not Applicable	Jun, Jul, Aug, Sep, Oct	WQBEL
Trichlorophenol (81848) Effluent Gross Value	*****	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months	BPJ

DSN002Q/DSN003Q: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities – Certification of periodic submittals

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Certification-BMP Submittal (85873) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0; No=1	Quarterly	Not Applicable	All Months	EGL

DSN002T/DSN003T: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Toxicity, Ceriodaphnia Chronic (61426) Effluent Gross Value	****	0 Maximum Daily	pass=0; fail=1	****	****	****	****	Annually	Composite	All Months	WQBEL
Toxicity, Pimephales Chronic (61428) Effluent Gross Value	****	0 Maximum Daily	pass=0; fail=1	****	****	****	****	Annually	Composite	All Months	WQBEL

DSN002Y1/DSN003Y1: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Halogens, Adsorbable Organic (03594) Effluent Gross Value	1552 Monthly Average	2369 Maximum Daily	lbs/day	****	****	****	****	Annually	Composite	All Months	EGL
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (34675) Effluent Gross Value	****	0.00000397 Maximum Daily	lbs/day	****	****	(Report) Maximum Daily	ppq	Annually	Composite	All Months	WQBEL

DSN002Y2/DSN003Y2: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Halogens, Adsorbable Organic (03594) Effluent Gross Value	613 Monthly Average	935 Maximum Daily	lbs/day	****	****	****	****	Annually	Composite	All Months	EGL
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (34675) Effluent Gross Value	****	0.00000397 Maximum Daily	lbs/day	****	****	(Report) Maximum Daily	ppq	Annually	Composite	All Months	WQBEL

DSN004Q & DSN006Q: Storm water from process areas

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	Quarterly	Grab	All Months	BPJ
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Quarterly	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Estimate	All Months	BPJ

DSN005Q: Storm water from process areas and fire tank overflow

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	Quarterly	Grab	All Months	BPJ
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Quarterly	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Estimate	All Months	BPJ

DSN03A1: Plant #1 (Hardwood) Bleach Plant

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Monthly	Calculated	All Months	BPJ

DSN03AS: Plant #1 (Hardwood) Bleach Plant

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Chloroform (32106) Effluent Gross Value	5.285 Monthly Average	8.833 Maximum Daily	lbs/day	*****	*****	*****	*****	Semi-Annually	Grab	All Months	EGL
2,4,6-Trichlorophenol (34621) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (34675) Effluent Gross Value	*****	*****	*****	*****	*****	9.9999 Maximum Daily	pg/l	Semi-Annually	Composite	All Months	EGL
2,3,7,8 Tetrachlorodibenzofuran (TCDF) (38691) Effluent Gross Value	*****	*****	*****	*****	*****	31.9 Maximum Daily	pg/l	Semi-Annually	Composite	All Months	EGL
Pentachlorophenol (39032) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
3,4,6-Trichloroguaiacol (51022) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
3,4,6-Trichlorocatechol (51024) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
3,4,5-Trichloroguaiacol (61024) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
3,4,5 Trichlorocatechol (73037) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
Tetrachloroguaiacol (73047) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
Tetrachlorocatechol (73050) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
Trichlorosyringol (73054) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
4,5,6-Trichloroguaiacol (73088) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
2,4,5-Trichlorophenol (1) (77687) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
2,3,4,6-Tetrachlorophenol (77770) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL

DSN03B1: Plant #2 (Softwood) Bleach Plant (Tier I)
Plant #2 Bleach Plant (Tier II)

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Monthly	Calculated	All Months	BPJ

DSN03BS: Plant #2 (Softwood) Bleach Plant (Tier I)
Plant #2 Bleach Plant (Tier II)

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Chloroform (32106) Effluent Gross Value	5.029 Monthly Average	8.406 Maximum Daily	lbs/day	*****	*****	*****	*****	Semi-Annually	Grab	All Months	EGL
Chloroform (32106) O - See Comments Below	4.074 Monthly Average	6.809 Maximum Daily	lbs/day	*****	*****	*****	*****	Semi-Annually	Grab	All Months	EGL
2,4,6-Trichlorophenol (34621) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (34675) Effluent Gross Value	*****	*****	*****	*****	*****	9.9999 Maximum Daily	pg/l	Semi-Annually	Composite	All Months	EGL
2,3,7,8 Tetrachlorodibenzofuran (TCDF) (38691) Effluent Gross Value	*****	*****	*****	*****	*****	31.9 Maximum Daily	pg/l	Semi-Annually	Composite	All Months	EGL
Pentachlorophenol (39032) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
3,4,6-Trichloroguaiacol (51022) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
3,4,6-Trichlorocatechol (51024) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
3,4,5-Trichloroguaiacol (61024) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
3,4,5 Trichlorocatechol (73037) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
Tetrachloroguaiacol (73047) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
Tetrachlorocatechol (73050) Effluent Gross Value	*****	*****	*****	*****	*****	4.9999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
Trichlorosyringol (73054) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
4,5,6-Trichloroguaiacol (73088) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL
2,4,5-Trichlorophenol (1) (77687) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
2,3,4,6-Tetrachlorophenol (77770) Effluent Gross Value	*****	*****	*****	*****	*****	2.4999 Maximum Daily	ug/l	Semi-Annually	Composite	All Months	EGL

*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

The current permit established limits based on two phases of production. The first tier was based on federal guidelines at 40 CFR Part 430, Subpart B and Subpart I (Secondary Fiber Deink Subcategory). The second tier accounted for a proposed modification of the mill to convert paper machine PM15 to produce white top and brown linerboard. Upon completion of the conversion, the facility became subject to Subpart J (Secondary Fiber Non-Deink Subcategory). The plant conversion was completed during the term of the existing permit and requirements related to the second phase of that permit became effective. The same guidelines Subpart B (Bleached Kraft) and Subpart J (Secondary Fiber Non-Deink Subcategory) will be used to determine guideline based limitations in this issuance.

DSN002/DSN003: Process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities

(Note: sampling for all parameters discussed below for outfalls DSN002 and DSN003 is to be performed at outfall DSN003 only, except on days when the entire discharge is routed through DSN002, when sampling shall be performed at DSN002.)

Federal Effluent Guideline Limitations (EGL)

Parameters based on EGL have had effluent guidelines established under the 40 CFR Part 430 – The Pulp, Paper, and Paperboard Point Source Category. The applicable subparts are Subpart B and Subpart J. Calculations of effluent guideline-based limits are attached.

pH

Limitations of 6.0 to 9.0 S.U. for pH are consistent with applicable effluent guideline requirements.

Biochemical Oxygen Demand 5-day (BOD₅), Total Suspended Solids (TSS)

Adding the allocations calculated for Subpart B and J shows the calculated limits are more stringent than the existing permit requirements and will be used in this issuance. The monitoring frequency for both BOD₅ and TSS is proposed to continue at three times per week.

Pentachlorophenol*, Trichlorophenol*

These parameters are regulated under Subpart B and Subpart J. 40 CFR Part 430.24(d) and 430.104 state that the effluent limitations shall apply unless the discharger certifies non-use of the compounds as biocides. Historically, calculated limitations based on effluent guidelines have been established for Pentachlorophenol and Trichlorophenol in the permit for the main process wastewater outfall. This permit issuance proposes zero discharge limitations for these parameters on the basis of historical non-use certifications submitted by the facility and the expected phase out of pentachlorophenol from the wood industry within the next few years. The requirement for the facility to submit a certification of non-use of chlorophenolic-containing biocides shall remain.

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

Adsorbable Organic Halogens (AOX)

These limits are based on estimated bleach plant production. The calculated limits are more stringent than existing limitations and are proposed to be required in this issuance.

The permittee has requested that the monitoring frequency be reduced from semi-annually to annual testing. Based on *EPA's Interim Guidance for Performance – Based Reductions of NPDES Monitoring Frequencies*, because the coefficient of variation is 21.11% and the results are not near the permit limit (long term average is 21.4% of permit limit), the monitoring frequency is being reduced to annual testing. This reduction in monitoring frequency is consistent with ADEM permitting procedures.

Landfill Leachate

The facility discharges landfill leachate through its process discharge outfalls (DSN002/DSN003). Discharge of landfill leachate is regulated by 40 CFR Part 445; however, 40 CFR Part 445.1(e) specifies that these regulations “do not apply to the 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 & 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 Outfalls DSN002/DSN003. The effluent guidelines that the facility are subject to provide for a daily minimum pH of 6.0 S.U. and a daily maximum 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 DSN002/DSN003 in this permit issuance based on water quality criteria, effluent guidelines, and BPJ. Monitoring for pH is proposed to continue at a daily frequency.

Biochemical Oxygen Demand (5 day)

BOD5 is regulated by 40 CFR Part 430; however, to ensure protection of water quality during periods of low stream flow, BOD will continue to be regulated by an equation which, based on historic data, has been proven to be effective in ensuring that the facility’s discharge does not cause a violation of the stream dissolved oxygen standard.

$$\text{BOD5 (lbs/day)} = 3.69 * (\text{D.O.} - 5.0)$$

Where, Q = total 24-hour flow in the Alabama River in cfs, and
D.O. =Instream Dissolved Oxygen in mg/L

BOD5 shall be regulated by this equation during periods when the 24-hour flow in the Alabama River at the Jones Bluff Lock and Dam is less than 6000 cfs. To ensure compliance during these periods, the permittee will be required to report the number of non-compliance events with this limitation on the discharge monitoring report under the “# of events” parameter.

TCDD

TCDD (2,3,7,8 – Tetrachlorodibenzo-P-Dioxin) is limited internally at DSN003A and DSN003B by the federal effluent guidelines at 40 CFR 430.24. Compliance with water quality based limits which are calculated using the Human Health Criteria for fish consumption of 2.7×10^{-11} ug/L will be continued at DSN002/DSN003. Calculation of this limit is shown below:

$$\text{TCDD (lbs/day)} = (2.7 \times 10^{-11} \text{ mg/L})(8.34)(17650.9 \text{ MGD}^*) = 0.00000397 \text{ lbs/day}$$

*The flow used is the annual average river flow.

Monitoring will be continued on an annual basis.

Biomonitoring Requirements

In order to evaluate whole effluent toxicity, chronic toxicity monitoring is proposed to continue in this permit issuance. Chronic 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 less than 100:1. A CORMIX model (see attached) was previously completed by the Department’s Water Quality section in 2018. Based on this model, the instream waste concentration (IWC) is 3.78% for a 30 MGD effluent flow rate. In order to be consistent with toxicity monitoring protocols, the IWC is rounded to 4.0%. Annual chronic toxicity testing is proposed to continue in this permit issuance at an IWC of 4.0%.

Numeric Reasonable Potential Analysis (RPA)

A numeric RPA (see attached) was performed for DSN002/DSN003 using analytical data submitted from EPA Form 2C in the facility's application to determine if the effluent discharge to the receiving stream would cause a potential to violate water quality criteria at the point of discharge. A long-term average flow of 36.3 MGD was used based on the last two years of DMR data submitted by the facility. No parameters included in the analysis showed a reasonable potential to violate water quality standards; therefore, no additional limitations are proposed in this permit issuance.

Best Professional Judgment (BPJ)

The parameters of concern for this facility are based on the parameters of concern listed in EPA form 2C 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.

Flow

Flow monitoring shall be totalized daily readings for both DSN002 and DSN003.

Nutrients

Consistent with requirements for all major classified facilities, monitoring for Ammonia (as N), Total Kjeldahl Nitrogen, Nitrates + Nitrates and Total Phosphorus will be required. Monitoring is to be performed monthly during the growing season (April – October) except for Ammonia (as N) which is proposed to be monitored year-round at a once per month frequency. The year-round monitoring for Ammonia is consistent with similar discharges from other permitted facilities.

DSN003A – Hardwood Bleach Plant Requirements

DSN003B – Softwood Bleach Plant Requirements

As specified in 40 CFR Part 430.24(a)(1), monitoring requirements are imposed on each fiber line not using an exclusively TCF bleaching process. The requirements for both lines were determined by the individual production provided in the permittee's application. A summary of the effluent guideline calculations are attached.

Flow

Flow will continue to be reported monthly for each line.

TCDD, Chlorinated Phenolics

The daily maximum limitations will be expressed as less than the minimum level of detection specified at 40 CFR Part 430.01(i). Monthly average limitations are not being imposed. Monitoring will continue to be required on a semi-annual basis.

TCDF

The daily maximum limit imposed by the guidelines is 31.9 picograms per liter (pg/L). No monthly average limit is imposed.

AOX

Limitations for AOX will be applied at DSN002/DSN003 as discussed above.

Chloroform

Limitations are production based. Calculated limits are more stringent than existing limits and will be imposed in this permit issuance.

DSN004, DSN006 – Stormwater from process areas
DSN005 – Stormwater from process areas and fire tank overflow

Flow

Flow from stormwater outfalls will continue to be reported based on estimates.

BOD₅, TSS

Based on the operations occurring onsite and historical submitted data, monitoring for BOD₅ and TSS is proposed to continue in this permit issuance. The data collected from the monitoring of these pollutants will be useful in determining the effectiveness of the facility's BMP plan.

pH

Monitoring without limitations for pH is proposed for all stormwater outfalls in this permit issuance.

Oil & Grease

Oil & Grease monitoring is proposed for all stormwater outfalls in this permit issuance. The daily maximum limitation of 15 mg/l should prevent the occurrence of a visible sheen in the stream and has been shown to be achievable through the use of proper BMPs. This limitation is consistent with monitoring requirements for storm water outfalls at other similarly permitted facilities in the state.

Best Management Practices (BMP) Plan

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.

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 therefore classified as miscellaneous facilities. For these miscellaneous facilities, a BTA determination must be made using BPJ.

The cooling water intake structure (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 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) due to the through-screen design intake flow velocity being near 0.5 ft/s, the use of fish detraction technology (i.e. rotating screen) and the design intake flow is less than 5% of the mean annual flow.

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.

303(d) List of Impaired Waters/Total Maximum Daily Load (TMDL)

The receiving streams are not listed on the most recent 303(d) List of Impaired Waters nor has a TMDL been developed.

Stream Monitoring

Stream Monitoring Requirements

The facility is required to conduct river monitoring surveys on a periodic basis for the months of June through October during periods when the dissolved oxygen at river mile 221.4 is less than 5.8 mg/L or the total 24-hour flow at James Bluff Lock and Dam is less than 6000 cfs for two out of three consecutive days. Currently the permittee is required to perform this testing twice weekly when the above criteria is met. The permittee has requested that this testing be reduced to one time per week based on over 600 data points showing the low coefficient of variability of testing results and 100% compliance with the water quality standard of 5.0 mg/L minimum instream DO. Based on the information provided and review from the Department's Water Quality section, this permit issuance proposes once per week testing.

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, that such data was submitted no later than 28 days following the last day of the reporting period as required by Part IV.F. of the permit.

August 20, 2025 Revision

The facility submitted comments on the draft permit on June 19, 2025 (see attached). The response and/or revision to each request is addressed below.

Nitrogen, Ammonia Total (As N)

The permit has been revised to require year-round monitoring for Ammonia. This approach is consistent with permitting requirements imposed on other pulp and paper mills and similar facilities in Alabama with comparable discharges. Seasonal temperatures may significantly impact microbial activity that breaks down Ammonia. Year-round data collection provides additional information on effluent variability and receiving stream impacts outside of the traditional growing season. The Department has determined that year-round monitoring for Ammonia is appropriate in this permit issuance.

Pentachlorophenol and Trichlorophenol

EPA issued a Final Registration Review Decision (FD) for pentachlorophenol on December 22, 2021. The FD requires a nationwide phase-out of pentachlorophenol over five years, with use prohibited after February 28, 2027. Though it was noted that (1) utility poles and cross arms treated with pentachlorophenol may continue to be transported, sold, and installed after the phase-out, (2) existing pentachlorophenol-treated wood in service does not need to be replaced,

and (3) trace amounts may persist in treatment systems and tanks during the transition to alternative chemistries, the FD also states that consultation with utility companies supported the fact that a 5-year phase-out period would be adequate for the transition.

The Department's protocol to address the phase out of pentachlorophenol is to impose zero discharge limitations for Pentachlorophenol and Trichlorophenol in paper mill permits where facilities have historically certified non-use of chlorophenolic-containing biocides and have indicated below detection results for Pentachlorophenol and Trichlorophenol on EPA Form 2C in the application. For facilities that do not use chlorophenolic-containing biocides, certification of non-use remains the applicable mechanism for demonstrating compliance, and therefore, the permit will continue to require certification of non-use, consistent with the requirements of 40 CFR Part 430.24(d) and 430.104. The final permit will retain a zero discharge limitation for Pentachlorophenol and Trichlorophenol. If the facility decides to use a chlorophenolic-containing substance, the facility shall notify the Department prior to any discharge occurring.

of Events

The requirement for reporting the number of BOD₅ exceedance events contained a typographical error in the draft permit. The draft incorrectly referenced all months of the year. The permit has been revised to clarify that the requirement applies only during the months of June, July, August, September, and October, consistent with Part IV.F and the corresponding river monitoring requirements.

Oil & Grease

The requirement for Oil & Grease monitoring from stormwater outfalls has been retained. Although the facility reported non-detect results in the renewal application, ongoing monitoring is necessary to verify continued control of potential oil and grease contributions from stormwater runoff associated with industrial activity. The maximum daily limit of 15 mg/L is based on best professional judgment (BPJ) considering effluent guideline references, EPA multi-sector stormwater general permit benchmarks, and the Department's permitting precedent. The monitoring requirement and limit will remain as written. As stated in the above rationale, the daily maximum limitation of 15 mg/l should prevent the occurrence of a visible sheen in the stream and has been shown to be achievable through the use of proper BMPs. This limitation is consistent with monitoring requirements for storm water outfalls at other permitted industrial facilities.

Chloroform Limits

The Department agrees that the chloroform limits for DSN03A and DSN03B were inadvertently transposed in the draft permit. The permit has been corrected to align with the rationale and renewal application data as follows:

DSN03A: 5.285 lbs/day (monthly average), 8.833 lbs/day (maximum daily)

DSN03B: 5.029 lbs/day (monthly average), 8.406 lbs/day (maximum daily)

Receiving Stream Water Quality Monitoring Requirements

The facility proposed to allow determination of river flows based on the discharge schedule at Jones Bluff Lock & Dam. The Department has accepted this proposal. The condition has been inserted in the third paragraph in Part IV.F. of the permit.

Best Management Practices (BMP) Plan

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

October 8, 2025 Revision

The facility submitted a revised application on September 30, 2025, to incorporate process modifications scheduled to occur in early 2026. This revision establishes permit conditions applicable to the modification of No. 16 Paper Machine (PM16) and associated fiber line changes.

Tier II Operation

Tier II begins upon completion of the PM16 modification project and commencement of production under the revised configuration. To clearly delineate requirements for Tier I and Tier II operation, footnotes have been added throughout Part I.A of the permit to identify the applicability of limitations and monitoring requirements under each tier. The permittee is required to notify the Department in writing within thirty (30) days of initiating Tier II operation.

Outfall DSN03A Removal

Outfall DSN03A, which under Tier I operations discharges effluent from Bleach Plant No. 1 (BP01) upstream of the alkaline sewer, will no longer be necessary since BP01 is scheduled to be permanently shut down as part of the planned process modifications. Accordingly, Outfall DSN03A DMRs should report “No Discharge” for Tier II operation.

DSN003B Description Update

Effluent from Bleach Plant No. 2 (BP02) is discharged through Internal Outfall DSN03B upstream of the alkaline sewer. Under Tier I operation, BP02 processes only softwood fiber and is described in the permit as “Plant #2 (Softwood) Bleach Plant.” With the transition to Tier II, BP02 will process both hardwood and softwood fiber. The Department has therefore revised the description of Outfall DSN03B by removing the designation “(Softwood)” to reflect this operational change.

Technology-Based Effluent Limitations (TBELs)

The Department reviewed the updated Form 2C application and recalculated technology-based effluent limitations under the applicable ELGs at 40 CFR Part 430. Following the project, the facility will continue to be subject to Subpart B (Bleached Papergrade Kraft and Soda) and Subpart J (Secondary Fiber Non-Deink), and will also operate under Subpart C (Unbleached Kraft). The parameters of concern (BODs, TSS, AOX, chloroform, pentachlorophenol, and trichlorophenol) remain unchanged; however, the recalculated TBELs for BODs, TSS, AOX, and chloroform are more stringent than those in the existing permit. These revised limitations will therefore take effect under Tier II. Pentachlorophenol and trichlorophenol will continue to be controlled through certification of non-use, consistent with 40 CFR 430.24(d), 430.34 and 430.104, and Department policy related to the phase-out of chlorophenolic-containing biocides.

The revised TBELs applicable to Tier II operation are included in Part I.A of the permit.

November 3, 2025 Revision

The facility submitted comments on the draft permit on November 3, 2025. The response and/or revision to each request is addressed below.

Mill Manager

The Mill Manager name has been updated and will be reflected in subsequent permit actions.

DSN0022, DSN0032 – Page 6 of 46

The monitoring period for Nitrogen, Ammonia Total was listed as year-round for Tier I outfalls; however, Tier II outfalls were only required April-October. This has been updated to reflect the year-round monitoring consistency between Tier I and Tier II operations.

Footnote 6 reference “Tier I” twice. Both references have been corrected to “Tier II”.

DSN03BS Outfall Description – Page 17 of 46

The outfall description has been corrected to reflect the appropriate footnotes.

Rationale – DSN03BS

The Tier II chloroform limits row contains the notation “O-See Comments Below.” This reference is not tied to a permit condition but is included intentionally to prevent parameter duplication issues within the AEPACS reporting system. The notation is for database distinction only and does not affect the applicable chloroform limitations. There will be a note at the bottom of the DMR form which signifies the reporting requirement for this parameter.

Rationale – October 8, 2025 Revision

IP requested clarification of the “Outfall DSN03A Removal” section. This language has been updated as requested in the above section.

In addition, IP requested that reference to 40 CFR 430.34 regarding certification of non-use of pentachlorophenol and trichlorophenol be included in the TBEL section. The language has been updated as requested.

DSN002/DSN003: Final Limitations*

Current Permit Limitations

DSN0022/DSN0032

Pollutant	Daily Maximum (lbs/day)	Monthly Average (lbs/day)	Basis
BOD ₅	46,010	23,600	Current Permit Limitation
TSS	91,450	48,538	Current Permit Limitation
AOX	2884	1889	Current Permit Limitation
Chloroform (Hardwood)	10.667	6.383	Current Permit Limitation
Chloroform (Softwood)	10.317	6.172	Current Permit Limitation
Pentachlorophenol*	6.28	-	Current Permit Limitation
Trichlorophenol*	30.52	-	Current Permit Limitation

*Listed limitations are the most stringent of existing permit limitations, renewal calculations, and water quality based limitations

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

Renewal Application Calculations - Tier I¹

DSN002/DSN003 - Tier I

Pollutant	Daily Maximum (lbs/day)	Monthly Average (lbs/day)	Basis
BOD ₅	45,976	23,583	2025 Renewal Calculations
TSS	91,377	48,499	2025 Renewal Calculations
AOX	2369	1552	2025 Renewal Calculations
Chloroform (Hardwood)	8.833	5.285	2025 Renewal Calculations
Chloroform (Softwood)	8.406	5.029	2025 Renewal Calculations
Pentachlorophenol**	6.28	-	Existing Permit
Trichlorophenol**	30.52	-	Existing Permit

*Listed limitations are the most stringent of existing permit limitations, renewal calculations, and water quality based limitations

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

Renewal Application Calculations - Tier II²

DSN002/DSN003 - Tier II

Pollutant	Daily Maximum (lbs/day)	Monthly Average (lbs/day)	Basis
BOD ₅	37,487	18,888	2025 Renewal Calculations
TSS	67,270	34,531	2025 Renewal Calculations
AOX	935	613	2025 Renewal Calculations
Chloroform (Hardwood or Softwood)	6.809	4.074	2025 Renewal Calculations
Pentachlorophenol**	2.53	-	2025 Renewal Calculations
Trichlorophenol**	10.82	-	2025 Renewal Calculations

*Listed limitations are the most stringent of existing permit limitations, renewal calculations, and water quality based limitations

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

Final Permit Limitations

DSN002/DSN003 - Tier I¹

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AOX	2369	1552	2025 Renewal Calculations
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DSN002/DSN003 - Tier II²

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Trichlorophenol**	10.82	-	2025 Renewal Calculations

*Listed limitations are the most stringent of existing permit limitations, renewal calculations, and water quality based limitations

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

¹Tier I is the facility's current operating mode. Tier I will continue until the modification of No. 16 Paper Machine is complete and production occurs.

²Tier II will commence upon completion of No. 16 Paper Machine modification and lasting through the expiration date of this permit.

2025 Renewal Calculations (Tier I)

40 CFR Part 430 - The Pulp, Paper, and Paperboard Point Source Category

Subpart B - Bleached Papergrade Kraft and Soda Subcategory

40 CFR 430.22 - Best Practicable Technology (BPT) / Best Conventional Technology (BCT)

Bleached kraft facilities where pulp and fine papers are produced

PM15 Production 538 machine dried tons/day

PM16 Production 1,165 machine dried tons/day

Off-the-machine production = 3,406,000 lbs/day

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	10.6	5.5	36104	18733
TSS	22.15	11.9	75443	40531
pH	(1)	(1)	(1)	(1)

(1) - Within the range of 5.0 to 9.0 at all times

40 CFR 430.24 Best Available Technology (BAT)

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)
Pentachlorophenol	0.0014	-	4.77	-
Trichlorophenol	0.0088	-	29.97	-

Subpart J - Secondary Fiber Non-Deink Subcategory

40 CFR 430.102 - Best Practicable Technology (BPT*) = Best Conventional Technology (BCT)

*BPT = BAT Effluent Limitations

Secondary fiber non-deink facilities where paperboard from wastepaper is produced - corrugating medium finish subdivision

Secondary Fiber Nondeink 866 air-dried tons/day

Off-the-machine production = 1,732,000 lbs/day

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	5.7	2.8	9872	4850
TSS	9.2	4.6	15934	7967
pH	(1)	(1)	(1)	(1)

(1) - Within the range of 6.0 to 9.0 at all times

40 CFR 430.104 Best Available Technology (BAT)

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)
Pentachlorophenol	0.00087	-	1.51	-
Trichlorophenol	0.00030	-	0.52	-

Total Allocations (Subpart B & Subpart J)

Pollutant	Daily Maximum	
	Daily Maximum (lbs/day)	Monthly Average (lbs/day)
BOD ₅	45976	23583
TSS	91377	48499
Pentachlorophenol	6.28	-
Trichlorophenol	30.5	-
pH	Within the range of 6.0 to 9.0 at all times	

* See permit rationale for further discussion

40 CFR 430.24 Best Available Technology (BAT)

430.24(a)(1) Requirements for Each Fiber Line not Using an Exclusively TCF Bleaching Process

Hardwood Bleachery (adjusted for moisture and shrinkage)

579 air-dried metric tons/day

Softwood Bleachery (adjusted for moisture and shrinkage)

551 air-dried metric tons/day

Total Production*

2,491,198 lbs/day

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)
AOX	0.951	0.623	2369	1552
COD	(e)	(e)	(e)	(e)

(e) [Reserved]

*The production numbers are based on the monthly average of the highest production year of the last 2 years as reported in the application

A - Hardwood Bleachery Internal Limitations

Hardwood Pulp Production

1,276,463 lbs/day

578,995 kg/day

Pollutant	Cluster Guideline Factor		Cluster Limitations ^e	
	Daily Maximum (g/1000 kg product)	Monthly Average (g/1000 kg product)	Daily Maximum	Monthly Average
TCDD	<ML ^a	(^b)	<10 pg/L	n/a
TCDF	N/A	(^b)	31.9 pg/L	n/a
Chloroform	6.92 ^d	4.14 ^d	8.833	5.285
Trichlorosyringol	<ML ^a	(^b)	<2.5 ug/L	n/a
3,4,5-trichlorocatecol	<ML ^a	(^b)	<5.0 ug/L	n/a
3,4,6-trichlorocatecol	<ML ^a	(^b)	<5.0 ug/L	n/a
3,4,5-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
3,4,6-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
4,5,6-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
2,4,5-trichlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
2,4,6-trichlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
Tetrachlorocatecol	<ML ^a	(^b)	<5.0 ug/L	n/a
Tetrachloroguaiacol	<ML ^a	(^b)	<5.0 ug/L	n/a
2,3,4,6-tetrachlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
Pentachlorophenol	<ML ^a	(^b)	<5.0 ug/L	n/a

B - Softwood Bleachery Internal Limitations

Softwood Pulp Production

1,214,735 lbs/day

550,995 kg/day

Pollutant	Cluster Guideline Factor		Cluster Limitations ^e	
	Daily Maximum	Monthly Average	Daily Maximum	Monthly Average
TCDD	<ML ^a	(^b)	<10 pg/L ^c	n/a
TCDF	N/A	(^b)	31.9 pg/L ^c	n/a
Chloroform	6.92 ^d	4.14 ^d	8.406	5.029
Trichlorosyringol	<ML ^a	(^b)	<2.5 ug/L	n/a
3,4,5-trichlorocatecol	<ML ^a	(^b)	<5.0 ug/L	n/a
3,4,6-trichlorocatecol	<ML ^a	(^b)	<5.0 ug/L	n/a
3,4,5-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
3,4,6-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
4,5,6-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
2,4,5-trichlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
2,4,6-trichlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
Tetrachlorocatecol	<ML ^a	(^b)	<5.0 ug/L	n/a
Tetrachloroguaiacol	<ML ^a	(^b)	<5.0 ug/L	n/a
2,3,4,6-tetrachlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
Pentachlorophenol	<ML ^a	(^b)	<5.0 ug/L	n/a

^a - <ML means less than the minimum level specified in § 430.01(i) for the particular pollutant

^b - This regulation does not specify this type of limitation for this pollutant

^c - Picograms per liter

^d - Grams per 1,000 kilograms (g/kg)

^e - Cluster limitations for Chloroform are in lbs/day

2025 Renewal Calculations (Tier II)

40 CFR Part 430 - The Pulp, Paper, and Paperboard Point Source Category

Subpart B - Bleached Papergrade Kraft and Soda Subcategory

40 CFR 430.22(a) - Best Practicable Technology (BPT) / Best Conventional Technology (BCT)

Bleached kraft facilities where paperboard, coarse paper, and tissue paper are produced

Bleached Paper Production 498 machine dried tons/day
Off-the-machine production = 996,000 lbs/day

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	13.65	7.1	13595	7072
TSS	24.0	12.9	23904	12848
pH	(1)	(1)	(1)	(1)

(1) - Within the range of 5.0 to 9.0 at all times

40 CFR 430.24(d) Best Available Technology (BAT)

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)
Pentachlorophenol	0.0016	-	1.59	-
Trichlorophenol	0.010	-	9.96	-

Subpart C - Unbleached Kraft Subcategory

40 CFR 430.32 - Best Practicable Technology (BPT) / Best Conventional Technology (BCT)

BPT effluent limitations for unbleached kraft facilities

Unbleached Kraft Production 811 ADT/day
Off-the-machine production = 1,622,000 lbs/day

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	5.6	2.8	9083	4542
TSS	12.0	6.0	19464	9732
pH	(1)	(1)	(1)	(1)

(1) - Within the range of 6.0 to 9.0 at all times

40 CFR 430.34 Best Available Technology (BAT)

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)
Pentachlorophenol	0.00058	-	0.94	-
Trichlorophenol	0.00053	-	0.86	-

Subpart J - Secondary Fiber Non-Deink Subcategory

40 CFR 430.102 - Best Practicable Technology (BPT*) = Best Conventional Technology (BCT)

*BPT = BAT Effluent Limitations

Secondary fiber non-deink facilities where paperboard from wastepaper is produced - corrugating medium finish subdivision

Secondary Fiber Nondeink 1,299 air-dried tons/day
Off-the-machine production = 2,598,000 lbs/day

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	5.7	2.8	14809	7274
TSS	9.2	4.6	23902	11951
pH	(1)	(1)	(1)	(1)

(1) - Within the range of 6.0 to 9.0 at all times

Total Allocations (Subpart B, Subpart C & Subpart J)		
Pollutant	Daily Maximum	
	Daily Maximum (lbs/day)	Monthly Average (lbs/day)
BOD ₅	37487	18888
TSS	67270	34531
Pentachlorophenol	2.53	-
Trichlorophenol	10.82	-
pH	Within the range of 6.0 to 9.0 at all times	
*See permit rationale for further discussion		

40 CFR 430.24 Best Available Technology (BAT)**430.24(a)(1) Requirements for Each Fiber Line not Using an Exclusively TCF Bleaching Process****Hardwood or Softwood Bleachery**
(adjusted for moisture and shrinkage)

492 air-dried metric tons/day

Total Production*

984,000 lbs/day

<i>Pollutant</i>	Continuous Discharges		Cluster Limitations	
	<i>Daily Maximum (lbs/1000 lbs product)</i>	<i>Monthly Average (lbs/1000 lbs product)</i>	<i>Daily Maximum (lbs/day)</i>	<i>Monthly Average (lbs/day)</i>
AOX	0.951	0.623	935	613
COD	(e)	(e)	(e)	(e)

(e) [Reserved]

*The production numbers are based on the monthly average of the highest production year of the last 2 years as reported in the application

<i>Pollutant</i>	Cluster Guideline Factor		Cluster Limitations^e	
	<i>Daily Maximum (g/1000 kg product)</i>	<i>Monthly Average (g/1000 kg product)</i>	<i>Daily Maximum</i>	<i>Monthly Average</i>
TCDD	<ML ^a	(^b)	<10 pg/L	n/a
TCDF	N/A	(^b)	31.9 pg/L	n/a
Chloroform	6.92 ^d	4.14 ^d	6.809	4.074
Trichlorosyringol	<ML ^a	(^b)	<2.5 ug/L	n/a
3,4,5-trichlorocatechol	<ML ^a	(^b)	<5.0 ug/L	n/a
3,4,6-trichlorocatechol	<ML ^a	(^b)	<5.0 ug/L	n/a
3,4,5-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
3,4,6-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
4,5,6-trichloroguaiacol	<ML ^a	(^b)	<2.5 ug/L	n/a
2,4,5-trichlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
2,4,6-trichlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
Tetrachlorocatechol	<ML ^a	(^b)	<5.0 ug/L	n/a
Tetrachloroguaiacol	<ML ^a	(^b)	<5.0 ug/L	n/a
2,3,4,6-tetrachlorophenol	<ML ^a	(^b)	<2.5 ug/L	n/a
Pentachlorophenol	<ML ^a	(^b)	<5.0 ug/L	n/a

^a - "<ML means less than the minimum level specified in § 430.01(i) for the particular pollutant^b - This regulation does not specify this type of limitation for this pollutant^c - Picograms per liter^d - Grams per 1,000 kilograms (g/kg)^e - Cluster limitations for Chloroform are in lbs/day

$Q_d * C_d + Q_{d2} * C_{d2} + Q_s * C_s = Q_r * C_r$								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)
ID	Pollutant	Carcinogen Yes*	Type	Background from upstream source (C _{d2}) Daily Max	Background from upstream source (C _{d2}) Monthly Ave	Background Instream (C _d) Daily Max	Background Instream (C _d) Monthly Ave	ugl	ugl	
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	2.7	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	-
7	Copper**		Metals	0	0	0	0	2.3	0	0.388
8	Lead**		Metals	0	0	0	0	1.1	0	0.206
9	Mercury**		Metals	0	0	0	0	0.0075	4.5	0.302
10	Nickel**		Metals	0	0	0	0	0	0	0.506
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	46	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	Bromoforn*	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	YES	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-Dichloroethene*	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	Benidine		Bases	0	0	0	0	0	0	-
71	Benzo(A)Anthracene*	YES	Bases	0	0	0	0	3.2	0	-
72	Benzo(A)Pyrene*	YES	Bases	0	0	0	0	1	0	-
73	3,4-Benzo-Fluoranthene		Bases	0	0	0	0	1	0	-
74	Benzo(GH)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	1.5	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	Butyl Benzyl Phthalate		Bases	0	0	0	0	1.2	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	2.3	0	-
85	Di-N-Butyl Phthalate		Bases	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Bases	0	0	0	0	1	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	Isothorone		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	-

36.3	Enter Q _d = wastewater discharge flow from facility (MGD)
56.1644127	Q _d = wastewater discharge flow (cfs) (this value is calculated from the MGD)
0	Enter flow from upstream discharge Q _{d2} = background stream flow in MGD above point of discharge
0	Q _{d2} = background stream flow from upstream source (cfs)
3,815	Enter 7Q10, Q _s = background stream flow in cfs above point of discharge
2,861	Enter or estimated, 1Q10, Q _s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
27,310	Enter Mean Annual Flow, Q _s = background stream flow in cfs above point of discharge
6,031	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 + Q _{d2} + Q _s	Q _s = resultant in-stream flow, after discharge
Calculated on other	C _s = 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

October 28, 2025

Freshwater F&W classification				Freshwater Acute (µg/l) Q ₁₀ = TQ10				Freshwater Chronic (µg/l) Q ₁₀ = TQ10				Human Health Consumption Fish only (µg/l)			
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (C ₀) Daily Max	Max Daily Discharge as reported by Applicant (C _{max})	Water Quality Criteria (C ₁)	Draft Permit Limit (C _{max})	20% of Draft Permit Limit	RP?	Background from upstream source (C ₀) Monthly Ave	Avg Daily Discharge as reported by Applicant (C _{avg})	Water Quality Criteria (C ₁)	Draft Permit Limit (C _{max})	20% of Draft Permit Limit	RP?
1	Antimony			0	0					0	0				
2	Arsenic		YES	0	0	592.334	30765.894	6153.139	No	0	0	261.324	18011.910	3602.382	No
3	Beryllium			0	0					0	0				
4	Cadmium			0	0	4.347	225.789	45.158	No	0	0	0.644	44.361	8.872	No
5	Chromium/Chromium III			0	2.7	1537.913	79678.781	15975.756	No	0	0	200.061	13788.621	2757.724	No
6	Chromium/Chromium VI			0	0	18.000	831.036	166.207	No	0	0	11.000	758.181	151.636	No
7	Copper			0	2.3	16.028	936.285	187.257	No	0	0	12.789	879.874	175.975	No
8	Lead			0	1.1	146.291	7596.307	1519.661	No	0	0	6.701	382.927	76.595	No
9	Mercury			0	0.0075	2.400	124.655	24.931	No	0	0	0.012	0.827	0.165	No
10	Nickel			0	4.5	515.824	26781.778	5358.356	No	0	0	57.292	3948.895	789.779	No
11	Selenium			0	0	20.000	1038.795	207.759	No	0	0	6.000	344.628	68.926	No
12	Silver			0	0	0.976	50.716	10.143	No	0	0				
13	Thallium			0	0					0	0				
14	Zinc			0	46	197.369	10251.283	2050.257	No	0	0	198.563	13715.037	2743.007	No
15	Cyanide			0	0	22.000	1142.674	228.535	No	0	0	5.200	358.413	71.683	No
16	Total Phenolic Compounds			0	0					0	0				
17	Hardness (As CaCO ₃)			0	0					0	0				
18	Acrolein			0	0					0	0				
19	Acrylonitrile	YES		0	0					0	0				
20	Aldrin	YES		0	0	3.000	155.819	31.164	No	0	0				
21	Benzene	YES		0	0					0	0				
22	Bromoform	YES		0	0					0	0				
23	Carbon Tetrachloride	YES		0	0					0	0				
24	Chlordane	YES		0	0	2.400	124.655	24.931	No	0	0	0.0043	0.296	0.059	No
25	Chlorobenzene			0	0					0	0				
26	Chlorodibromo-Methane	YES		0	0					0	0				
27	Chloroethane			0	0					0	0				
28	2-Chloro-Ethylvinyl Ether			0	0					0	0				
29	Chloroform	YES		0	0					0	0				
30	4,4' - DDO	YES		0	0					0	0				
31	4,4' - DDE	YES		0	0					0	0				
32	4,4' - DDT	YES		0	0	1.100	57.134	11.427	No	0	0	0.001	0.069	0.014	No
33	Dichlorodibromo-Methane	YES		0	0					0	0				
34	1,1-Dichloroethane			0	0					0	0				
35	1,2-Dichloroethane	YES		0	0					0	0				
36	Trans-1, 2-Dichloro-Ethylene			0	0					0	0				
37	1,1-Dichloroethylene	YES		0	0					0	0				
38	1,2-Dichloropropane			0	0					0	0				
39	1,3-Dichloro-Propylene			0	0					0	0				
40	Dieldrin	YES		0	0	0.240	12.466	2.493	No	0	0	0.058	3.860	0.772	No
41	Ethylbenzene			0	0					0	0				
42	Methyl Bromide			0	0					0	0				
43	Methyl Chloride			0	0					0	0				
44	Methylene Chloride	YES		0	0					0	0				
45	1, 1, 2, 2-Tetrachloro-Ethane	YES		0	0					0	0				
46	Tetrachloro-Ethylene	YES		0	0					0	0				
47	Toluene			0	0					0	0				
48	Toxaphene	YES		0	0	0.730	37.916	7.583	No	0	0	0.0002	0.014	0.003	No
49	Tributyltin (TBT)	YES		0	0	0.460	23.882	4.778	No	0	0	0.072	4.963	0.993	No
50	1, 1, 1-Trichloroethane			0	0					0	0				
51	1, 1, 2-Trichloroethane	YES		0	0					0	0				
52	Trichloroethylene	YES		0	0					0	0				
53	Vinyl Chloride	YES		0	0					0	0				
54	p-Chloro-m-Cresol			0	0					0	0				
55	2-Chlorophenol			0	0					0	0				
56	2,4-Dichlorophenol			0	0					0	0				
57	2,4-Dimethylphenol			0	0					0	0				
58	4,6-Dinitro-o-Cresol			0	0					0	0				
59	2,4-Dinitrophenol			0	0					0	0				
60	4,6-Dinitro-2-methylphenol	YES		0	0					0	0				
61	Dioxin (2,3,7,8-TCDD)	YES		0	0					0	0				
62	2-Nitrophenol			0	0					0	0				
63	4-Nitrophenol			0	0					0	0				
64	Pentachlorophenol	YES		0	0	8.723	453.087	90.617	No	0	0	6.663	461.290	92.258	No
65	Phenol			0	0					0	0				
66	2,4,6-Trichlorophenol	YES		0	0					0	0				
67	Acenaphthene			0	0					0	0				
68	Acenaphthylene			0	0					0	0				
69	Anthracene			0	0					0	0				
70	Benzidine			0	0					0	0				
71	Benzo(a)Anthracene	YES		0	3.2					0	0				
72	Benzo(a)Pyrene	YES		0	1					0	0				
73	Benzo(b)fluoranthene			0	1					0	0				
74	Benzo(g,h,i)perylene			0	0					0	0				
75	Benzo(k)fluoranthene			0	1.5					0	0				
76	Bis (2-Chloroethoxy) Methane			0	0					0	0				
77	Bis (2-Chloroethyl)-Ether	YES		0	0					0	0				
78	Bis (2-Chloroisopropyl) Ether			0	0					0	0				
79	Bis (2-Ethylhexyl) Phthalate	YES		0	0					0	0				
80	4-Bromophenyl Phenyl Ether			0	0					0	0				
81	Butyl Benzyl Phthalate			0	1.2					0	0				
82	2-Chloronaphthalene			0	0					0	0				
83	4-Chlorophenyl Phenyl Ether			0	0					0	0				
84	Chrysene	YES		0	2.3					0	0				
85	Di-N-Butyl Phthalate			0	0					0	0				
86	Di-N-Octyl Phthalate			0	1					0	0				
87	Dibenz(a,h)Anthracene	YES		0	0					0	0				
88	1,2-Dichlorobenzene			0	0					0	0				
89	1,3-Dichlorobenzene			0	0					0	0				
90	1,4-Dichlorobenzene			0	0					0	0				
91	3,5-Dichlorobenzidine	YES		0	0					0	0				
92	Diethyl Phthalate			0	0					0	0				
93	Dimethyl Phthalate			0	0					0	0				
94	2,4-Dinitrotoluene	YES		0	0					0	0				
95	2,6-Dinitrotoluene			0	0					0	0				
96	1,2-Diphenylhydrazine			0	0					0	0				
97	Endosulfan (alpha)	YES		0	0	0.22	11.427	2.285	No	0	0	0.056	3.860	0.772	No
98	Endosulfan (beta)	YES		0	0	0.22	11.427	2.285	No	0	0	0.056	3.860	0.772	No
99	Endosulfan sulfate	YES		0	0					0	0				
100	Endrin	YES		0	0	0.066	4.467	0.893	No	0	0	0.036	2.481	0.496	No
101	Endrin Aldehyde	YES		0	0					0	0				
102	Fluoranthene			0	0					0	0				
103	Fluorene			0	0					0	0				
104	Heptachlor	YES		0	0	0.52	27.009	5.402	No	0	0	0.0038	0.262	0.052	No
105	Heptachlor Epoxide	YES		0	0	0.52	27.009	5.402	No	0	0	0.0038	0.262	0.052	No
106	Hexachlorobenzene	YES		0	0					0	0				
107	Hexachlorobutadiene	YES		0	0					0	0				
108	Hexachlorocyclohexan (alpha)	YES		0	0					0	0				
109	Hexachlorocyclohexan (beta)	YES		0	0					0	0				
110	Hexachlorocyclohexan (gamma)	YES		0	0	0.96	49.343	9.869	No	0	0				
111	Hexachlorocyclopentadiene			0	0					0	0				
112	Hexachloroethane			0	0					0	0				
113	Indeno(1,2,3-CD)Pyrene	YES		0	0					0	0				
114	Isophorone			0	0					0	0				
115	Naphthalene			0	0					0	0				
116	Nitrobenzene			0	0					0	0				
117	N-Nitrosodimethylamine	YES		0	0					0	0				
118	N-Nitrosodimethylamine	YES		0	0					0	0				
119	N-Nitrosodiphenylamine	YES		0	0					0	0				
120	PCB-1016	YES		0	0					0	0	0.014			

Close Form

Mixing Zone Analysis Summary

Open FILE by
permit number

Comments included

☒ Yes ☐ No

General Information

Request
Number

3495

Page 1

Year File Was Started

Information
Verified By

KDP

Date of MZ Response 10/29/2018

Name of Receiving Stream Alabama River(Dannelly Lake)

Previous stream name:

Or-AKA (If applicable)

Facility Name

International Paper - Riverdale

Previous Name of Discharger

Or-AKA (If applicable)

Other Point Sources?

☐ Yes

☒ No

12 Digit HUC Code 031502011204

River Basin Alabama

County Dallas

Use Classification F&W

Discharge Latitude 32.416000

Discharge Longitude -86.852699

Site Visit Completed? ☐ Yes ☒ No

Date of Site Visit

Sources Included in the Model:

Permit Information

Type of Discharger

☒ Municipal

☐ Industrial

☐ Semipublic/Private

Permit Number AL0003018

Permit Status Active

Hydrology

Drainage Area 16984 sq mi

Stream 7Q10 3840 cfs

Stream 1Q10 2880 cfs

Stream 7Q2 6070 cfs

Annual Average 26170 cfs

Date of MZ Analysis 10/18/2018

Discharge Design Flow 30 MGD

Method Used to Calculate

USGS Estimate

75%of 7Q10

USGS Estimate

USGS Estimate

Model Completed by CH2M

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 cfs
ZID Length Meters
ZID IWC %

Chronic

Ambient Streamflow 3840 cfs
Mixing Zone Length 15.24 Meters
Mixing Zone IWC 3.78 %

Winter

Acute

Ambient Streamflow cfs
ZID Length Meters
ZID IWC %

Chronic

Ambient Streamflow cfs
Mixing Zone Length 15.24 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

The results above are for the existing effluent flow of 30 MGD.

Jackson, Scott A

Subject: RE: [External] :RE: IP Riverdale NPDES Addendum

From: Carla C Pearson <Carla.Pearson@ipaper.com>

Sent: Monday, November 3, 2025 12:43 PM

To: Jackson, Scott A <scott.jackson@adem.alabama.gov>; Kim, Victoria P <victoria.kim@adem.alabama.gov>

Cc: Cliff S Whitam <Cliff.Whitam@ipaper.com>; Manuel Sibaja <manuel.sibaja@ipaper.com>; Kelly M. Simmons <Kelly.Simmons@ipaper.com>; Lizzie Smith <lsmith@all4inc.com>

Subject: RE: [External] :RE: IP Riverdale NPDES Addendum

Good afternoon, Scott –

Please find attached our letter of minor comments.

Let us know if you have any questions.

Thanks much –
Carla

November 3, 2025

Mr. Scott Jackson, Chief, Industrial Section
Alabama Department of Environmental Management
Water Division
1400 Coliseum Boulevard
PO Box 301463
Montgomery, Alabama 36130-1463

**RE: Draft National Pollutant Discharge Elimination System (NPDES) Permit
International Paper – Riverdale Mill
NPDES Permit No. AL0003018**

Dear Mr. Jackson,

International Paper (IP) owns and operates a Kraft pulp and paper mill in Selma, AL along the Alabama River (Riverdale Mill or Mill). The Mill received the draft NPDES Permit No. AL0003018 on October 29, 2025, and appreciates the opportunity to provide comments to the Alabama Department of Environmental Management (ADEM). IP has reviewed the draft Permit and is providing the following comments.

Mill Manager

Micah Evans is the current Riverdale Mill Manager who signed the addendum application that was submitted on September 30, 2025. Please address the permit to Micah Evans, Mill Manager.

DSN0022, DSN0032 – Page 6 of 46

IP has the following minor comments on the Tier II outfalls:

- The Tier I outfalls require Nitrogen, Ammonia Total monitoring year-round, however the Tier II outfalls require Nitrogen, Ammonia Total only April – October. IP expects that this requirement would be consistent between Tier I and Tier II operations.
- Footnote 6 references Tier I twice in the first sentence; both references to Tier I should be replaced with Tier II.

DSN03BS Outfall Description – Page 17 of 46

IP requests to update the outfall description to the following (additional/edited text in red font) to reference the appropriate footnotes:

Plant #2 (Softwood) Bleach Plant 3/4/6
Plant #2 Bleach Plant (Tier II) 3/4/7

Rationale – DSN03BS (PDF page 59)

In the table of limits for DSN03BS, the row for Tier II chloroform limits contains a reference to “O – See Comments Below.” Please clarify what this is referencing; there does not appear to be a comment “O” following this table.

Rationale – October 8, 2025 Revision (PDF page 67)

IP requests the following update in the “Outfall DSN03A Removal” section to clarify that Bleach Plant No. 1 will still be in operation when the permit is issued and that discharge from Outfall DSN03A is still authorized under Tier I operation:

Outfall DSN03A, which under Tier I operations discharges effluent from ~~previously-discharged effluent from~~ Bleach Plant No. 1 (BP01) upstream of the alkaline sewer, will no longer be necessary since BP01 is scheduled to be permanently shut down as part of the planned process modifications. Accordingly, Outfall DSN03A DMRs should report “No Discharge” for Tier II operation.

Additionally, In the Technology-Based Effluent Limitations (TBELs) section, please include reference to 40 CFR §430.34 regarding certification of non-use of pentachlorophenol and trichlorophenol.

IP appreciates your consideration of these comments and clarifications. Should you have additional questions or want to further discuss these comments, please contact me at (334) 418-5236 or Carla.Pearson@ipaper.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Carla Pearson', with a long horizontal line extending to the right.

Carla Pearson
Environmental Specialist

cc: Kelly Simmons – International Paper
Lizzie Smith– ALL4 LLC

Kim, Victoria P

Subject: FW: Draft NPDES Permit Comments
Attachments: Signed IP Riverdale NPDES Draft Permit Comment Letter 06-19-2025v2.pdf

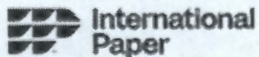
From: Carla C Pearson <Carla.Pearson@ipaper.com>
Sent: Thursday, June 19, 2025 3:27 PM
To: Jackson, Scott A <scott.jackson@adem.alabama.gov>
Cc: Kim, Victoria P <victoria.kim@adem.alabama.gov>; Hugh Gatwood <hugh.gatwood@ipaper.com>; Susie Bowden <sbowden@all4inc.com>
Subject: Draft NPDES Permit Comments

Good afternoon Scott -

Please find attached our comments pertaining to the draft NPDES permit. The hard copy letter will go out via FEDEX tomorrow.

Please let me know if you have questions or additional comments.

Thanks much -
Carla C. Pearson
Riverdale Mill
601 County Road 78
Selma, AL 36703
334-418-5236





RIVERDALE MILL
601 COUNTY ROAD 78
SELMA, AL 36703-8311
PHONE 334-872-3481

June 19, 2025

Mr. Scott Jackson, Chief, Industrial Section
Alabama Department of Environmental Management
Water Division
1400 Coliseum Boulevard
PO Box 301463
Montgomery, Alabama 36130-1463

**RE: Draft National Pollutant Discharge Elimination System (NPDES) Permit
International Paper – Riverdale Mill
NPDES Permit No. AL0003018**

Dear Mr. Jackson,

International Paper (IP) owns and operates a Kraft pulp and paper mill in Selma, AL along the Alabama River (Mill). The Mill received the draft NPDES Permit No. AL0003018 on May 20, 2025, and appreciates the opportunity to provide comments to the Alabama Department of Environmental Management (ADEM). IP has reviewed the draft Permit and is providing the following comments.

Nitrogen, Ammonia Total (As N)

On page 1 of 40, the seasonal requirement of monitoring was updated from April through October to all months of the year. IP noted the statement in the accompanying Fact Sheet that states “the year-round monitoring for Ammonia is consistent with similar discharges from other permitted facilities.” IP is requesting additional clarification on 1) whether this year-round monitoring requirement is being applied to all pulp and paper mills in Alabama, and 2) the purpose of the additional data points in the non-growing season.

Pentachlorophenol and Trichlorophenol

On pages 1 and 2 of 40, a permit limit of zero was provided for these chlorophenolic compounds. The Mill understands that no monitoring is required if certification of non-use of chlorophenolic compounds is continued. However, the Mill does propose to add the limits back into the Permit for technical completeness. If IP were to decide to use a chlorophenolic-containing substance, the Mill would need to be aware of what limit applies.

IP proposes the following limits:

- Pentachlorophenol – 1.51 lbs/day maximum daily
- Trichlorophenol – 0.52 lbs/day maximum daily

The proposed limits are based on effluent limitations listed in Part 430, Subpart J and the maximum daily production of the OCC Plant of 866 air-dried tons per day (ADT/day).

of Events

On page 2 of 40, the Mill is required to report the # of Events (i.e., number of times) the BOD5 exceeds the maximum level calculated in accordance with the equation detailed in Part IV.F of the draft Permit pursuant to Footnote 6. Part IV.F of the draft Permit details the Receiving Stream Water Quality Monitoring Requirements (i.e., river monitoring requirements during the months of June through October). However, the # of Events seasonal monitoring requirement states all months. IP feels this is a typographical error and should be listed as "Jun, Jul, Aug, Sep, Oct", which is consistent with Part IV.F as well as the Certification – River Monitoring requirement listed directly below the # of Events on page 2 of 40.

Oil & Grease

On page 6 of 40, the Mill has a new requirement to monitor Oil & Grease from the stormwater outfalls (DSN004Q, DSN005Q, and DSN006Q) as part of its quarterly stormwater sampling with a maximum daily limit of 15 milligrams per liter (mg/l). The Mill has not historically been required to monitor this parameter on a quarterly basis. Monitoring of this parameter is completed as part of the Permit renewal during each renewal cycle. As submitted in October 2023 renewal application, Oil & Grease for these stormwater outfalls was non-detect. The Mill would not be able to complete this test in-house; therefore, incurring additional expense on a quarterly basis to meet the requirement. IP proposes to remove this requirement from the renewed permit based on its non-detect data and additional added expense.

If ADEM feels the Oil & Grease requirement is warranted, please clarify the basis of 15 mg/l limit. Based on experience and information for other states, 15 mg/l is on the lower end of a limit.

Chloroform Limits

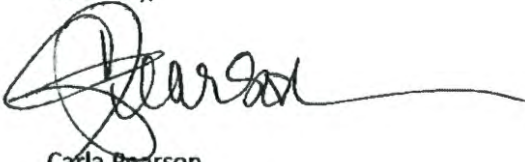
On pages 8 of 40 and 11 of 40, for outfalls DSN03A and DSN03B, respectively, the chloroform limits are not consistent with values provided in the October 2023 renewal application. After further review of the chloroform limits listed in the accompanying Fact Sheet, IP feels the limits have been inadvertently swapped for the outfalls. The values listed for DSN03A (5.029 pounds per day (lbs/day) – monthly average and 8.406 lbs/day – maximum daily) on page 8 of 40 should be the values listed on page 11 of 40 for DSN03B, which is consistent with the data presented in the renewal application as well as the Fact Sheet. Similarly, the values for DSN03B (5.285 lbs/day – monthly average and 8.833 lbs/day – maximum daily) on page 11 of 40 should be the values listed on page 8 of 40 for DSN03A, which is consistent with the Fact Sheet and renewal application.

Receiving Stream Water Quality Monitoring Requirements

On page 39 of 40, Part IV.F. details the receiving stream water quality monitoring requirements for the Mill. IP would like to add a footnote regarding the determination of Q in the Maximum BOD5 Discharged (lbs/day) equation. The Mill proposes to add the following: Determination of river flows may be based on the discharge schedule at Jones Bluff Lock & Dam.

IP appreciates your consideration of these comments and clarifications. Should you have additional questions or want to further discuss these comments, please contact me at (334) 418-5236 or Carla.Pearson@ipaper.com.

Sincerely,



Carla Pearson
Environmental Specialist

cc: Hugh Gatwood – International Paper
Susie Bowden – ALL4 LLC

Jackson, Scott A

Subject: RE: IP Riverdale NPDES Addendum

From: Lizzie Smith <lsmith@all4inc.com>

Sent: Tuesday, September 30, 2025 12:25 PM

To: Jackson, Scott A <scott.jackson@adem.alabama.gov>; Kim, Victoria P <victoria.kim@adem.alabama.gov>

Cc: Cliff S Whitam <cliff.whitam@ipaper.com>; Manuel Sibaja <manuel.sibaja@ipaper.com>; Carla C Pearson <carla.pearson@ipaper.com>

Subject: IP Riverdale NPDES Addendum

Scott and Victoria,

Thank you again for your time a couple of weeks ago to discuss the upcoming changes at the IP Riverdale Mill impacting the NPDES renewal. The addendum to the 2023 renewal application is attached, as discussed. We'd like to setup a call to discuss the addendum and path forward for getting the NPDES permit finalized including the Mill's prior comments; please let us know your availability for a call next week, but please reach out sooner with any questions. We look forward to working with you on this!

The Mill will also submit a hard copy of the addendum.

Thanks,
Lizzie



Lizzie Smith / Managing Consultant / Water Tech Team Lead
770.999.0269 / [Profile](#) / [LinkedIn](#)

www.all4inc.com / [Locations](#) / [Articles](#) / [Podcast](#) / [Training](#)

ALL4 // STRATEGY WITH SOLUTION. PARTNERSHIP WITH A PURPOSE.



RIVERDALE MILL
601 COUNTY ROAD 78
SELMA, AL 36703-8311
PHONE 334-872-3481

September 30, 2025

Alabama Department of Environmental Management
Post Office Box 301463
Montgomery, AL 36130-1463
ATTN: Scott Jackson, Water Division

**RE: International Paper – Riverdale Mill
National Pollutant Discharge Elimination System Permit No. AL0003018
Second Addendum to Renewal Application**

Dear Mr. Jackson:

International Paper (IP) owns and operates a Kraft pulp and paper mill (Mill) in Selma, AL along the Alabama River. The Mill currently operates pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. AL0003018 issued by Alabama Department of Environmental Management (ADEM), which expired on March 31, 2024. The renewal application was submitted 180 days prior to the expiration date on October 3, 2023, and the first addendum to the renewal application was submitted in November 2023 to provide sampling data that was not available at the time the renewal application was submitted.

The Mill is planning modifications to the No. 16 Paper Machine (PM16) that will alter the grades of paper produced on PM16 during the annual outage in 2026 (Project). The annual outage timing has not been decided, but it could be as early as March 2026. The Project includes modifications to the dryer section of PM16 in order to make different grades of unbleached brown linerboard, as well as piping changes in order to utilize Old Corrugated Container (OCC) recycle pulp on PM16. Once the PM16 modifications are complete, PM16 will no longer produce the uncoated freesheet product. The Project also includes modifications to the No. 1 Brownstock Washer System (BW01), which currently only processes hardwood fiber. After completion of the proposed project, BW01 will have the capability to process either hardwood or softwood fiber, depending on the needs of the paper machines. Upon final completion of the PM16 modifications, the No. 1 Bleaching System (BP01) will be shut down. As a result of the project, the No. 2 Bleaching System (BP02) will be required to produce the bleached softwood and hardwood pulp. There will be no overall increase in virgin pulp production or total chips processed as a result of the Project. The Mill does not expect an increase in discharge flow due to the Project, and there may be a decrease in discharge flow. The Mill submitted a business confidential Prevention of Significant Deterioration (PSD) air permit application for the Project in November 2021 and is submitting this addendum to the NPDES application to incorporate the Project into the Mill's NPDES permit, following its public announcement on August 21, 2025. Since the public announcement, IP has begun evaluating an accelerated timeframe, targeting completion as early as April 2026.

PROPOSED PERMIT REVISIONS

The following sections discuss the impact of the Project on the NPDES Permit.

REMOVAL OF OUTFALL

Outfall DSN03A is an internal outfall that discharges effluent from BP01 upstream of the alkaline sewer. The Mill is requesting the removal of the internal outfall, DSN03A, throughout the NPDES Permit since BP01 will be shut down.

UPDATE IN OUTFALL DESCRIPTION

BP02 currently only processes softwood fiber. Internal Outfall DSN03B discharges effluent from BP02 upstream of the alkaline sewer. The description of Outfall DSN03B in the Permit is currently "Plant #2 (Softwood) Bleach Plant". The Mill requests to remove "(Softwood)" from the outfall description since BP02 will process both hardwood and softwood following the Project.

POST-PROJECT PRODUCTION AND LIMITS UPDATES

The process wastewaters generated at the Mill are currently regulated under the Effluent Limitations Guidelines (ELGs) and Standards for the Pulp, Paper, and Paperboard Point Source Category at 40 CFR Part 430, Subpart B – Bleached Papergrade Kraft and Soda Subcategory (Subpart B) and Subpart J – Secondary Fiber Non-Deink Subcategory (Subpart J), but will now also have production under Subpart C – Unbleached Kraft Subcategory (Subpart C). Despite adding Subpart C, none of the ELGs pollutants changed as they were already regulated by Subparts B and J. The significant pollutants regulated by the pulp and paper effluent guidelines include 5-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), adsorbable organic halogens (AOX), chloroform, pentachlorophenol, and trichlorophenol (TCP). While the Mill does not anticipate an increase in pollutant discharge as a result of the project, the Mill's Technology-Based Effluent Limitations (TBELs) will decrease as a result of the production changes at the Mill. The projected TBELs that would take effect upon completion of the Project are provided in Table 1 below with detailed calculations provided in Attachment B. The production rates used for these calculations are also provided in Form 2C, Attachment A.

Table 1
Technology-Based Discharge Limitations

Parameter	Monthly Average (lbs/day)	Daily Maximum (lbs/day)
BOD ₅	18,894	37,500
TSS	34,543	67,292
AOX	613	935
Chloroform (Outfall DSN003B)	4.07	6.81
Pentachlorophenol	Not Applicable (N/A)	1.59
Trichlorophenol	N/A	1.00

Updates to the Form 2C submitted with the 2023 NPDES renewal application to reflect the Project are provided in Attachment A. Information on Form 2C that is not impacted by the Project remains the same as the 2023 NPDES renewal application. Information from the other forms provided with the 2023 NPDES

renewal application is not impacted by the Project. IP appreciates ADEM's cooperation to incorporate this business-critical Project into the Mill's NPDES permit as expeditiously as possible in order to support the accelerated Project schedule.

Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

If you have any questions or require additional information, please contact me by email at Micah.Evans@ipaper.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Micah Evans", with a stylized flourish at the end.

Micah Evans
Mill Manager

cc: Lizzie Smith – ALL4 LLC

Attachments: Attachment A – U.S. EPA Form 2C
Attachment B – TBEL Calculations

ATTACHMENT A – U.S. EPA FORM 2C

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	OMB No. 2040-0004 Expires 07/31/2026
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Form 2C NPDES		U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS
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SECTION 1. OUTFALL LOCATION (40 CFR 122.21(G)(1))

Outfall Location	<u>1.1</u>	Provide information on each of the facility's outfalls in the table below.			
		Outfall Number	Receiving Water Name	Latitude	Longitude
		DSN002	Alabama River	32° 24' 50" N	86° 50' 50" W
		DSN003	Alabama River	32° 24' 50" N	86° 50' 50" W

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

Line Drawing	<u>2.1</u>	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
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SECTION 3. AVERAGE FLOWS AND TREATMENT (40 CFR 122.21(G)(3))

Average Flows and Treatment	<u>3.1</u>	For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.		
		Outfall Number _____		
		Operations Contributing to Flow		
		Operation	Average Flow	
		See Attachment	mgd	
			mgd	
			mgd	
			mgd	
		Treatment Units		
		Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Exhibit 2C-2	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
		See Attachment		

EPA Identification Number ALD000645457		NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	OMB No. 2040-0004 Expires 07/31/2026
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Average Flows and Treatment Continued	3.1 cont.	**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 Exhibit 2C-2	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
		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 Exhibit 2C-2	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		

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	OMB No. 2040-0004 Expires 07/31/2026
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SECTION 4. INTERMITTENT FLOWS (40 CFR 122.21(G)(4))

Intermittent Flows	<u>4.1</u>	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.					
	<u>4.2</u>	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

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

Applicable ELGs	<u>5.1</u>	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.		
	<u>5.2</u>	Provide the following information on applicable ELGs.		
	ELG Category	ELG Subcategory	Regulatory Citation	
	40 CFR 430	Subpart B: Bleached Papergrade Kraft and Soda	40 CFR 430.20	
	40 CFR 430	Subpart C: Unbleached Kraft Subcategory	40 CFR 430.30	
	40 CFR 430	Subpart J: Secondary Fiber Non-Deink Subcategory	40 CFR 430.100	
Production-Based Limitations	<u>5.3</u>	Are any of the applicable ELGs expressed in terms of production (or other measure of operation)? ☒ Yes ☐ No → SKIP to Section 6.		
	<u>5.4</u>	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 Attachment		

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	OMB No. 2040-0004 Expires 07/31/2026
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	<u>5.5</u>	Are you requesting alternative limits based on an anticipated increase in the actual production during the next permit term? (Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)
		☐ Yes ☒ No

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

Upgrades and Improvements	<u>6.1</u>	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.		
	<u>6.2</u>	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

	<u>6.3</u>	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? <i>(optional item)</i>
		☐ 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		
	<u>7.1</u>	Are you requesting a waiver from your NPDES permitting authority for any Table A pollutants for any of your outfalls?	
		☐ Yes ☒ No → SKIP to Item 7.3.	
	<u>7.2</u>	If yes, indicate the applicable outfalls below or check the appropriate box to indicate that you are requesting a waiver for all outfalls. Attach waiver request and other required information to the application.	
		Outfall number _____ Outfall number _____ Outfall number _____ ☐ I am requesting a waiver for some pollutants at all outfalls. ☐ I am requesting a waiver for all pollutants at all outfalls → SKIP to Item 7.4.	
	<u>7.3</u>	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	
	Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants		
	<u>7.4</u>	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.		
<u>7.5</u>	Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B?		
	☒ Yes		

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	OMB No. 2040-0004 Expires 07/31/2026
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Effluent and Intake Characteristics Continued	<u>7.6</u>	List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3.								
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Primary Industry Category</th> <th style="width: 50%;">Required GC/MS Fraction(s) (check applicable boxes)</th> </tr> <tr> <td style="text-align: center;">Pulp and Paper Mills</td> <td> ☒ Volatile ☒ Acid ☒ Base/neutral ☒ Pesticide </td> </tr> <tr> <td></td> <td> ☐ Volatile ☐ Acid ☐ Base/neutral ☐ Pesticide </td> </tr> <tr> <td></td> <td> ☐ Volatile ☐ Acid ☐ Base/neutral ☐ Pesticide </td> </tr> </table>	Primary Industry Category	Required GC/MS Fraction(s) (check applicable boxes)	Pulp and Paper Mills	☒ Volatile ☒ Acid ☒ Base/neutral ☒ Pesticide		☐ Volatile ☐ Acid ☐ Base/neutral ☐ Pesticide		☐ Volatile ☐ Acid ☐ Base/neutral ☐ Pesticide
	Primary Industry Category	Required GC/MS Fraction(s) (check applicable boxes)								
	Pulp and Paper Mills	☒ Volatile ☒ Acid ☒ Base/neutral ☒ Pesticide								
		☐ Volatile ☐ Acid ☐ Base/neutral ☐ Pesticide								
	☐ Volatile ☐ Acid ☐ Base/neutral ☐ Pesticide									
<u>7.7</u>	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									
<u>7.8</u>	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									
<u>7.9</u>	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									
<u>7.10</u>	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									
<u>7.11</u>	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									
	Table C. Certain Conventional and Non-Conventional Pollutants									
<u>7.12</u>	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table C for all outfalls? ☒ Yes									
<u>7.13</u>	Have you completed Table C by providing quantitative data for those pollutants that are limited either directly or indirectly in an ELG? You must provide quantitative data even if the pollutant is "Believed Absent." ☐ Yes ☒ Not applicable									
<u>7.14</u>	Have you completed Table C by providing quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"? ☒ Yes									
	Table D. Certain Hazardous Substances and Asbestos									
<u>7.15</u>	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table D for all outfalls? ☒ Yes									
<u>7.16</u>	Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) providing quantitative data, if available? ☒ Yes ☐ No									
	Table E. 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)									
<u>7.17</u>	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.									
<u>7.18</u>	Have you completed Table E by reporting <i>qualitative</i> data for TCDD? ☐ Yes									

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	OMB No. 2040-0004 Expires 07/31/2026
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SECTION 8. USED OR MANUFACTURED TOXICS (40 CFR 122.21(G)(9))

Used or Manufactured Toxics	<u>8.1</u>	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.		
	<u>8.2</u>	List the pollutants below. Attach additional sheets, if necessary.		
	1.	4.	7.	
	2.	5.	8.	
	3.	6.	9.	

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

Biological Toxicity Tests	<u>9.1</u>	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) a receiving water in relation to your discharge? ☒ Yes ☐ No → SKIP to Section 10.			
	<u>9.2</u>	Identify the tests and their purposes below.			
		Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		Acute Toxicity Tests	Required by NPDES Permit ⁺	☒ Yes ☐ No	01/18/2023
		Acute Toxicity Tests	Required by NPDES Permit ⁺	☒ Yes ☐ No	01/25/2022
	Acute Toxicity Tests	Required by NPDES Permit ⁺	☒ Yes ☐ No	01/28/2021	

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

Contract Analyses	<u>10.1</u>	Were any of the analyses reported in Section 7 performed by a contract laboratory or consulting firm? ☒ Yes ☐ No → SKIP to Section 11.		
	<u>10.2</u>	Provide information for each contract laboratory or consulting firm below.		
		Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
	Name of laboratory/firm	Eurofins Penscola		
	Laboratory address	3355 McLemore Drive		
	Phone number	(850) 474-1001		
	Pollutant(s) analyzed	Form 2C Table A through Table C		

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	OMB No. 2040-0004 Expires 07/31/2026
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SECTION 11. ADDITIONAL INFORMATION (40 CFR 122.21(G)(13))

Additional Information	<u>11.1</u>	Has the NPDES permitting authority requested additional information? ☒ Yes ☐ No → SKIP to Section 12.
	<u>11.2</u>	List the information requested and attach it to this application.
		1. ADEM Form 187 4.
		2. 5.
		3. 6.

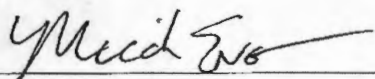
SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(A) AND (D))

Checklist and Certification Statement	<u>12.1</u>	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/ small business exemption request ☒ w/ Table A ☐ w/ explanation for identical outfalls ☒ w/ Table C ☐ w/ other attachments ☒ w/ Table E ☒ w/ Table B ☒ 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

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

Checklist and Certification Statement	<u>12.2</u>	Provide the following certification. (See instructions to determine the appropriate person to sign the application.)	
		Certification Statement	
		<i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
		Name (print or type first and last name) Micah Evans	Official title Mill Manager
	Signature 	Date signed 9/30/2025	

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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 <i>all</i> of the pollutants listed on this table for the noted outfall.										
1. Biochemical oxygen demand (BOD ₅)	☐	Concentration	mg/L	51.89	43.75	44.23	312			
		Mass	lb/day	34,643	16,027	18,453	312			
2. Chemical oxygen demand (COD)	☐	Concentration	mg/L	180			1			
		Mass	lb/day	59,937			1			
3. Total organic carbon (TOC)	☐	Concentration	mg/L	100			1			
		Mass	lb/day	33,298			1			
4. Total suspended solids (TSS)	☐	Concentration	mg/L	60.31	57.75	63.60	312			
		Mass	lb/day	40,263	21,156	26,533	312			
5. Ammonia (as N)	☐	Concentration	mg/L	2.96		1.78	24			
		Mass	lb/day	1,976		742.59	24			
6. Flow	☐	Rate	MGD	80	43.90	49.99	730			
7. Temperature (winter)	☐	°C	°C	32.22	20.22	17.89	299			
	☐	°C	°C	41.11	29.46	23.89	421			
8. pH (minimum)	☐	Standard units	s.u.	7.70		7.36	312			
	☐	Standard units	s.u.	9.00			312			

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	<0.0015		1		
				Mass	lb/day	<0.50		1		
1.2 Arsenic, total (7440-38-2)	☒	☐	☐	Concentration	mg/L	<0.00039		1		
				Mass	lb/day	<0.13		1		
1.3 Beryllium, total (7440-41-7)	☒	☐	☐	Concentration	mg/L	<0.00017		1		
				Mass	lb/day	<0.057		1		
1.4 Cadmium, total (7440-43-9)	☒	☐	☐	Concentration	mg/L	<0.00028		1		
				Mass	lb/day	<0.093		1		
1.5 Chromium, total (7440-47-3)	☒	☐	☐	Concentration	mg/L	0.0027		1		
				Mass	lb/day	0.90		1		
1.6 Copper, total (7440-50-8)	☒	☐	☐	Concentration	mg/L	0.0023		1		
				Mass	lb/day	0.77		1		
1.7 Lead, total (7439-92-1)	☒	☐	☐	Concentration	mg/L	0.0011		1		
				Mass	lb/day	0.37		1		
1.8 Mercury, total (7439-97-6)	☒	☐	☐	Concentration	mg/L	0.0000075		1		
				Mass	lb/day	0.0029		1		
1.9 Nickel, total (7440-02-0)	☒	☐	☐	Concentration	mg/L	0.0045		1		
				Mass	lb/day	1.50		1		
1.10 Selenium, total (7782-49-2)	☒	☐	☐	Concentration	mg/L	<0.00082		1		
				Mass	lb/day	<0.27		1		
1.11 Silver, total (7440-22-4)	☒	☐	☐	Concentration	mg/L	<0.00012		1		
				Mass	lb/day	<0.040		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	<0.00012			1		
					Mass lb/day	<0.040			1		
1.13	Zinc, total (7440-66-6)	☒	☐	☐	Concentration mg/L	0.046			1		
					Mass lb/day	15.32			1		
1.14	Cyanide, total (57-12-5)	☒	☐	☐	Concentration mg/L	<0.0035			1		
					Mass lb/day	<1.17			1		
1.15	Phenols, total	☒	☐	☐	Concentration mg/L	<0.0020			1		
					Mass lb/day	<0.67			1		
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)											
2.1	Acrolein (107-02-8)	☒	☐	☐	Concentration mg/L	<0.0033			1		
					Mass lb/day	<1.10			1		
2.2	Acrylonitrile (107-13-1)	☒	☐	☐	Concentration mg/L	<0.0028			1		
					Mass lb/day	<0.93			1		
2.3	Benzene (71-43-2)	☒	☐	☐	Concentration mg/L	<0.00050			1		
					Mass lb/day	<0.17			1		
2.4	Bromoform (75-25-2)	☒	☐	☐	Concentration mg/L	<0.00025			1		
					Mass lb/day	<0.083			1		
2.5	Carbon tetrachloride (56-23-5)	☒	☐	☐	Concentration mg/L	<0.00019			1		
					Mass lb/day	<0.063			1		
2.6	Chlorobenzene (108-90-7)	☒	☐	☐	Concentration mg/L	<0.00015			1		
					Mass lb/day	<0.050			1		
2.7	Chlorodibromomethane (124-48-1)	☒	☐	☐	Concentration mg/L	<0.00024			1		
					Mass lb/day	<0.080			1		
2.8	Chloroethane (75-00-3)	☒	☐	☐	Concentration mg/L	<0.00076			1		
					Mass lb/day	<0.25			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	mg/L	<0.0020			1		
					Mass	lb/day	<0.67			1		
2.10	Chloroform (67-66-3)	☒	☐	☐	Concentration	mg/L	<0.00090			1		
					Mass	lb/day	<0.30			1		
2.11	Dichlorobromomethane (75-27-4)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.12	1,1-dichloroethane (75-34-3)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.13	1,2-dichloroethane (107-06-2)	☒	☐	☐	Concentration	mg/L	<0.00019			1		
					Mass	lb/day	<0.063			1		
2.14	1,1-dichloroethylene (75-35-4)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.15	1,2-dichloropropane (78-87-5)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.16	1,3-dichloropropylene (542-75-6)	☒	☐	☐	Concentration	mg/L	<0.0010			1		
					Mass	lb/day	<0.33			1		
2.17	Ethylbenzene (100-41-4)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.18	Methyl bromide (74-83-9)	☒	☐	☐	Concentration	mg/L	<0.00098			1		
					Mass	lb/day	<0.33			1		
2.19	Methyl chloride (74-87-3)	☒	☐	☐	Concentration	mg/L	<0.00090			1		
					Mass	lb/day	<0.30			1		
2.20	Methylene chloride (75-09-2)	☒	☐	☐	Concentration	mg/L	<0.0030			1		
					Mass	lb/day	<1.00			1		
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			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 mg/L	<0.00090			1		
					Mass lb/day	<0.30			1		
2.23	Toluene (108-88-3)	☒	☐	☐	Concentration mg/L	<0.00090			1		
					Mass lb/day	<0.30			1		
2.24	1,2-trans-dichloroethylene (156-60-5)	☒	☐	☐	Concentration mg/L	<0.00050			1		
					Mass lb/day	<0.17			1		
2.25	1,1,1-trichloroethane (71-55-6)	☒	☐	☐	Concentration mg/L	<0.00018			1		
					Mass lb/day	<0.060			1		
2.26	1,1,2-trichloroethane (79-00-5)	☒	☐	☐	Concentration mg/L	<0.00021			1		
					Mass lb/day	<0.070			1		
2.27	Trichloroethylene (79-01-6)	☒	☐	☐	Concentration mg/L	<0.00015			1		
					Mass lb/day	<0.050			1		
2.28	Vinyl chloride (75-01-4)	☒	☐	☐	Concentration mg/L	<0.00050			1		
					Mass lb/day	<0.17			1		
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)											
3.1	2-chlorophenol (95-57-8)	☒	☐	☐	Concentration µg/L	<11			1		
					Mass lb/day	<3.66			1		
3.2	2,4-dichlorophenol (120-83-2)	☒	☐	☐	Concentration µg/L	<9.6			1		
					Mass lb/day	<3.20			1		
3.3	2,4-dimethylphenol (105-67-9)	☒	☐	☐	Concentration µg/L	<9.6			1		
					Mass lb/day	<3.20			1		
3.4	4,6-dinitro-o-cresol (534-52-1)	☒	☐	☐	Concentration µg/L	<7.7			1		
					Mass lb/day	<2.56			1		
3.5	2,4-dinitrophenol (51-28-5)	☒	☐	☐	Concentration µg/L	<16			1		
					Mass lb/day	<5.33			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	<12				1	
					Mass	lb/day	<4.00				1	
3.7	4-nitrophenol (100-02-7)	☒	☐	☐	Concentration	µg/L	<10				1	
					Mass	lb/day	<3.33				1	
3.8	p-chloro-m-cresol (59-50-7)	☒	☐	☐	Concentration	µg/L	<18				1	
					Mass	lb/day	<5.99				1	
3.9	Pentachlorophenol (87-86-5)	☒	☐	☐	Concentration	µg/L	<6.7				1	
					Mass	lb/day	<2.23	<2.23			1	
3.10	Phenol (108-95-2)	☒	☐	☐	Concentration	µg/L	<5.3				1	
					Mass	lb/day	<1.76				1	
3.11	2,4,6-trichlorophenol (88-05-2)	☒	☐	☐	Concentration	µg/L	<13				1	
					Mass	lb/day	<4.33				1	
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☒	☐	☐	Concentration	µg/L	<0.77				1	
					Mass	lb/day	<0.26				1	
4.2	Acenaphthylene (208-96-8)	☒	☐	☐	Concentration	µg/L	<0.82				1	
					Mass	lb/day	<0.27				1	
4.3	Anthracene (120-12-7)	☒	☐	☐	Concentration	µg/L	<0.87				1	
					Mass	lb/day	<0.29				1	
4.4	Benzidine (92-87-5)	☒	☐	☐	Concentration	µg/L	<96				1	
					Mass	lb/day	<31.97				1	
4.5	Benzo (a) anthracene (56-55-3)	☒	☐	☐	Concentration	µg/L	3.2				1	
					Mass	lb/day	1.07				1	
4.6	Benzo (a) pyrene (50-32-8)	☒	☐	☐	Concentration	µg/L	1.0				1	
					Mass	lb/day	0.33				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	1.0		1		
					Mass	lb/day	0.33		1		
4.8	Benzo (ghi) perylene (191-24-2)	☒	☐	☐	Concentration	µg/L	<1.1		1		
					Mass	lb/day	<0.37		1		
4.9	Benzo (k) fluoranthene (207-08-9)	☒	☐	☐	Concentration	µg/L	1.5		1		
					Mass	lb/day	0.50		1		
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☒	☐	☐	Concentration	µg/L	<0.77		1		
					Mass	lb/day	<0.26		1		
4.11	Bis (2-chloroethyl) ether (111-44-4)	☒	☐	☐	Concentration	µg/L	<13.0		1		
					Mass	lb/day	<4.33		1		
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☒	☐	☐	Concentration	µg/L	<0.77		1		
					Mass	lb/day	<0.26		1		
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☒	☐	☐	Concentration	µg/L	<24		1		
					Mass	lb/day	<7.99		1		
4.14	4-bromophenyl phenyl ether (101-55-3)	☒	☐	☐	Concentration	µg/L	<0.96		1		
					Mass	lb/day	<0.32		1		
4.15	Butyl benzyl phthalate (85-68-7)	☒	☐	☐	Concentration	µg/L	1.2		1		
					Mass	lb/day	0.40		1		
4.16	2-chloronaphthalene (91-58-7)	☒	☐	☐	Concentration	µg/L	<0.67		1		
					Mass	lb/day	<0.22		1		
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☒	☐	☐	Concentration	µg/L	<9.6		1		
					Mass	lb/day	<3.20		1		
4.18	Chrysene (218-01-9)	☒	☐	☐	Concentration	µg/L	2.3		1		
					Mass	lb/day	0.77		1		
4.19	Dibenzo (a,h) anthracene (53-70-3)	☒	☐	☐	Concentration	µg/L	<1.2		1		
					Mass	lb/day	<0.40		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 mg/L	<0.00050			1		
					Mass lb/day	<0.17			1		
4.21	1,3-dichlorobenzene (541-73-1)	☒	☐	☐	Concentration mg/L	<0.00054			1		
					Mass lb/day	<0.18			1		
4.22	1,4-dichlorobenzene (106-46-7)	☒	☐	☐	Concentration mg/L	<0.00064			1		
					Mass lb/day	<0.21			1		
4.23	3,3-dichlorobenzidine (91-94-1)	☒	☐	☐	Concentration µg/L	<13			1		
					Mass lb/day	<4.33			1		
4.24	Diethyl phthalate (84-66-2)	☒	☐	☐	Concentration µg/L	<1.2			1		
					Mass lb/day	<0.40			1		
4.25	Dimethyl phthalate (131-11-3)	☒	☐	☐	Concentration µg/L	<0.82			1		
					Mass lb/day	<0.27			1		
4.26	Di-n-butyl phthalate (84-74-2)	☒	☐	☐	Concentration µg/L	<6.7			1		
					Mass lb/day	<2.23			1		
4.27	2,4-dinitrotoluene (121-14-2)	☒	☐	☐	Concentration µg/L	<9.2			1		
					Mass lb/day	<3.06			1		
4.28	2,6-dinitrotoluene (606-20-2)	☒	☐	☐	Concentration µg/L	<9.2			1		
					Mass lb/day	<3.06			1		
4.29	Di-n-octyl phthalate (117-84-0)	☒	☐	☐	Concentration µg/L	1.0			1		
					Mass lb/day	0.33			1		
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☒	☐	☐	Concentration µg/L	<4.8			1		
					Mass lb/day	<1.60			1		
4.31	Fluoranthene (206-44-0)	☒	☐	☐	Concentration µg/L	<0.87			1		
					Mass lb/day	<0.29			1		
4.32	Fluorene (86-73-7)	☒	☐	☐	Concentration µg/L	<0.87			1		
					Mass lb/day	<0.29			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	<0.82			1		
					Mass lb/day	<0.27			1		
4.34	Hexachlorobutadiene (87-68-3)	☒	☐	☐	Concentration µg/L	<17			1		
					Mass lb/day	<5.66			1		
4.35	Hexachlorocyclopentadiene (77-47-4)	☒	☐	☐	Concentration µg/L	<13			1		
					Mass lb/day	<4.33			1		
4.36	Hexachloroethane (67-72-1)	☒	☐	☐	Concentration µg/L	<20			1		
					Mass lb/day	<6.66			1		
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☒	☐	☐	Concentration µg/L	<1.1			1		
					Mass lb/day	<0.37			1		
4.38	Isophorone (78-59-1)	☒	☐	☐	Concentration µg/L	<0.67			1		
					Mass lb/day	<0.22			1		
4.39	Naphthalene (91-20-3)	☒	☐	☐	Concentration µg/L	<0.82			1		
					Mass lb/day	<0.27			1		
4.40	Nitrobenzene (98-95-3)	☒	☐	☐	Concentration µg/L	<0.63			1		
					Mass lb/day	<0.21			1		
4.41	N-nitrosodimethylamine (62-75-9)	☒	☐	☐	Concentration µg/L	<17			1		
					Mass lb/day	<5.66			1		
4.42	N-nitrosodi-n-propylamine (621-64-7)	☒	☐	☐	Concentration µg/L	<16			1		
					Mass lb/day	<5.33			1		
4.43	N-nitrosodiphenylamine (86-30-6)	☒	☐	☐	Concentration µg/L	<0.87			1		
					Mass lb/day	<0.29			1		
4.44	Phenanthrene (85-01-8)	☒	☐	☐	Concentration µg/L	<0.87			1		
					Mass lb/day	<0.29			1		
4.45	Pyrene (129-00-0)	☒	☐	☐	Concentration µg/L	<1.0			1		
					Mass lb/day	<0.33			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	<0.87				1	
					Mass	lb/day	<0.29				1	
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☒	☐	☐	Concentration	mg/L	<0.0000015				1	
					Mass	lb/day	<0.00050				1	
5.2	α-BHC (319-84-6)	☒	☐	☐	Concentration	mg/L	<0.0000023				1	
					Mass	lb/day	<0.00077				1	
5.3	β-BHC (319-85-7)	☒	☐	☐	Concentration	mg/L	<0.0000066				1	
					Mass	lb/day	<0.0022				1	
5.4	γ-BHC (58-89-9)	☒	☐	☐	Concentration	mg/L	<0.0000016				1	
					Mass	lb/day	<0.00053				1	
5.5	δ-BHC (319-86-8)	☒	☐	☐	Concentration	mg/L	<0.0000033				1	
					Mass	lb/day	<0.00011				1	
5.6	Chlordane (57-74-9)	☒	☐	☐	Concentration	mg/L	<0.000021				1	
					Mass	lb/day	<0.0070				1	
5.7	4,4'-DDT (50-29-3)	☒	☐	☐	Concentration	mg/L	<0.0000069				1	
					Mass	lb/day	<0.0023				1	
5.8	4,4'-DDE (72-55-9)	☒	☐	☐	Concentration	mg/L	<0.0000044				1	
					Mass	lb/day	<0.0015				1	
5.9	4,4'-DDD (72-54-8)	☒	☐	☐	Concentration	mg/L	<0.0000032				1	
					Mass	lb/day	<0.0011				1	
5.10	Dieldrin (60-57-1)	☒	☐	☐	Concentration	mg/L	<0.0000018				1	
					Mass	lb/day	<0.00060				1	
5.11	α-endosulfan (115-29-7)	☒	☐	☐	Concentration	mg/L	<0.0000038				1	
					Mass	lb/day	<0.0013				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 mg/L	<0.000083				1	
					Mass lb/day	<0.0028				1	
5.13	Endosulfan sulfate (1031-07-8)	☒	☐	☐	Concentration mg/L	<0.000017				1	
					Mass lb/day	<0.0057				1	
5.14	Endrin (72-20-8)	☒	☐	☐	Concentration mg/L	<0.0000041				1	
					Mass lb/day	<0.0014				1	
5.15	Endrin aldehyde (7421-93-4)	☒	☐	☐	Concentration mg/L	<0.0000059				1	
					Mass lb/day	<0.0020				1	
5.16	Heptachlor (76-44-8)	☒	☐	☐	Concentration mg/L	<0.0000059				1	
					Mass lb/day	<0.0020				1	
5.17	Heptachlor epoxide (1024-57-3)	☒	☐	☐	Concentration mg/L	<0.0000023				1	
					Mass lb/day	<0.00077				1	
5.18	PCB-1242 (53469-21-9)	☒	☐	☐	Concentration mg/L	<0.00013				1	
					Mass lb/day	<0.043				1	
5.19	PCB-1254 (11097-69-1)	☒	☐	☐	Concentration mg/L	<0.00011				1	
					Mass lb/day	<0.037				1	
5.20	PCB-1221 (11104-28-2)	☒	☐	☐	Concentration mg/L	<0.00014				1	
					Mass lb/day	<0.047				1	
5.21	PCB-1232 (11141-16-5)	☒	☐	☐	Concentration mg/L	<0.00012				1	
					Mass lb/day	<0.040				1	
5.22	PCB-1248 (12672-29-6)	☒	☐	☐	Concentration mg/L	<0.000090				1	
					Mass lb/day	<0.030				1	
5.23	PCB-1260 (11096-82-5)	☒	☐	☐	Concentration mg/L	<0.000043				1	
					Mass lb/day	<0.014				1	
5.24	PCB-1016 (12674-11-2)	☒	☐	☐	Concentration mg/L	<0.000059				1	
					Mass lb/day	<0.020				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	mg/L	<0.00014				1	
					Mass	lb/day	<0.047				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 in Table C to be present in your discharge from the noted outfall. You need <i>not</i> complete the "Presence or Absence" column of Table C for each pollutant.										
☐ Check here if you believe all pollutants in Table C to be absent in your discharge from the noted outfall. You need <i>not</i> complete the "Presence or Absence" column of Table C for each pollutant.										
1. Bromide (24959-67-9)	☐	☒	Concentration mg/L	<7.9			1			
			Mass lb/day	<2,631			1			
2. Chlorine, total residual	☐	☒	Concentration mg/L	<0.057			1			
			Mass lb/day	<18.98			1			
3. Color	☒	☐	Concentration Color Unit	1,700			1			
			Mass	N/A						
4. Fecal coliform	☒	☐	Concentration CPU/100m	7,000			1			
			Mass	N/A						
5. Fluoride (16984-48-8)	☐	☒	Concentration mg/L	<2.2			1			
			Mass lb/day	<732.56			1			
6. Nitrate-nitrite	☒	☐	Concentration mg/L	0.55		0.28	15			
			Mass lb/day	367.20		116.81	15			
7. Nitrogen, total organic (as N)	☒	☐	Concentration mg/L	10.60		6.23	15			
			Mass lb/day	7,077		2,599	15			
8. Oil and grease	☒	☐	Concentration mg/L	<1.3			1			
			Mass lb/day	<432.88			1			
9. Phosphorus (as P), total (7723-14-0)	☒	☐	Concentration mg/L	9.20		2.04	15			
			Mass lb/day	6,142		851.06	15			
10. Sulfate (as SO ₄) (14808-79-8)	☒	☐	Concentration mg/L	270			1			
			Mass lb/day	89,905			1			
11. Sulfide (as S)	☒	☐	Concentration mg/L	0.52			1			
			Mass lb/day	173.15			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	<0.067		1		
				Mass	lb/day	<22.31		1		
14.	Aluminum, total (7429-90-5)	☒	☐	Concentration	mg/L	0.60		1		
				Mass	lb/day	199.79		1		
15.	Barium, total (7440-39-3)	☒	☐	Concentration	mg/L	0.17		1		
				Mass	lb/day	56.61		1		
16.	Boron, total (7440-42-8)	☒	☐	Concentration	mg/L	0.15		1		
				Mass	lb/day	49.95		1		
17.	Cobalt, total (7440-48-4)	☐	☒	Concentration	mg/L	<0.0028		1		
				Mass	lb/day	<0.932		1		
18.	Iron, total (7439-89-6)	☒	☐	Concentration	mg/L	<0.40		1		
				Mass	lb/day	<133.19		1		
19.	Magnesium, total (7439-95-4)	☒	☐	Concentration	mg/L	6.9		1		
				Mass	lb/day	2,298		1		
20.	Molybdenum, total (7439-98-7)	☐	☒	Concentration	mg/L	<0.023		1		
				Mass	lb/day	<7.66		1		
21.	Manganese, total (7439-96-5)	☒	☐	Concentration	mg/L	0.68		1		
				Mass	lb/day	226.43		1		
22.	Tin, total (7440-31-5)	☐	☒	Concentration	mg/L	<0.008		1		
				Mass	lb/day	<2.66		1		
23.	Titanium, total (7440-32-6)	☐	☒	Concentration	mg/L	<0.009		1		
				Mass	lb/day	<2.99		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	pCi/L	<10.5		1		
			Mass						
Beta, total	☒	☐	Concentration	pCi/L	4.97		1		
			Mass						
Radium, total	☒	☐	Concentration	pCi/L	0.0681		1		
			Mass						
Radium 226, total	☒	☐	Concentration	pCi/L	0.262		1		
			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	☒	☐	Published industry data (NCASI)	
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	☒	☐	Published industry data (NCASI)	
15.	Chlorpyrifos	☐	☒		
16.	Coumaphos	☐	☒		
17.	Cresol	☒	☐	Published industry data (NCASI)	
18.	Crotonaldehyde	☐	☒		
19.	Cyclohexane	☐	☒		

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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		
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.	Dinitrobenzene	☐	☒		
30.	Diquat	☐	☒		
31.	Disulfoton	☐	☒		
32.	Diuron	☐	☒		
33.	Epichlorohydrin	☐	☒		
34.	Ethion	☐	☒		
35.	Ethylene diamine	☐	☒		
36.	Ethylene dibromide	☐	☒		
37.	Formaldehyde	☒	☐	Published industry data (NCASI)	
38.	Furfural	☐	☒		

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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		
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	☐	☒		

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

	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	☒	☐	Published industry data (NCASI)	
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	☒	☐	Published industry data (NCASI)	

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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	☒	☐	Published industry data (NCASI)	
78.	Xylene	☒	☐	Published industry data (NCASI)	
79.	Xylenol	☐	☒		
80.	Zirconium	☐	☒		

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).

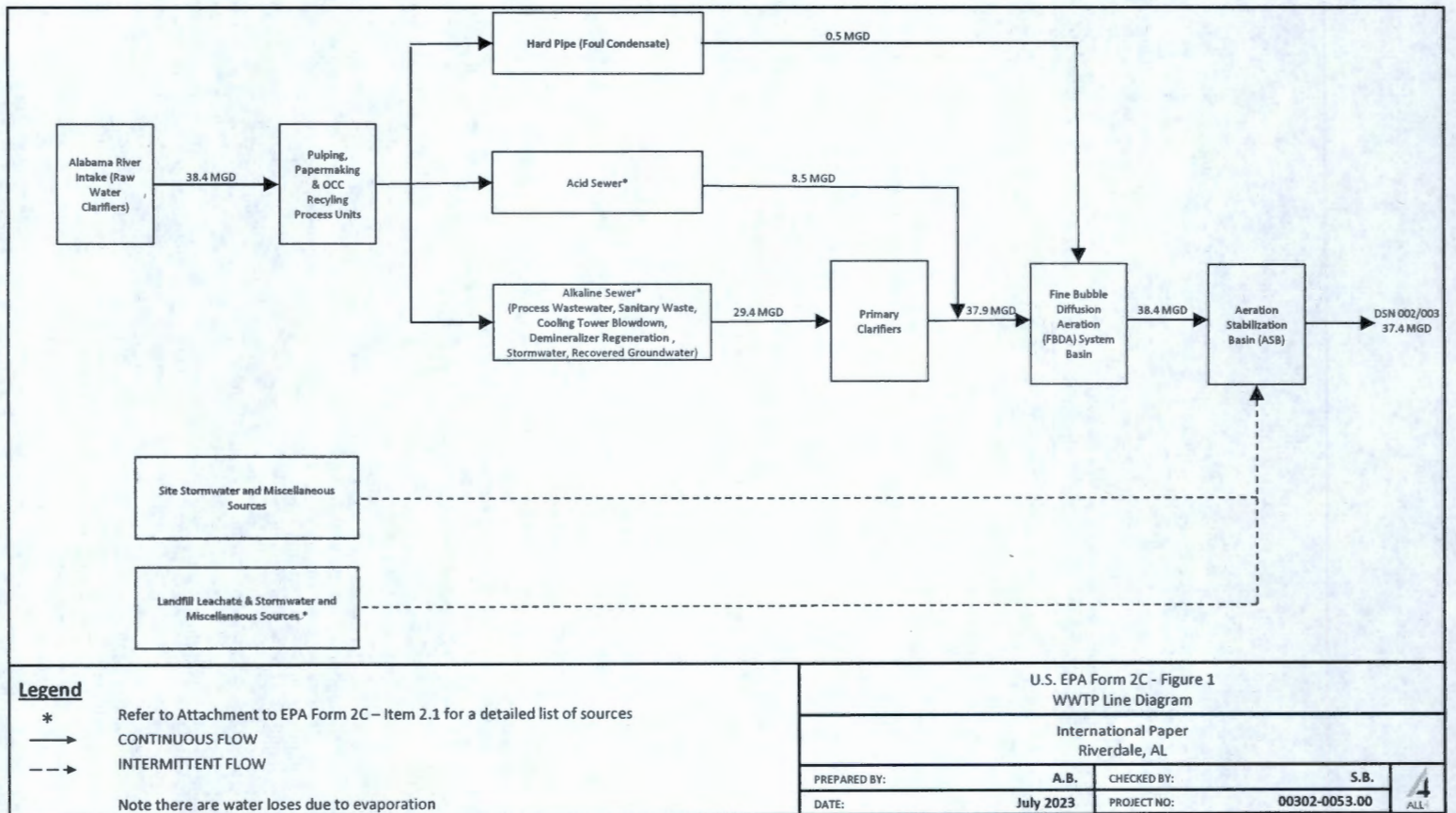
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EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number DSN002/DSN003
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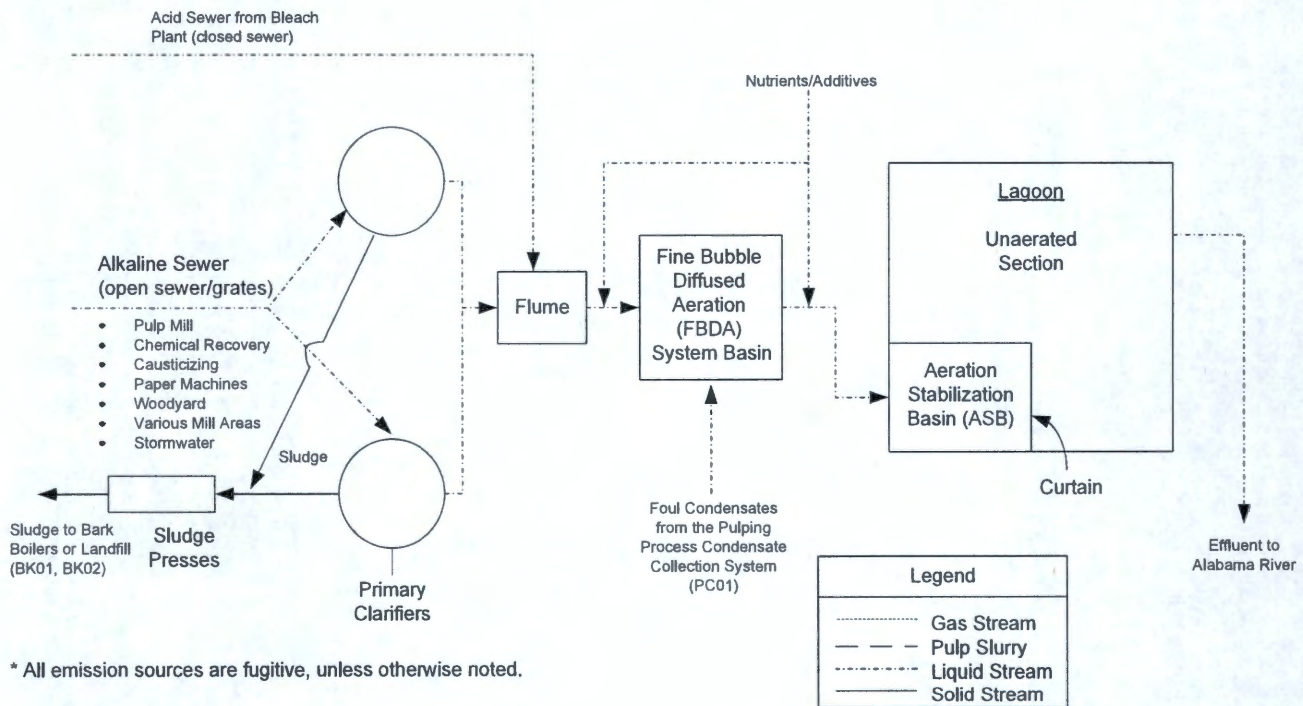
OMB No. 2040-0004
Expires 07/31/2026

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	☐	☐	☒	The Mill is required to monitor 2,3,7,8-TCDD at DSN002 and DSN003 annually and DSN003B semi-annually. Results of this monitoring for the past five years have been below laboratory detection levels.



Process Flow Diagram - Wastewater Collection and Treatment (WW01)*



U.S. EPA Form 2C Item 2.1:

Operations Contributing Wastewater:

Wastewater contributions include wastewater from kraft pulp and paper mill and recycled pulp mill; boiler and cooling tower blowdown; sludge dewatering liquid; lime kiln scrubber and boiler scrubber wastewater; miscellaneous wastewaters from shops and offices; sanitary wastewater, contaminated groundwater from a groundwater remediation project and process area stormwater. Bleached Kraft pulping, papermaking, OCC plant process effluents and now unbleached Kraft pulping, are contained in the following streams: A). Alkaline sewer, B). Acid sewer, C). Fine Bubble Diffused Aeration (FBDA) system influent, D). Final Aerated Stabilization (ASB) influent.

A). The alkaline sewer normally flows to two primary clarifiers operating in parallel. Contributors to this sewer include:

- Bleaching (sodium hydroxide, hydrogen peroxide and oxygen extraction stages)
- Sanitary waste
- Kraft pulping
- Brown stock washers
- Chemical recovery
- Causticizing
- Boiler water
- Wood waste boiler scrubber discharge
- Demineralizer regenerate
- Cooling tower blowdown
- Paper machines and finishing areas
- Precipitated calcium carbonate plant
- Primary clarifier screw press drainage
- Hydraulic, lubricating, or fuel oil from equipment leaks
- Fuel oil and lubrication oil secondary containment stormwater
- Water layer from oil/water separators
- Turpentine recovery and storage
- Tall oil recovery, acidulation and storage
- OCC plant
- Quality control laboratories
- Sludge/ash stormwater runoff
- Stormwater from plant site
- Groundwater diesel fuel remediation
- Outside storage areas' stormwater.
- Vehicle and equipment maintenance activities (e.g. antifreeze from radiator flushing/draining, soap or degreasers from cleanup activities and other maintenance activities associated with the pulping and papermaking process)
- Miscellaneous discharges from activities supporting or related to the process such as rinsing out trucks, flushing spent ion exchange resin and other activities associated with the pulping and papermaking process.

B) The acid sewer bypasses the primary clarifiers and flows directly to the FBDA system. Contributors to this stream include:

- Bleaching acid stages (chlorine dioxide)
- Bleach plant scrubber blowdown and overflow
- Chlorine dioxide generators and storage tanks
- Miscellaneous discharges from activities supporting or related to the pulping and papermaking process

C) The contributors that flow to the FBDA system are:

- Acid sewer
- Cluster rule "hard pipe" condensates
- Wood waste storage stormwater
- Outside storage area stormwater
- Sanitary wastes
- Primary clarifiers overflows
- Groundwater from diesel fuel remediation
- Miscellaneous discharge from activities supporting or related to the pulping and papermaking process

D) The contributors that flow directly to the final effluent treatment basin include:

- Landfill stormwater and leachate
- Raw process water clarified solids
- Storm water and miscellaneous process waste from part of the causticizing area
- Woodyard stormwater and wastewater
- Precipitate calcium carbonate plant stormwater
- Outside storage area stormwater
- Fuel oil and lubrication oil secondary containment stormwater
- Hydraulic, lubrication, and fuel oils from equipment leaks
- Raw water and portable water storage tanks overflow
- Cooling tower blowdown water
- Groundwater from diesel fuel remediation
- Water layer from oil/water separators
- Miscellaneous discharges from activities supporting or related to the pulping and/or papermaking process.

Treatment Description

The majority of the process wastewater is directed to either the acid or alkaline process sewer. The alkaline sewer is split and flows to two primary clarifiers operating in parallel. The resulting solids are pumped to sludge presses where the separated liquid is allowed to flow back to the clarifiers. The clarified wastewater from the clarifiers mixes with acid process sewer forming a process wastewater with a pH of greater than 2 and less than 12.5. The wastewater enters the FBDA system basin. The cluster rule "hard pipe" condensates (cooking, turpentine recovery, non-condensable gas collection, evaporator 5th effect, etc.) are introduced to this basin. The process wastewater (effluent) exits the FBDA system into the ASB that is separated from the final polishing basin by a curtain. Stormwater

runoff from areas to the mill site including the permitted landfill, clarified solids from the mill process water clarifiers, woodyard wastewater, and lime kiln wastewater are contained in the waste streams that enter the final polishing basin. Effluent from the final polishing basin is discharged to the Alabama River through DSN002 and/or DSN003.

The wastewater treatment system includes the following major process components and systems:

- Process Sewer System
- Influent collection
- Clarification
- Sludge thickening and dewatering
- Sludge disposal/ incineration
- Treatment Chemicals & bioaugmentation systems
- Fine Bubble Diffused Aeration System (FBDA)
- Aerated Stabilization Basin (ASB)
- Quiescent/ settling zone
- Outfall to Alabama River

U.S. EPA Form 2C, Item 3.1
Operations Contributing to Flow and Treatment Units
International Paper - Riverdale, AL Mill

Outfall No.	Operations Contributing Flow		Treatment Units		
	Operation	Average Flow	Description	Code From Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
DSN002/ DSN003	Alkaline Sewer (A)	29.4 MGD	Mixing, sedimentation, neutralization, aerated lagoons, stabilization ponds, discharge to surface waters	1-O, 1-U, 2-K, 3-B, 3-G, 4-A	5-O or 5-Q
	Acid Sewer (B)	8.5 MGD	Mixing, sedimentation, neutralization, screening, pressure filtration, aerated lagoon stabilization ponds, discharge to surface water	1-O, 1-U, 2-K, 1-T, 5-R, 3-B, 3-G, 4-A	
	Cluster Rule "Hard Pipes" Condensate (C)	0.5 MGD	Aerated lagoon, stabilization ponds, discharge to surface water	3-B, 3-G, 4-A	
	Landfilled leachate, remediated groundwater, stormwater, misc. sources	Intermittent	Mixing, sedimentation, aerated lagoon, stabilization ponds, discharge to surface water	1-O, 1-U, 3-B, 3-G, 4-A	

U.S. EPA Form 2C, Item 5.4
Average Daily Production
International Paper - Riverdale, AL Mill

Average Daily Production			
Outfall Number	Operation, Product or Material	Quantity per Day	Unit of Measure
DSN002 & DSN003	Bleached Paper Production	498	MDT/day
	Unbleached Kraft Production	811	ADT/day
	Unbleached Pulp Entering No. 1 Bleach Plant	0	ADTUBP/day
	Unbleached Pulp Entering No. 2 Bleach Plant	492	ADTUBP/day
	OCC Production	1,299	ADT/day

ATTACHMENT B – TBEL CALCULATIONS

Table B-1
TBEL Calculations
International Paper - Riverdale, AL Mill

40 CFR §430.22 - Subpart B Bleached Papergrade Kraft (BPT effluent limitations for bleached kraft facilities where paperboard, coarse paper, and tissue

BPT	pounds per 1,000 lb		Production 1,000 lb/d	Effluent Limit lbs/d	
	Daily Max	Monthly Avg		Daily Max	Monthly Avg
BOD ₅	13.65	7.10	997	13,606	7,077
TSS	24.00	12.90	997	23,923	12,859
Pentachlorophenol	1.60E-03	--	997	1.59	NA
Trichlorophenol	1.00E-03	--	997	1.00	NA
AOX	0.95	0.62	984	935	613
Chloroform ^(a)	6.92E-03	4.14E-03	984	6.81	4.07

40 CFR §430.32 - Subpart C Unbleached Kraft

BPT	pounds per 1,000 lb		Production 1,000 lb/d	Effluent Limit lbs/d	
	Daily Max	Monthly Avg		Daily Max	Monthly Avg
BOD ₅	5.60	2.80	1,622	9,084	4,542
TSS	12.00	6.00	1,622	19,467	9,733

40 CFR §430.102 - Subpart J Secondary Fiber Nondeink (where paperboard from waste paper is produced - corrugating medium finish subdivision)

BPT	pounds per 1,000 lb		Production 1,000 lb/d	Effluent Limit lbs/d	
	Daily Max	Monthly Avg		Daily Max	Monthly Avg
BOD ₅	5.70	2.80	2,598	14,809	7,275
TSS	9.20	4.60	2,598	23,903	11,951

Total TBELs

BPT	Calculated Effluent Limits		Current Permit Limits	
	lbs/day		lbs/day	
	Daily Max	Monthly Avg	Daily Max	Monthly Avg
BOD ₅	37,500	18,894	46,010	23,600
TSS	67,292	34,543	91,450	48,538
Pentachlorophenol	1.59	NA	4.77	N/A
Trichlorophenol	1.00	NA	30	N/A
AOX	935	613	2,884	1,889
Chloroform ^(a)	6.81	4.07	10.67	6.38

Post-Project Production Rates Used in TBEL Calculations

	Bleached Paper Production		Pulp Fed to Bleach Plant	
	MDT/d	1,000 lb/d	ADTUBP/d	1,000 lb/d
PM 15	498	997	492	984
PM 16	0	0	0	0
Total	498	997	492	984

Unbleached Production		
	ADT/d	1,000 lb/d
PM 15 and 16 OCC furnished	1,299	2,598
PM 16 Virgin pulp furnished	811	1,622

^(a) Chloroform TBEL applies to the Bleach Plant #2 internal outfall, DSN03BS.



ALL4

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

PERMIT RENEWAL APPLICATION

INTERNATIONAL PAPER — RIVERDALE MILL

OCTOBER 2023

SUBMITTED BY:



International Paper

Riverdale Mill
601 County Road 78
Selma, AL 36703

SUBMITTED TO:



Alabama Department of Environmental Management

Water Division
1400 Coliseum Boulevard
Montgomery, AL 36110-2400

RECEIVED

OCT 06 2023

IND/MUN BRANCH
WATER DIVISION



RIVERDALE MILL
601 COUNTY ROAD 78
SELMA, AL 36703-8311
PHONE 334-872-3481

October 3, 2023

Alabama Department of Environmental Management (ADEM)
Post Office Box 301463
Montgomery, AL 36130-1463
ATTN: Scott Jackson, Water Division

**RE: International Paper – Riverdale Mill
National Pollution Discharge Elimination System Permit No. AL0003018
Renewal Application**

Dear Mr. Jackson:

International Paper (IP) owns and operates a Kraft pulp and paper mill in Selma, AL along the Alabama River (Mill). The Mill currently operates pursuant to National Pollution Discharge Elimination System (NPDES) Permit No. AL0003018, which expires on March 31, 2024. The renewal application must be submitted 180 days prior to the expiration date; therefore, IP submits this renewal application on or prior to October 3, 2023.

The Mill's sampling effort for completion of US EPA Form 2F for this renewal application was delayed due to waiting for a qualifying rain event to occur to collect stormwater outfall samples. As a result of the delayed sampling, the Mill has not received all of the data from the contract laboratory, and data for a few parameters were missing. The Mill plans to submit an addendum to this renewal application to address the following items:

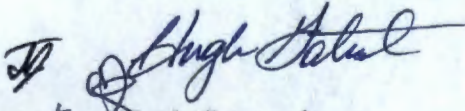
- Data for US EPA Form 2F Table 2C pollutants are expected by October 4, 2023.
- The contract laboratory was not able to analyze for the following US EPA Form 2F pollutants:
 - 3,4,6-Trichloroguaiacol
 - 3,4,6-Trichlorocatechol
 - 3,4,5-Trichloroguaiacol
 - 3,4,5-Trichlorocatechol
 - Tetrachloroguaiacol
 - Tetrachlorocatechol
 - Trichlorosyringol
 - 4,5,6-Trichloroguaiacol

The Mill plans to identify another laboratory that can conduct these analyses and will collect samples for all stormwater outfalls. Once all sampling has been conducted, the Mill will submit an addendum with a complete US EPA Form 2F.

Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

If you have any questions or require additional information, please contact me by phone at 334-418-5232 or by email at Hugh.Gatwood@ipaper.com.

Sincerely,


Hugh Gatwood
Environmental Manager

cc: Carla Pearson – International Paper
Susie Bowden – ALL4 LLC

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Appendix A - Application Forms

Appendix B - Laboratory Analytical Data

Appendix C - Receiving Stream Water Quality Monitoring Data

1. INTRODUCTION

International Paper (IP) owns and operates a Kraft pulp and paper mill in Selma, AL (Riverdale Mill or Mill) along the Alabama River which produces white top linerboard and bleached printing paper. The Mill currently operates under National Pollutant Discharge Elimination System (NPDES) Permit No. AL0003018 issued by the Alabama Department of Environmental Management (ADEM). The Mill's NPDES Permit No. AL0003018 expires on March 31, 2024.

This application includes the requisite information as well as the completed NPDES application forms necessary for the Mill to renew its NPDES permit.

1.1 APPLICATION ORGANIZATION

The Mill has prepared this application in accordance with ADEM requirements, and the application is organized in a report format. The application includes the following sections and appendices:

- **Section 2 – Mill Overview and Discharge Points:** provides an overview of the Mill's current configuration and operations, and information for each of the Mill's discharge points.
- **Section 3 – Regulatory and Permitting Background:** summarizes the Federal and State regulations to which the Mill is subject.
- **Section 4 – Monitoring Requirements and Discharge Limitations:** provides an explanation of discharge limit derivations and specific monitoring requirements for each outfall.
- **Section 5 – Sampling and Analytical Considerations:** summarizes the method for evaluating pollutants to sample for process wastewater.
- **Section 6 – Proposed Permit Revisions:** proposes revisions to the Mill's NPDES permit as part of the renewal process.
- **Appendix A – Application Forms:** provides the required ADEM and U.S. Environmental Protection Agency (U.S. EPA) NPDES forms and associated attachments.
- **Appendix B – Laboratory Analytical Data:** provides laboratory analytical data for each outfall.

2. MILL OVERVIEW AND DISCHARGE POINTS

This section of the application provides a brief overview of the Mill's background information and its current configuration and operation.

2.1 MILL LOCATION

The Mill is located east of Selma (Dallas County), Alabama. The Mill is along the Alabama River approximately 60 kilometers (km) west of Montgomery, AL. A Mill location map is provided in EPA Form 1 – Figure 1 of Appendix A on a section of United States Geological Survey (USGS) quadrangle. The geographical coordinates for the approximate center of the processing area of the Mill are:

- Universal Transverse Mercator (UTM) Easting: 512,100 meters (m)
- UTM Northing: 3,587,500 m
- UTM Zone: 16
- North American Datum (NAD): 1983
- Longitude (degrees, minutes, seconds): 86° 52' 16.7" W
- Latitude (degrees, minutes, seconds): 32° 25' 28.3" N

2.2 REGULATORY JURISDICTION

The Riverdale Mill is under the jurisdiction of the following State and Federal agencies:

ADEM
Water Division
1400 Coliseum Boulevard
P.O. Box 301463
Montgomery, AL 36110

U.S. EPA
Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303

2.3 MILL PROCESS DESCRIPTION

The Mill produces multiple types of paper for sale in various forms for printing and packaging products. Operating areas include a woodyard, pulping, bleach plants, causticizing and lime recovery, recovery boilers, a power boiler, bark boilers, a tall oil reactor, wastewater treatment, and reciprocating internal combustion engines.

2.4 WASTEWATER TREATMENT DESCRIPTION

The Mill directs the majority of process wastewater to either an acid or alkaline process sewer. The alkaline sewer is split and flows to two parallel primary clarifiers. The resulting solids are pumped to sludge presses and the separated liquid continues to the flume and then into the Fine Bubble Diffused Aeration (FBDA) system basin. The acid sewer bypasses the primary clarifiers and is mixed with the liquid portion of the alkaline sewer (after primary clarification) prior to treatment in the aerated lagoon. Hard pipe condensates are introduced into the FBDA basin, and the effluent then enters an aeration stabilization basin (ASB). The effluent treated in the ASB then flows into a final polishing basin along with stormwater runoff and landfill leachate and is then discharged to the Alabama River.

2.5 OUTFALL DESCRIPTIONS

The Mill has five permitted outfalls for the discharge of stormwater and treated wastewater, as well as two internal outfalls.

External Outfalls:

- Outfalls DSN002 and DSN003 – Located on the northern side of the Mill property. Outfalls DSN002 and DSN003 discharge process wastewater, non-process wastewater such as sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater associated with industrial activity. Discharge typically occurs from only one of these outfalls at a time. The locations of Outfalls DSN002 and DSN003 are shown on U.S. EPA Form 1 – Figure 2 of Appendix A.
- Outfall DSN004 – Located in the southeastern area of the Mill property. Outfall DSN004 discharges stormwater runoff from process areas. The location of Outfall DSN004 is shown in U.S. EPA Form 1 – Figure 2 of Appendix A.
- Outfall DSN005 – Located in the southeastern area of the Mill property. Outfall DSN005 discharges stormwater runoff from process areas, as well as intermittent discharge of non-process wastewater from fire tank overflow. The location of Outfall DSN005 is shown in U.S. EPA Form 1 – Figure 2 of Appendix A.
- Outfall DSN006 – Located in the southeastern area of the Mill property. Outfall DSN006 discharges stormwater runoff from process areas. The location of Outfall DSN006 is shown in U.S. EPA Form 1 – Figure 2 of Appendix A.

Internal Outfalls:

- Outfall DSN003A – Consists of effluent from the No. 1 Bleaching System, and discharges upstream of the alkaline sewer.
- Outfall DSN003B – Consists of effluent from the No. 2 Bleaching System, and discharges upstream of the alkaline sewer.

3. REGULATORY AND PERMITTING BACKGROUND

The Mill is currently operating under NPDES permit number AL0003018 issued by ADEM with an expiration date of March 31, 2024. In accordance with Alabama Administrative Code (AAC) 335-6-6-.12(b), the Mill must apply for re-issuance of the permit at least 180 days prior to its expiration. Therefore, this permit application is being submitted prior to the October 3, 2023 expiration date.

Under the current NPDES permit, the Mill discharges process wastewater, sanitary wastewater, cooling tower blowdown, landfill leachate, and stormwater from industrial activities through five permitted outfalls to the Alabama River. Discharges of stormwater and treated wastewater are regulated by the NPDES program administered by ADEM. The NPDES program regulations applicable to the Mill are referenced in AAC Chapter 335-6-6 Volume I.

The process wastewaters generated at the Mill are regulated under the Effluent Guidelines and Standards for the Pulp, Paper, and Paperboard Point Source Category at 40 CFR Part 430, Subpart B – Bleached Papergrade Kraft and Soda Subcategory (Subpart B) and Subpart J – Secondary Fiber Non-Deink Subcategory (Subpart J). The significant pollutants regulated by the pulp and paper effluent guidelines include 5-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), adsorbable organic halogens (AOX), chloroform, pentachlorophenol, and trichlorophenol (TCP). Effluent limits derived from production pursuant to Subparts B and J are discussed in Section 4.1.

The Mill has certified that no chlorophenolic-containing biocides are being used onsite and is exempt from pretreatment standards for Pentachlorophenol and Trichlorophenol under 40 CFR Part 430 Section 36 and 106.

Section 316(b) of the Clean Water Act imposes requirements on cooling water intake structures to minimize environmental impacts due to the impingement of fish and shellfish on intake structures and the entrainment of eggs and larvae through cooling water systems. Pursuant to 40 CFR §125.91(a), cooling water intake structure requirements are applicable to existing facilities that use one or more cooling water intake structures with a cumulative design intake flow of greater than 2 million gallons per day (MGD) to withdraw water from waters of the U.S. and 25% or more of that water is used exclusively for cooling water purposes. The Mill withdraws more than 2 MGD from the Alabama River. However, less than 25% of the water withdrawn is used exclusively for cooling purposes, thus the requirements of Section 316(b)

of the Clean Water Act regarding design and operation of cooling water intake structures do not apply to the Mill. Additional information on the Mill's intake structure is provided in ADEM Form 187 in Appendix A.

4. MONITORING REQUIREMENTS AND DISCHARGE LIMITATIONS

The current monitoring requirements and discharge limitations for Outfalls DSN002 and DSN003 are provided in Table 4-1 below.

Table 4-1
Outfalls DSN002 and DSN003 Monitoring Requirements and Discharge Limitations

Parameter	Monthly Average	Daily Maximum	Monitoring Frequency
BOD ₅ (lbs/day)	23,600	46,010	3x weekly, composite
pH	N/A ⁽¹⁾	N/A ⁽¹⁾	Daily, grab
TSS (lbs/day)	48,538	91,450	3x weekly, composite
Nitrogen, Ammonia Total (As N) (mg/L)	N/A ⁽²⁾	N/A ⁽²⁾	Monthly, composite (April – October)
Nitrogen, Kjeldahl Total (As N) (mg/L)	N/A ⁽²⁾	N/A ⁽²⁾	Monthly, composite (April – October)
Nitrate Plus Nitrate Total 1 Det. (As N) (mg/L)	N/A ⁽²⁾	N/A ⁽²⁾	Monthly, composite (April – October)
Phosphorus, Total (As P) (mg/L)	N/A ⁽²⁾	N/A ⁽²⁾	Monthly, composite (April – October)
Pentachlorophenol (lbs/day)	N/A ⁽²⁾	6.28	Monthly, composite
Flow (MGD)	N/A ⁽²⁾	N/A ⁽²⁾	Daily, totalizer
Trichlorophenol (lbs/day)	N/A ⁽²⁾	30.52	Monthly, composite
AOX (lbs/day)	1,889	2,884	Semi-Annually, composite
Toxicity, Ceriodaphnia Chronic	N/A	0 Pass (0)/Fail(1)	Annually, composite
Toxicity, Pimephales Chronic	N/A	0 Pass (0)/Fail(1)	Annually, composite
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (lbs/day)	N/A	0.00000381	Annually, composite

⁽¹⁾ pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.

⁽²⁾ If only one sampling event occurs during a month, the sampling 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.

4.1 DERIVATION OF PERMIT LIMITS

The Mill is subject to effluent limitation guidelines (ELGs) under 40 CFR Part 430, Subpart B and Subpart J Subpart J. The best practicable control technology currently available (BPT) ELGs for bleached kraft facilities where pulp and fine paper are produced and secondary fiber non-deink facilities where paperboard from wastepaper is produced – corrugating medium finish subdivision, outlined in Subparts B and J, respectively, are applied to annual average paper production and old corrugated container (OCC) production in air-dried tons per day (ADT/day), accounting for downtime, to determine the Mill's technology based effluent limits (TBELs) for BOD₅ and TSS on a mass basis (lbs/day), as shown in Table 4-2.

Table 4-2
BPT ELG Factors

Parameter	Subpart B Bleached Kraft – Pulp & Fine Paper		Subpart J Corrugated Medium Finish	
	Daily Maximum	30-day Average	Daily Maximum	30-day Average
	lb/1,000 lb	lb/1,000 lb	lb/1,000 lb	lb/1,000 lb
BOD ₅	10.6	5.5	5.7	2.8
TSS	22.15	11.9	9.2	4.6

The best available technology economically achievable (BAT) ELGs for fiber lines that do not use an exclusively total chlorine free (TCF) bleaching process, shown in Table 4-3.

Table 4-3
BAT ELG Factors

Parameter	Daily Maximum	30-day Average	Unit
Chloroform	6.92	4.14	lb/1,000,000 lb
AOX	0.951	0.623	lb/1,000 lb

In 2020, the Mill completed the Bridge project, which converted the No. 15 Paper Machine for production of white top linerboard. The Mill reviewed annual production data for the past two calendar years since completion of the Bridge project to determine the production rate to be used for projecting technology-based discharge limitations. The production data from the last two years for No. 15 Paper Machine includes atypical market-related downtime and IP's business cycle is longer than two years. With only two

years of data post-project for No. 15 Paper Machine and the atypical market conditions of those two years, the Mill has utilized the Bridge project production projections to determine the contribution of bleached and secondary fiber furnishes when determining the projected TBELs. IP feels that the Mill will realize the Bridge project production levels during the next permit term. Since No. 16 Paper Machine was unaffected by the Bridge project, the Mill included calendar years 2018 through 2022 in the production data assessment. The total bleached paper production (i.e., 1,703 MDT/day) used in the TBEL determination was the sum of 2019 production for No. 16 Paper Machine (1,165 MDT/day) and the projected production for the Bridge project for No. 15 Paper Machine (538 MDT/day). The annual average paper production in units of machine-dried tons per day (MDT/day), the unbleached pulp production in units of air-dried metric tons per day (ADMT/day), and the OCC production, in units of ADT/day, are presented in in Table 4-4.

Table 4-4
Production Data

Year	Bleached Paper Production (MDT/day)	Unbleached Pulp Entering No. 1 Bleach Plant (ADMT/day)	Unbleached Pulp Entering No. 2 Bleach Plant (ADMT/day)	OCC Production (ADT/day)
2018	1,632			
2019	1,703			
2020	1,485			
2021	1,367	521	551	779
2022	1,501	579	524	753
Bridge Project Production	538 (No. 15 Paper Machine)	N/A	N/A	866

Table 4-5
Technology-Based Discharge Limitations

Parameter	Monthly Average (lbs/day)	Daily Maximum (lbs/day)
BOD ₅	23,586	45,982
TSS	48,506	91,391
AOX	1,552	2,370
Chloroform (Outfall DSN003A)	5.283	8.831
Chloroform (Outfall DSN003B)	5.033	8.412

The projected TBELs determined based on the Mill's production result in limits slightly lower than the current permit.

5. SAMPLING AND ANALYTICAL CONSIDERATIONS

The ADEM renewal process requires use of U.S. EPA’s Forms 2C and 2F, which provide a thorough listing of potential pollutants in wastewater and stormwater to be considered for sampling and analysis. The Mill has reviewed the sampling requirements for process wastewater and stormwater referenced in Forms 2C and 2F. Table 5-1 and Table 5-2 outline how each pollutant was selected to be analyzed in accordance with guidance in Section 7 of Forms 2C and 2F.

Table 5-1
Form 2C Pollutant Sampling Requirements

Table Number	Table Description	Outfalls DSN002 and DSN003
Form 2C Table A	Conventional and Nonconventional Pollutants	Data required for all pollutants.
Form 2C Table B, Section 1	Toxic Metals, Cyanide, and Total Phenols	Data required for all pollutants
Form 2C Table B, Section 2	Organic Toxic Pollutants (GC/MS Fraction – Volatile Compounds)	Data required for all pollutants
Form 2C Table B, Section 3	Organic Toxic Pollutants (GC/MS Fraction – Acid Compounds)	Data required for all pollutants
Form 2C Table B, Section 4	Organic Toxic Pollutants (GC/MS Fraction – Base/Neutral Compounds)	Data required for all pollutants
Form 2C Table B, Section 5	Organic Toxic Pollutants (GC/MS Fraction – Pesticides)	Data required for all pollutants
Form 2C Table C	Certain Conventional and Non- Conventional Pollutants	Data required for all pollutants “believed present”
Form 2C Table E	2,3,7,8-Tetracholodibenzo-p- Dioxin	Data required for all pollutants “believed present”

Table 5-2
Form 2F Pollutant Sampling Requirements

Table Number	Table Description	Outfalls DSN004, DSN005, and DSN006
Form 2F Table A	Conventional and Nonconventional Parameters	Data required for all parameters
Form 2F Table B	Certain Conventional and Nonconventional Pollutants	Data required for each pollutant limited by the ELGs of 40 CFR Part 30, Subparts B and J.
Form 2F Table C	Toxic Pollutants, Certain Hazardous Substances, and Asbestos	Data required for all pollutants “believed present”

Analytical laboratory data is included in Appendix B. Sampling was performed on August 8 and 28, 2023 for Outfalls DSN002 and DSN003 and August 29, 2023 for Outfalls DSN004, DSN005, and DSN006. The samples were analyzed by Eurofins. In addition, Discharge Monitoring Report (DMR) data from May 2021 – April 2023 for flow, pH, BOD₅, TSS, nitrate, ammonia, and total Kjeldahl nitrogen (TKN) were used to supplement the lab analytical data.

6. PROPOSED PERMIT REVISIONS

As part of the NPDES renewal application process, the Mill is requesting revisions to certain existing permit monitoring requirements as discussed and substantiated in the following sections.

6.1 MONITORING FREQUENCY REDUCTIONS

The Mill is requesting a reduction in required monitoring frequencies for AOX at Outfalls DSN002 and DSN003 and receiving stream water quality monitoring. Substantiation for these reduction requests are provided in the following sections.

6.1.1 AOX Monitoring Frequency

40 CFR §430.2(b)(1) allows a reduction in monitoring frequency for effluent limitations representing the degree of effluent reduction attainable by the application of best available technology economically achievable (BAT) after five years. The Mill's AOX limits are BAT, and the Mill has been compliant with the AOX limits for more than five years. Based on the Mill's margin of compliance with the current limit and the consistency of the Mill's monitoring data, the Mill is requesting to reduce its AOX monitoring frequency from once per six months to annually. Since the Mill only has two measurements per year, IP has elected to look at the data points from most recent five years for a total of 10 data points. Table 6-1 below summarizes the statistical evaluation of the Mill's AOX data over the past five years.

Table 6-1
Outfall DSN002/003 AOX Proposed Monitoring Frequency Supporting Data

Parameter	Value
Existing Monthly Average Permit Limit (lbs/day)	1,889
Long Term Average (lbs/day) ^(a)	403.33
Standard Deviation (lbs/day)	85.14
Coefficient of Variation	21.11%
Ratio of Long Term Average to Monthly Average Permit Limit	21.4%
Current Sampling Frequency	Once per six months
Proposed Sampling Frequency	Annual

^(a) Long term average is the average of 6-month averages from July 2018 through June 2023.

6.1.2 Receiving Stream Water Quality Monitoring Frequency

The Mill is currently required to conduct receiving stream water quality monitoring twice per week at eight different points along the Alabama River during the months of June through October when the dissolved oxygen (DO) measured at Alabama River Mile (ARM) 221.4 is less than 5.8 milligrams per Liter (mg/L) or the total 24-hour flow at Jones Bluff Lock and Dam is less than 6,000 cubic feet per second (cfs) for two out of three consecutive days. The Mill also has an obligation to complete daily DO monitoring if DO is less than 5.4 mg/L until DO is above the threshold. The Mill must take steps necessary to maintain DO levels at or greater than 5.0 mg/L between ARM 196 and 221.4. The need for the Mill to conduct receiving stream water quality monitoring has historically been driven by the flow at Bluff Lock and Dam flow and not the DO measured at the Mill. Further, the receiving section of the Alabama River is not listed on the 303(d) List of Impaired Waters.

IP has analyzed its historical river monitoring data from June 2018 through July 2023 to demonstrate justification for a reduction in monitoring frequency. Note that no river monitoring was required in June through October 2021. IP has analyzed a total of 625 DO measurements as presented in Table 6-2 below.

Table 6-2
Receiving Stream Water Quality Monitoring Analysis

Parameter	ARM 221.4	ARM 219	ARM 216	ARM 212	ARM 208	ARM 204	ARM 200	ARM 196
No. of Measurements	78	78	78	79	79	79	77	77
Minimum DO (mg/L)	6.0	5.9	5.3	6.1	5.4	5.7	5.5	5.0
Maximum DO (mg/L)	10.8	11.1	12.5	13.6	10.8	12.5	10.1	12.6
Average DO (mg/L)	7.7	7.8	7.5	8.0	7.8	7.9	7.4	7.5
Standard Deviation	1.0071	1.2103	1.1321	1.4052	1.2115	1.6670	1.1544	1.3681
Coefficient of Variation	13%	15%	15%	18%	16%	21%	16%	18%
% of measurements < 5.8 mg/L	0.0%	0.0%	1.3%	0.0%	3.8%	1.3%	7.8%	5.2%
% of measurements < 5.4 mg/L	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	3.9%
% of measurements < 5.0 mg/L	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Based on the Mill's consistent compliance with the current DO limit and low standard deviation of the Mill's monitoring data, the Mill is requesting to reduce the required monitoring frequency to once per week when the requirement to conduct receiving stream water quality monitoring is triggered. The requirement to monitor river conditions, especially when the trigger is not caused by the Mill, is overly burdensome and costly to send personnel out or contract personnel out on the Alabama River for DO measurement at the eight specified points. The second DO sample within the same week typically is very similar to the first and provides little informational value for the cost incurred to complete the sampling. Appendix C provides the Mill's receiving stream water quality monitoring historical data to demonstrate that DO monitoring taken in the same week is very similar.

IP proposes to update the permit condition specifying when to conduct receiving stream water quality monitoring as follows:

If the D.O. measure at Alabama River Mile 221.4 is less than 5.8 mg/L, or the total 24-hour flow at James Bluff Lock Dam is less than 6,000 cfs for two out of three consecutive days, monitoring of the Alabama River shall be performed on a ~~twice~~ **once** per week basis.

6.2 REMOVAL OF DSN0021 AND DSN0031 LIMITS

The Mill would like to confirm that Outfalls DSN0021 and DSN0031 (i.e., Tier limits) will not be present in the upcoming NPDES permit. Requirements for DSN0021 and DSN0031 applied from the effective date of the permit until the completion of the Bridge project, which included modifications to the Mill to convert the No. 15 Paper Machine to production of white top linerboard. The Bridge project was completed in late 2020; therefore, the Tier 1 requirements are no longer applicable. The Mill is currently subject to the discharge limitations and monitoring requirements of Outfalls DSN0022 and DSN0032, which became applicable upon completion of the Bridge project.

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

version 2.7

(Submission #: HPT-P6GJ-XA6VE, version 1)

Digitally signed by:
AEPACS
Date: 2023.10.03 11:41:32 -05:00
Reason: Submission Data
Location: State of Alabama

Details

Submission ID HPT-P6GJ-XA6VE

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 modifications, 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):
AL0003018

Is this facility/site only applying for permit coverage for discharges from stormwater?
No

Is a new stormwater outfall being added?
No

Permit Information

Permit Number
AL0003018

Current Permittee Name
International Paper-Riverdale

Permittee

Permittee Name
International Paper-Riverdale

Mailing Address
601 County Road 78
Selma, AL 36703

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

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

Responsible Official

Prefix
Mr.

First Name Last Name
Michael Closson

Title
Mill Manager

Organization Name
International Paper - Riverdale

Phone Type Number Extension
Business 3344185236

Email
Michael.Closson@ipaper.com

Mailing Address
601 County Road 78
Selma, AL 36703

Does the Responsible Official intend to delegate signatory authority for DMRs or other compliance reports to an individual as a duly authorized representative (DAR) for this site?

No

Existing Permit Contacts

Affiliation Type	Contact Information	Remove?
Engineer	Andrew Phillips, International Paper - Riverdale	NONE PROVIDED
Environmental Contact	Benjy Bruce, International Paper - Riverdale	NONE PROVIDED
Responsible Official, Notification Recipient	Bretton C. De Jong, International Paper - Riverdale	NONE PROVIDED
Facility Contact, DMR Contact	Carla Pearson, International Paper - Riverdale	NONE PROVIDED
Permittee	International Paper-Riverdale	NONE PROVIDED

Facility/Site Information

Facility/Site Name

International Paper - Riverdale

Organization/Ownership Type

Corporation

Facility/Site Address or Location Description

601 County Rd 78

Selma, AL 36703

Facility/Site County

Dallas

Detailed Directions to the Facility/Site

Dallas Co.Rd. 78 East to Dallas Co.Rd. 888. Take CR 888 South for approx. 1 mile to new disturbance area.

Facility Map

[Facility Location Map\(8-16-23\).pdf - 09/14/2023 12:25 PM](#)

Comment

NONE PROVIDED

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

[Map Instruction Help](#)

Facility/Site Front Gate Latitude and Longitude

32.41754999999999,-86.87879400000000

Dallas County Road 888, Selma, AL

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

2611-Pulp Mills

2621-Paper Mills

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

322110-Pulp Mills

322121-Paper (except Newsprint) Mills

Facility/Site Contact**Prefix***Mrs.***First Name***Carla***Last Name***Pearson***Title***Environmental Services (inspection contact)***Organization Name***International Paper - Riverdale***Phone Type****Number****Extension***Business**3344185236***Email***Carla.Pearson@ipaper.com***Address***601 County Road 78**Selma, AL 36703***DMR Contact(s) (1 of 1)****DMR Contact****Prefix***Mrs.***First Name***Carla***Last Name***Pearson***Title***Environmental Services (inspection contact)***Phone Type****Number****Extension***Business**3344185236***Email***Carla.Pearson@ipaper.com***Address***601 County Road 78**Selma, AL 36703***Applicant Business Entity Information****Address of Incorporation***2 Manhatarville Road**Purchase, Westchester County, NY**10557***Agent Designated by the Corporation for Purposes of Service**

Name	Address
International Paper - Riverdale Mill	601 County Rd 78 Selma, AL 36703

Please provide all corporate officers

Name	Title	Address
Mark Sutton	CEO	6400 Poplar Avenue Memphis, TN 38197

Name	Title	Address
Newland Lesco	Executive 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	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?

Yes

Identify all 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, if any, against the Applicant within the State of Alabama in the past five years.

Facility/Site Name	Permit Number, If Applicable	Type of Action	Date of Action
International Paper - Riverdale Mill	104-003	Consent Order	7/27/2023
International Paper - Riverdale Mill	104-003	Consent Order	09/29/2022
International Paper - Riverdale Mill	104-003	Consent Order	04/07/2022

Business Activity

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

International Paper owns and operates a Kraft pulp and paper mill in Selma, AL which produces white top linerboard or bleached printing paper. The typical activities associated with pulp and paper manufacturing are performed at this facility.

Water Supply

Water Sources (check all that apply):

Private Well

Surface Water

Well ID	Private Well in Million Gallons per Day (MGD)
Well 2	0.65
Well 3	2.16
	Sum: 2.81

Operator of Surface Intake	Million Gallons per Day (MGD)
International Paper - Riverdale	38.4
	Sum: 38.4

Cooling Water Intake Structure Information

Does the provider of your source water operate a surface water intake?

Yes

Name of Provider	Location of Provider	Latitude	Longitude
International Paper - Riverdale Mill	601 County Rd 78, Selma AL	32.417549999999999	-86.878794000000000

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)?

No

Is any water withdrawn from the source water used for cooling?

Yes

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

10

Does the cooling water consist of treated effluent that would otherwise be discharged?

No

Is the cooling water used in a once-through cooling system?

Yes

Is the cooling water used in a closed cycle cooling system?

Yes

When was the intake installed?

1966

What is the maximum intake volume (maximum pumping capacity in gallons per day)?

43

What is the average intake volume (average intake pump rate in gallons per day average in any 30-day period)?

38.4

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

32

How is the intake operated?

Continuously

What is the mesh size of the screen on your intake (in inches)?

0.110

What is the intake screen flow-through area (in square feet)?

90.47

What is the through-screen design intake flow velocity (in ft/sec)?

0.735

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

0.543

What is the mechanism for cleaning the screen (e.g., does it rotate for cleaning)?

rotation

Do you have any additional fish detraction technology on your intake?

Yes

Please describe the fish detraction technology:

Rotating screen

Have there been any studies to determine the impact of the intake on aquatic organisms?

No

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

[EPA Form 1 - Figure 2 - Riverdale Outfall and Well Locations \(9-19-23\).pdf - 10/03/2023 08:56 AM](#)

Comment

NONE PROVIDED

Outfalls (1 of 4)

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)

0

Monitoring/Sampling Point Location

32.42710000000000, -86.88430000000000

Outfalls (2 of 4)

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)

37.4

Monitoring/Sampling Point Location
32.41388900000000, -86.84722200000000

Outfalls (3 of 4)

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:
Process Water commingled with Stormwater

Estimated Average Daily Flow (MGD)
37.4

Monitoring/Sampling Point Location
32.41388900000000, -86.84722200000000

Outfalls (4 of 4)

005

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

Outfall Identifier
005

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:
None apply

Estimated Average Daily Flow (MGD)
0.22

Monitoring/Sampling Point Location
32.42083300000000, -86.87388900000001

Stormwater Outfalls (1 of 2)

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

32.42305600000000, -86.87527799999999

Stormwater Outfalls (2 of 2)

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

32.42972200000000, -86.87083300000001

Process Flow Schematic with Wastewater Treatment(s), If Applicable

For an example of a process flow diagram, please use the link below.

[Figure 1: Example of Process Flow Schematic](#)

Process Flow Schematic

[Wastewater Collection and Treatment System PFD \(9-22-23\).pdf - 10/03/2023 08:56 AM](#)

Comment

NONE PROVIDED

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:

Automatic Sampler - ISCO Model 3710

Continuous Wastewater Flow Metering Equipment - Integrator flow meter/Honeywell Mini Trend

Please attach the process schematic with sampling equipment locations.

[EPA Form 1 - Figure 2 - Riverdale Outfall and Well Locations \(9-19-23\).pdf - 10/03/2023 08:57 AM](#)

Comment

Automatic Sampler and Flow metering equipment is located prior to discharge of DSN002/003.

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:
Nalco Towerbrome 991

Biocide/Corrosion Inhibitor Summary Sheet

[Form 187 - Section C Item 4 \(9-18-23\).pdf - 10/03/2023 08:58 AM](#)

Comment

NONE PROVIDED

Safety Data Sheets (SDS)

[SDS combined.pdf - 09/14/2023 04:07 PM](#)

Comment

NONE PROVIDED

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).

Sedimentation

Neutralization, pH correction

Other: mixing, aerated lagoons, stabilization ponds,

Screen

Filtration

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

U.S. EPA Form 1 (9-28-23).pdf - 10/03/2023 08:59 AM

Comment

NONE PROVIDED

Additional EPA Forms (EPA Form 2C, 2D, 2E and/or 2F)

U.S. EPA Form 2C (10-2-23).pdf - 10/03/2023 08:59 AM

Comment

NONE PROVIDED

Other attachments (as needed)

U.S. EPA Form 2F (10-2-23).pdf - 10/03/2023 08:59 AM

Comment

NONE PROVIDED

Additional Attachments

Please attach any additional information as needed.

FINAL IP Riverdale NPDES Renewal (10-2-2023).pdf - 10/03/2023 09:00 AM

Comment

Complete Application

Application Preparer

Application Preparer

Prefix

Mrs.

First Name

Susie

Last Name

Bowden

Title

Managing Consultant

Organization Name

ALL4 LLC

Phone Type

Business

Number

334-703-9142

Extension

Email

sbowden@all4inc.com

Address

[NO STREET ADDRESS SPECIFIED]

[NO CITY SPECIFIED], [NO STATE SPECIFIED] [NO ZIP CODE SPECIFIED]

Agreements and Signature(s)

SUBMISSION AGREEMENTS

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

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

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

NOTE: 335-6-5-.14 SIGNATORIES TO PERMIT APPLICATIONS AND REPORTS.

The application shall be signed by a responsible official, a request for variance from categorical pretreatment standards, and a category determination request shall be signed by a responsible official, as indicated below:

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

Signed Michael Closson on 10/03/2023 at 11:36 AM
By

**APPENDIX A -
APPLICATION FORMS**

EPA Identification Number ALD000645457		NPDES Permit Number AL0003018		Facility Name International Paper - Riverdale		Form Approved 03/05/19 OMB No. 2040-0004	
Form 1 NPDES		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. ☒ Yes ☐ 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. ☒ Yes ☐ 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 - Riverdale Mill						
	2.2 EPA Identification Number						
	ALD000645457						
	2.3 Facility Contact						
	Name (first and last) Carla Pearson		Title Environmental Specialist		Phone number (334) 418-5236		
	Email address Carla.Pearson@ipaper.com						
2.4 Facility Mailing Address							
Street or P.O. box 601 County Rd 78							
City or town Selma		State AL		ZIP code 36703			

EPA Identification Number ALD000645457		NPDES Permit Number AL0003018		Facility Name International Paper - Riverdale		Form Approved 03/05/19 OMB No. 2040-0004	
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Name, Mailing Address, and Location Continued	2.5	Facility Location					
		Street, route number, or other specific identifier 601 County Rd 78					
		County name Dallas		County code (if known) 27			
		City or town Selma		State AL		ZIP code 36703	

SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(f)(3))					
SIC and NAICS Codes	3.1	SIC Code(s)		Description (optional)	
		2621		Paper Mills	
		2611		Pulp Mills	
	3.2	NAICS Code(s)		Description (optional)	
		322120		Paper Mills	
		322110		Pulp Mills	

SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(f)(4))						
Operator Information	4.1	Name of Operator				
		International Paper				
	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) 872-3481				

Operator Information Continued	4.5	Operator Address					
		Street or P.O. Box 601 County Rd 78					
		City or town Selma		State AL		ZIP code 36703	
		Email address of operator Carla.Pearson@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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004
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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) AL0003018	☒ RCRA (hazardous wastes) ALD000645457	☐ UIC (underground injection of fluids)
		☒ PSD (air emissions) 104-0003	☐ Nonattainment program (CAA)	☐ NESHAPs (CAA)
		☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☒ Other (specify) See Attachment

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

Nature of Business	8.1	Describe the nature of your business. International Paper owns and operates a Kraft pulp and paper mill in Selma, AL which produces white top linerboard and bleached printing paper. The typical activities associated with pulp and paper manufacturing are performed at this facility.
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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.) Water intake structure located off bank of the Mulberry Creek directly off of Alabama River. Less than 10% of water withdrawn is used exclusively for cooling purposes. Additional information regarding the water intake structure can be found in ADEM Form 187.

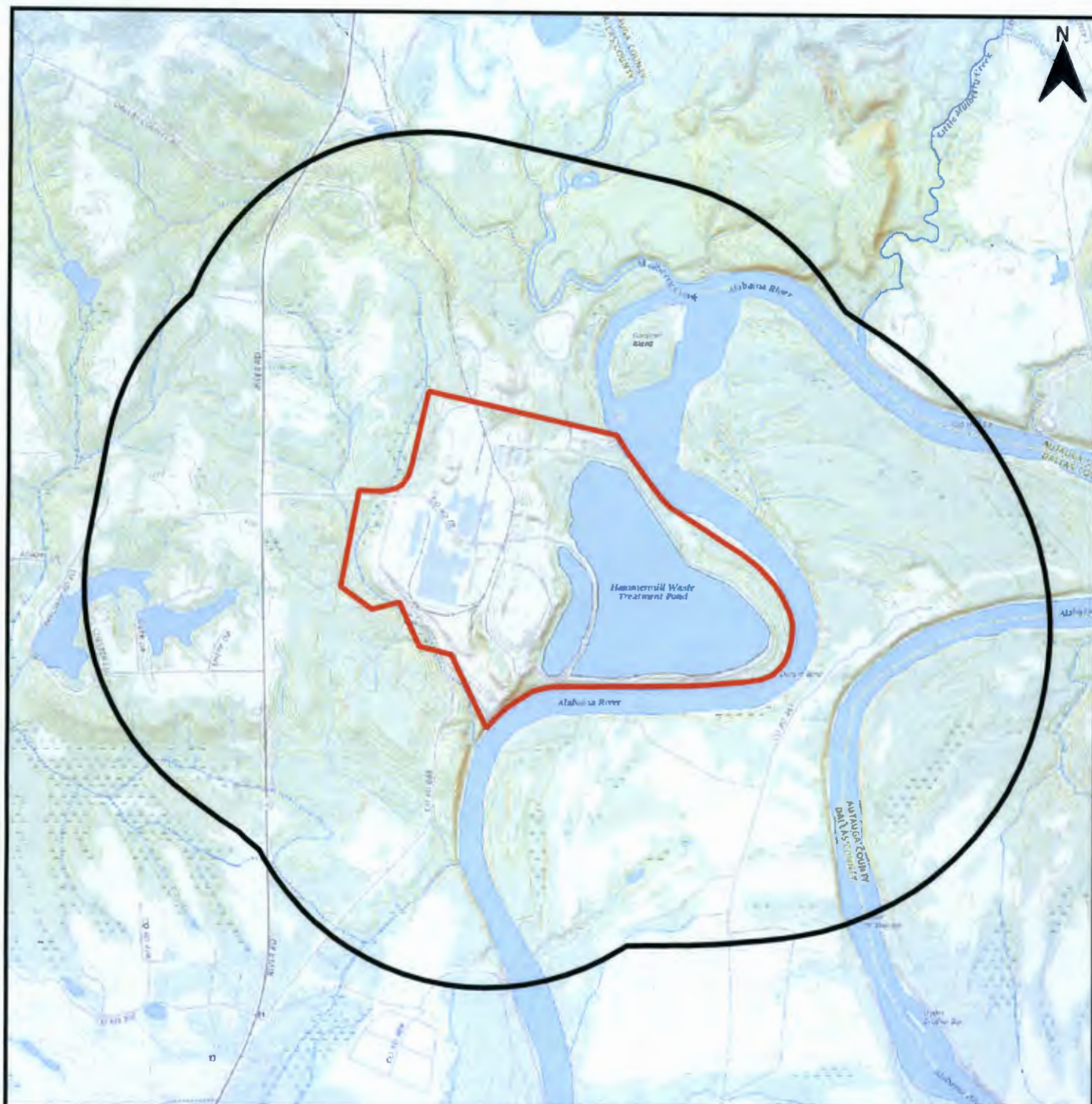
SECTION 10. VARIANCE REQUESTS (40 CFR 122.21(f)(10))

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

EPA Identification Number ALD000645457		NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004																								
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. <table border="1"> <thead> <tr> <th>Column 1</th> <th>Column 2</th> </tr> </thead> <tbody> <tr> <td>☒ Section 1: Activities Requiring an NPDES Permit</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 2: Name, Mailing Address, and Location</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 3: SIC Codes</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 4: Operator Information</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 5: Indian Land</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 6: Existing Environmental Permits</td> <td>☒ w/ attachments</td> </tr> <tr> <td>☒ Section 7: Map</td> <td>☒ w/ topographic map ☐ w/ additional attachments</td> </tr> <tr> <td>☒ Section 8: Nature of Business</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 9: Cooling Water Intake Structures</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 10: Variance Requests</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 11: Checklist and Certification Statement</td> <td>☐ w/ attachments</td> </tr> </tbody> </table>			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
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	☒ Section 11: Checklist and Certification Statement	☐ w/ attachments																										
	11.2	Certification Statement <i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i> <table border="1"> <tr> <td>Name (print or type first and last name) Michael Closson</td> <td>Official title Mill Manager</td> </tr> <tr> <td>Signature</td> <td>Date signed</td> </tr> </table>			Name (print or type first and last name) Michael Closson	Official title Mill Manager	Signature	Date signed																				
Name (print or type first and last name) Michael Closson	Official title Mill Manager																											
Signature	Date signed																											

U.S. EPA Form 1, Item 6.1
Existing Environmental Permits
International Paper - Riverdale, AL Mill

Environmental Program	Permit Number
NPDES	AL0003018
RCRA	ALD000645457
TVOP	104-0003
PSD (Air Emissions)	104-0003-Z029
	104-0003-Z014
Drinking Water	2016-799
Radioactive Materials License	581
Water Use Certificate - ADECA	46
COE/ADEM Dredge	SAM-2005-01655-ADP
Solid Waste Disposal Facility	24-06
Solid Waste Scrap Tire Facility	SC20000-006298



Legend

-  Approximate Property Boundary
 1-mile Radius from Property Boundary

U.S. EPA Form 1 - Figure 1
USGS Topographical Map

International Paper - Riverdale Mill
Selma, AL

0 0.25 0.5 0.75 1 mi

PREPARED BY: **A.B.**

CHECKED BY: **S.B.**

DATE: **August 2023**

PROJ NO.: 00302-0053.00





Legend

- Approximate Property Boundary
- Outfall Location
- River Intake Structure
- Well Location
- Hazardous Waste Storage (temporary)
- ➔ Flow Arrows

0 0.25 0.5 0.75 1 mi

U.S. EPA Form 1 - Figure 2
Outfall, Intake Structure, Hazardous Waste Storage,
and Well Locations

International Paper - Riverdale Mill
Selma, AL

DRAWN BY:

A.B.

CHECKED BY:

S.B.

DATE:

July 2023

PROJ NO.:

00302-0053.00



EPA Identification Number ALD000645457		NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004
Form 2C NPDES		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
	DSN002	Alabama River	32° 24' 50" N	86° 50' 50" W
	DSN003	Alabama River	32° 24' 50" N	86° 50' 50" 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 002/003		
		Operations Contributing to Flow		
		Operation	Average Flow	
		See Attachment		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 Attachment		

EPA Identification Number ALD000645457		NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004
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Average Flows and Treatment Continued	3.1 cont.	**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	
		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

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004
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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

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	
	40 CFR 430	Subpart B: Bleached Papergrade Kraft and Soda	40 CFR 430.20	
	40 CFR 430	Subpart J: Secondary Fiber Non-Deink Subcategory	40 CFR 430.100	
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 Attachment		

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004
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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 Paper Mills	☒ Volatile ☒ Acid ☒ Base/Neutral ☒ Pesticide		
		☐ Volatile ☐ Acid ☐ Base/Neutral ☐ Pesticide		
		☐ Volatile ☐ Acid ☐ Base/Neutral ☐ Pesticide		

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004
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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 <i>qualitative</i> 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.

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale
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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?
		Acute Toxicity Tests	Required by NPDES Permit	☒ Yes ☐ No
		Acute Toxicity Tests	Required by NPDES Permit	☒ Yes ☐ No
		Acute Toxicity Tests	Required by NPDES Permit	☒ Yes ☐ No
				Date Submitted
				01/18/2023
				01/25/2022
				01/28/2021

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
		Name of laboratory/firm	Eurofins Pensacola	
		Laboratory address	3355 McLemore Drive	
		Phone number	(850) 474-1001	
		Pollutant(s) analyzed	Form 2C Table A through Table C	

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. ADEM Form 187	4.
		2.	5.
		3.	6.

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004
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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>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>		
	Name (print or type first and last name)	Official title	
	Michael Closson	Mill Manager	
	Signature	Date signed	

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A Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 002/003
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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 <i>all</i> of the pollutants listed on this table for the noted outfall.										
1.	Biochemical oxygen demand (BOD ₅)	☐	Concentration	mg/L	51.89	43.75	44.23	312		
			Mass	lb/day	34,643	16,027	18,453	312		
2.	Chemical oxygen demand (COD)	☐	Concentration	mg/L	180			1		
			Mass	lb/day	59,937			1		
3.	Total organic carbon (TOC)	☐	Concentration	mg/L	100			1		
			Mass	lb/day	33,298			1		
4.	Total suspended solids (TSS)	☐	Concentration	mg/L	60.31	57.75	63.60	312		
			Mass	lb/day	40,263	21,156	26,533	312		
5.	Ammonia (as N)	☐	Concentration	mg/L	2.96		1.78	24		
			Mass	lb/day	1,976		742.59	24		
6.	Flow	☐	Rate	MGD	80	43.90	49.99	730		
7.	Temperature (winter)	☐	°C	°C	32.22	20.22	17.89	299		
	Temperature (summer)	☐	°C	°C	41.11	29.46	23.89	421		
8.	pH (minimum)	☐	Standard units	s.u.	7.70		7.36	312		
	pH (maximum)	☐	Standard units	s.u.	9.00			312		

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	<0.0015			1			
					Mass	lb/day	<0.50			1			
1.2	Arsenic, total (7440-38-2)	☒	☐	☐	Concentration	mg/L	<0.00039			1			
					Mass	lb/day	<0.13			1			
1.3	Beryllium, total (7440-41-7)	☒	☐	☐	Concentration	mg/L	<0.00017			1			
					Mass	lb/day	<0.057			1			
1.4	Cadmium, total (7440-43-9)	☒	☐	☐	Concentration	mg/L	<0.00028			1			
					Mass	lb/day	<0.093			1			
1.5	Chromium, total (7440-47-3)	☒	☐	☐	Concentration	mg/L	0.0027			1			
					Mass	lb/day	0.90			1			
1.6	Copper, total (7440-50-8)	☒	☐	☐	Concentration	mg/L	0.0023			1			
					Mass	lb/day	0.77			1			
1.7	Lead, total (7439-92-1)	☒	☐	☐	Concentration	mg/L	0.0011			1			
					Mass	lb/day	0.37			1			
1.8	Mercury, total (7439-97-6)	☒	☐	☐	Concentration	mg/L	0.0000075			1			
					Mass	lb/day	0.0029			1			
1.9	Nickel, total (7440-02-0)	☒	☐	☐	Concentration	mg/L	0.0045			1			
					Mass	lb/day	1.50			1			
1.10	Selenium, total (7782-49-2)	☒	☐	☐	Concentration	mg/L	<0.00082			1			
					Mass	lb/day	<0.27			1			
1.11	Silver, total (7440-22-4)	☒	☐	☐	Concentration	mg/L	<0.00012			1			
					Mass	lb/day	<0.040			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	<0.00012			1	
					Mass	lb/day	<0.040			1	
1.13	Zinc, total (7440-66-6)	☒	☐	☐	Concentration	mg/L	0.046			1	
					Mass	lb/day	15.32			1	
1.14	Cyanide, total (57-12-5)	☒	☐	☐	Concentration	mg/L	<0.0035			1	
					Mass	lb/day	<1.17			1	
1.15	Phenols, total	☒	☐	☐	Concentration	mg/L	<0.0020			1	
					Mass	lb/day	<0.67			1	
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)											
2.1	Acrolein (107-02-8)	☒	☐	☐	Concentration	mg/L	<0.0033			1	
					Mass	lb/day	<1.10			1	
2.2	Acrylonitrile (107-13-1)	☒	☐	☐	Concentration	mg/L	<0.0028			1	
					Mass	lb/day	<0.93			1	
2.3	Benzene (71-43-2)	☒	☐	☐	Concentration	mg/L	<0.00050			1	
					Mass	lb/day	<0.17			1	
2.4	Bromoform (75-25-2)	☒	☐	☐	Concentration	mg/L	<0.00025			1	
					Mass	lb/day	<0.083			1	
2.5	Carbon tetrachloride (56-23-5)	☒	☐	☐	Concentration	mg/L	<0.00019			1	
					Mass	lb/day	<0.063			1	
2.6	Chlorobenzene (108-90-7)	☒	☐	☐	Concentration	mg/L	<0.00015			1	
					Mass	lb/day	<0.050			1	
2.7	Chlorodibromomethane (124-48-1)	☒	☐	☐	Concentration	mg/L	<0.00024			1	
					Mass	lb/day	<0.080			1	
2.8	Chloroethane (75-00-3)	☒	☐	☐	Concentration	mg/L	<0.00076			1	
					Mass	lb/day	<0.25			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	mg/L	<0.0020			1		
					Mass	lb/day	<0.67			1		
2.10	Chloroform (67-66-3)	☒	☐	☐	Concentration	mg/L	<0.00090			1		
					Mass	lb/day	<0.30			1		
2.11	Dichlorobromomethane (75-27-4)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.12	1,1-dichloroethane (75-34-3)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.13	1,2-dichloroethane (107-06-2)	☒	☐	☐	Concentration	mg/L	<0.00019			1		
					Mass	lb/day	<0.063			1		
2.14	1,1-dichloroethylene (75-35-4)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.15	1,2-dichloropropane (78-87-5)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.16	1,3-dichloropropylene (542-75-6)	☒	☐	☐	Concentration	mg/L	<0.0010			1		
					Mass	lb/day	<0.33			1		
2.17	Ethylbenzene (100-41-4)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.18	Methyl bromide (74-83-9)	☒	☐	☐	Concentration	mg/L	<0.00098			1		
					Mass	lb/day	<0.33			1		
2.19	Methyl chloride (74-87-3)	☒	☐	☐	Concentration	mg/L	<0.00090			1		
					Mass	lb/day	<0.30			1		
2.20	Methylene chloride (75-09-2)	☒	☐	☐	Concentration	mg/L	<0.0030			1		
					Mass	lb/day	<1.00			1		
2.21	1,1,1,2-tetrachloroethane (79-34-5)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			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	mg/L	<0.00090			1		
					Mass	lb/day	<0.30			1		
					Concentration	mg/L	<0.00090			1		
2.23	Toluene (108-88-3)	☒	☐	☐	Mass	lb/day	<0.30			1		
					Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.24	1,2-trans-dichloroethylene (156-60-5)	☒	☐	☐	Concentration	mg/L	<0.00018			1		
					Mass	lb/day	<0.060			1		
					Concentration	mg/L	<0.00021			1		
2.25	1,1,1-trichloroethane (71-55-6)	☒	☐	☐	Mass	lb/day	<0.070			1		
					Concentration	mg/L	<0.00015			1		
					Mass	lb/day	<0.050			1		
2.26	1,1,2-trichloroethane (79-00-5)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
					Concentration	mg/L	<0.00050			1		
2.27	Trichloroethylene (79-01-6)	☒	☐	☐	Mass	lb/day	<0.17			1		
					Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
2.28	Vinyl chloride (75-01-4)	☒	☐	☐	Concentration	mg/L	<0.00050			1		
					Mass	lb/day	<0.17			1		
					Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)							
3.1	2-chlorophenol (95-57-8)	☒	☐	☐	Concentration	µg/L	<11			1		
					Mass	lb/day	<3.66			1		
					Concentration	µg/L	<9.6			1		
3.2	2,4-dichlorophenol (120-83-2)	☒	☐	☐	Mass	lb/day	<3.20			1		
					Concentration	µg/L	<9.6			1		
					Mass	lb/day	<3.20			1		
3.3	2,4-dimethylphenol (105-67-9)	☒	☐	☐	Concentration	µg/L	<9.6			1		
					Mass	lb/day	<3.20			1		
					Concentration	µg/L	<7.7			1		
3.4	4,6-dinitro-o-cresol (534-52-1)	☒	☐	☐	Mass	lb/day	<2.56			1		
					Concentration	µg/L	<16			1		
					Mass	lb/day	<5.33			1		
3.5	2,4-dinitrophenol (51-28-5)	☒	☐	☐	Concentration	µg/L	<16			1		
					Mass	lb/day	<5.33			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	<12			1		
					Mass	lb/day	<4.00			1		
3.7	4-nitrophenol (100-02-7)	☒	☐	☐	Concentration	µg/L	<10			1		
					Mass	lb/day	<3.33			1		
3.8	p-chloro-m-cresol (59-50-7)	☒	☐	☐	Concentration	µg/L	<18			1		
					Mass	lb/day	<5.99			1		
3.9	Pentachlorophenol (87-86-5)	☒	☐	☐	Concentration	µg/L	<6.7			1		
					Mass	lb/day	<2.23	<2.23		1		
3.10	Phenol (108-95-2)	☒	☐	☐	Concentration	µg/L	<5.3			1		
					Mass	lb/day	<1.76			1		
3.11	2,4,6-trichlorophenol (88-05-2)	☒	☐	☐	Concentration	µg/L	<13			1		
					Mass	lb/day	<4.33			1		
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base/Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☒	☐	☐	Concentration	µg/L	<0.77			1		
					Mass	lb/day	<0.26			1		
4.2	Acenaphthylene (208-96-8)	☒	☐	☐	Concentration	µg/L	<0.82			1		
					Mass	lb/day	<0.27			1		
4.3	Anthracene (120-12-7)	☒	☐	☐	Concentration	µg/L	<0.87			1		
					Mass	lb/day	<0.29			1		
4.4	Benzidine (92-87-5)	☒	☐	☐	Concentration	µg/L	<96			1		
					Mass	lb/day	<31.97			1		
4.5	Benzo (a) anthracene (56-55-3)	☒	☐	☐	Concentration	µg/L	3.2			1		
					Mass	lb/day	1.07			1		
4.6	Benzo (a) pyrene (50-32-8)	☒	☐	☐	Concentration	µg/L	1.0			1		
					Mass	lb/day	0.33			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	1.0			1		
					Mass	lb/day	0.33			1		
4.8	Benzo (ghi) perylene (191-24-2)	☒	☐	☐	Concentration	µg/L	<1.1			1		
					Mass	lb/day	<0.37			1		
4.9	Benzo (k) fluoranthene (207-08-9)	☒	☐	☐	Concentration	µg/L	1.5			1		
					Mass	lb/day	0.50			1		
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☒	☐	☐	Concentration	µg/L	<0.77			1		
					Mass	lb/day	<0.26			1		
4.11	Bis (2-chloroethyl) ether (111-44-4)	☒	☐	☐	Concentration	µg/L	<13.0			1		
					Mass	lb/day	<4.33			1		
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☒	☐	☐	Concentration	µg/L	<0.77			1		
					Mass	lb/day	<0.26			1		
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☒	☐	☐	Concentration	µg/L	<24			1		
					Mass	lb/day	<7.99			1		
4.14	4-bromophenyl phenyl ether (101-55-3)	☒	☐	☐	Concentration	µg/L	<0.96			1		
					Mass	lb/day	<0.32			1		
4.15	Butyl benzyl phthalate (85-68-7)	☒	☐	☐	Concentration	µg/L	1.2			1		
					Mass	lb/day	0.40			1		
4.16	2-chloronaphthalene (91-58-7)	☒	☐	☐	Concentration	µg/L	<0.67			1		
					Mass	lb/day	<0.22			1		
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☒	☐	☐	Concentration	µg/L	<9.6			1		
					Mass	lb/day	<3.20			1		
4.18	Chrysene (218-01-9)	☒	☐	☐	Concentration	µg/L	2.3			1		
					Mass	lb/day	0.77			1		
4.19	Dibenzo (a,h) anthracene (53-70-3)	☒	☐	☐	Concentration	µg/L	<1.2			1		
					Mass	lb/day	<0.40			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	mg/L	<0.00050		1		
					Mass	lb/day	<0.17		1		
4.21	1,3-dichlorobenzene (541-73-1)	☒	☐	☐	Concentration	mg/L	<0.00054		1		
					Mass	lb/day	<0.18		1		
4.22	1,4-dichlorobenzene (106-46-7)	☒	☐	☐	Concentration	mg/L	<0.00064		1		
					Mass	lb/day	<0.21		1		
4.23	3,3-dichlorobenzidine (91-94-1)	☒	☐	☐	Concentration	µg/L	<13		1		
					Mass	lb/day	<4.33		1		
4.24	Diethyl phthalate (84-66-2)	☒	☐	☐	Concentration	µg/L	<1.2		1		
					Mass	lb/day	<0.40		1		
4.25	Dimethyl phthalate (131-11-3)	☒	☐	☐	Concentration	µg/L	<0.82		1		
					Mass	lb/day	<0.27		1		
4.26	Di-n-butyl phthalate (84-74-2)	☒	☐	☐	Concentration	µg/L	<6.7		1		
					Mass	lb/day	<2.23		1		
4.27	2,4-dinitrotoluene (121-14-2)	☒	☐	☐	Concentration	µg/L	<9.2		1		
					Mass	lb/day	<3.06		1		
4.28	2,6-dinitrotoluene (606-20-2)	☒	☐	☐	Concentration	µg/L	<9.2		1		
					Mass	lb/day	<3.06		1		
4.29	Di-n-octyl phthalate (117-84-0)	☒	☐	☐	Concentration	µg/L	1.0		1		
					Mass	lb/day	0.33		1		
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☒	☐	☐	Concentration	µg/L	<4.8		1		
					Mass	lb/day	<1.60		1		
4.31	Fluoranthene (206-44-0)	☒	☐	☐	Concentration	µg/L	<0.87		1		
					Mass	lb/day	<0.29		1		
4.32	Fluorene (86-73-7)	☒	☐	☐	Concentration	µg/L	<0.87		1		
					Mass	lb/day	<0.29		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	<0.82			1		
					Mass	lb/day	<0.27			1		
4.34	Hexachlorobutadiene (87-68-3)	☒	☐	☐	Concentration	µg/L	<17			1		
					Mass	lb/day	<5.66			1		
4.35	Hexachlorocyclopentadiene (77-47-4)	☒	☐	☐	Concentration	µg/L	<13			1		
					Mass	lb/day	<4.33			1		
4.36	Hexachloroethane (67-72-1)	☒	☐	☐	Concentration	µg/L	<20			1		
					Mass	lb/day	<6.66			1		
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☒	☐	☐	Concentration	µg/L	<1.1			1		
					Mass	lb/day	<0.37			1		
4.38	Isophorone (78-59-1)	☒	☐	☐	Concentration	µg/L	<0.67			1		
					Mass	lb/day	<0.22			1		
4.39	Naphthalene (91-20-3)	☒	☐	☐	Concentration	µg/L	<0.82			1		
					Mass	lb/day	<0.27			1		
4.40	Nitrobenzene (98-95-3)	☒	☐	☐	Concentration	µg/L	<0.63			1		
					Mass	lb/day	<0.21			1		
4.41	N-nitrosodimethylamine (62-75-9)	☒	☐	☐	Concentration	µg/L	<17			1		
					Mass	lb/day	<5.66			1		
4.42	N-nitrosodi-n-propylamine (621-64-7)	☒	☐	☐	Concentration	µg/L	<16			1		
					Mass	lb/day	<5.33			1		
4.43	N-nitrosodiphenylamine (86-30-6)	☒	☐	☐	Concentration	µg/L	<0.87			1		
					Mass	lb/day	<0.29			1		
4.44	Phenanthrene (85-01-8)	☒	☐	☐	Concentration	µg/L	<0.87			1		
					Mass	lb/day	<0.29			1		
4.45	Pyrene (129-00-0)	☒	☐	☐	Concentration	µg/L	<1.0			1		
					Mass	lb/day	<0.33			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	<0.87				1		
					Mass	lb/day	<0.29				1		
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)													
5.1	Aldrin (309-00-2)	☒	☐	☐	Concentration	mg/L	<0.0000015				1		
					Mass	lb/day	<0.00050				1		
5.2	α-BHC (319-84-6)	☒	☐	☐	Concentration	mg/L	<0.0000023				1		
					Mass	lb/day	<0.00077				1		
5.3	β-BHC (319-85-7)	☒	☐	☐	Concentration	mg/L	<0.0000066				1		
					Mass	lb/day	<0.0022				1		
5.4	γ-BHC (58-89-9)	☒	☐	☐	Concentration	mg/L	<0.0000016				1		
					Mass	lb/day	<0.00053				1		
5.5	δ-BHC (319-86-8)	☒	☐	☐	Concentration	mg/L	<0.0000033				1		
					Mass	lb/day	<0.00011				1		
5.6	Chlordane (57-74-9)	☒	☐	☐	Concentration	mg/L	<0.000021				1		
					Mass	lb/day	<0.0070				1		
5.7	4,4'-DDT (50-29-3)	☒	☐	☐	Concentration	mg/L	<0.0000069				1		
					Mass	lb/day	<0.0023				1		
5.8	4,4'-DDE (72-55-9)	☒	☐	☐	Concentration	mg/L	<0.0000044				1		
					Mass	lb/day	<0.0015				1		
5.9	4,4'-DDD (72-54-8)	☒	☐	☐	Concentration	mg/L	<0.0000032				1		
					Mass	lb/day	<0.0011				1		
5.10	Dieldrin (60-57-1)	☒	☐	☐	Concentration	mg/L	<0.0000018				1		
					Mass	lb/day	<0.00060				1		
5.11	α-endosulfan (115-29-7)	☒	☐	☐	Concentration	mg/L	<0.0000038				1		
					Mass	lb/day	<0.0013				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	mg/L	<0.0000083			1		
					Mass	lb/day	<0.0028			1		
5.13	Endosulfan sulfate (1031-07-8)	☒	☐	☐	Concentration	mg/L	<0.000017			1		
					Mass	lb/day	<0.0057			1		
5.14	Endrin (72-20-8)	☒	☐	☐	Concentration	mg/L	<0.0000041			1		
					Mass	lb/day	<0.0014			1		
5.15	Endrin aldehyde (7421-93-4)	☒	☐	☐	Concentration	mg/L	<0.0000059			1		
					Mass	lb/day	<0.0020			1		
5.16	Heptachlor (76-44-8)	☒	☐	☐	Concentration	mg/L	<0.0000059			1		
					Mass	lb/day	<0.0020			1		
5.17	Heptachlor epoxide (1024-57-3)	☒	☐	☐	Concentration	mg/L	<0.0000023			1		
					Mass	lb/day	<0.00077			1		
5.18	PCB-1242 (53469-21-9)	☒	☐	☐	Concentration	mg/L	<0.00013			1		
					Mass	lb/day	<0.043			1		
5.19	PCB-1254 (11097-69-1)	☒	☐	☐	Concentration	mg/L	<0.00011			1		
					Mass	lb/day	<0.037			1		
5.20	PCB-1221 (11104-28-2)	☒	☐	☐	Concentration	mg/L	<0.00014			1		
					Mass	lb/day	<0.047			1		
5.21	PCB-1232 (11141-16-5)	☒	☐	☐	Concentration	mg/L	<0.00012			1		
					Mass	lb/day	<0.040			1		
5.22	PCB-1248 (12672-29-6)	☒	☐	☐	Concentration	mg/L	<0.000090			1		
					Mass	lb/day	<0.030			1		
5.23	PCB-1260 (11096-82-5)	☒	☐	☐	Concentration	mg/L	<0.000043			1		
					Mass	lb/day	<0.014			1		
5.24	PCB-1016 (12674-11-2)	☒	☐	☐	Concentration	mg/L	<0.000059			1		
					Mass	lb/day	<0.020			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	mg/L	<0.00014			1		
					Mass	lb/day	<0.047			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 <i>not</i> complete the "Presence or Absence" column of Table C for <i>each</i> pollutant.										
☐ Check here if you believe all pollutants on Table C to be absent in your discharge from the noted outfall. You need <i>not</i> complete the "Presence or Absence" column of Table C for <i>each</i> pollutant.										
1.	Bromide (24959-67-9)	☐	☒	Concentration	mg/L	<7.9			1	
				Mass	lb/day	<2,631			1	
2.	Chlorine, total residual	☐	☒	Concentration	mg/L	<0.057			1	
				Mass	lb/day	<18.98			1	
3.	Color	☒	☐	Concentration	Color Unit	1700			1	
				Mass		N/A				
4.	Fecal coliform	☒	☐	Concentration	CFU/100m	7000			1	
				Mass		N/A				
5.	Fluoride (16984-48-8)	☐	☒	Concentration	mg/L	<2.2			1	
				Mass	lb/day	<732.56			1	
6.	Nitrate-nitrite	☒	☐	Concentration	mg/L	0.55		0.28	15	
				Mass	lb/day	367.20		116.81	15	
7.	Nitrogen, total organic (as N)	☒	☐	Concentration	mg/L	10.60		6.23	15	
				Mass	lb/day	7,077		2,599	15	
8.	Oil and grease	☒	☐	Concentration	mg/L	<1.3			1	
				Mass	lb/day	<432.88			1	
9.	Phosphorus (as P), total (7723-14-0)	☒	☐	Concentration	mg/L	9.20		2.04	15	
				Mass	lb/day	6,142		851.06	15	
10.	Sulfate (as SO ₄) (14808-79-8)	☒	☐	Concentration	mg/L	270			1	
				Mass	lb/day	89,905			1	
11.	Sulfide (as S)	☒	☐	Concentration	mg/L	0.52			1	
				Mass	lb/day	173.15			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	<0.067		1		
				Mass	lb/day	<22.31		1		
14.	Aluminum, total (7429-90-5)	☒	☐	Concentration	mg/L	0.60		1		
				Mass	lb/day	199.79		1		
15.	Barium, total (7440-39-3)	☒	☐	Concentration	mg/L	0.17		1		
				Mass	lb/day	56.61		1		
16.	Boron, total (7440-42-8)	☒	☐	Concentration	mg/L	0.15		1		
				Mass	lb/day	49.95		1		
17.	Cobalt, total (7440-48-4)	☐	☒	Concentration	mg/L	<0.0028		1		
				Mass	lb/day	<0.932		1		
18.	Iron, total (7439-89-6)	☒	☐	Concentration	mg/L	<0.40		1		
				Mass	lb/day	<133.19		1		
19.	Magnesium, total (7439-95-4)	☒	☐	Concentration	mg/L	6.9		1		
				Mass	lb/day	2,298		1		
20.	Molybdenum, total (7439-98-7)	☐	☒	Concentration	mg/L	<0.023		1		
				Mass	lb/day	<7.66		1		
21.	Manganese, total (7439-96-5)	☒	☐	Concentration	mg/L	0.68		1		
				Mass	lb/day	226.43		1		
22.	Tin, total (7440-31-5)	☐	☒	Concentration	mg/L	<0.008		1		
				Mass	lb/day	<2.66		1		
23.	Titanium, total (7440-32-6)	☐	☒	Concentration	mg/L	<0.009		1		
				Mass	lb/day	<2.99		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	pCi/L	<10.5		1		
			Mass						
Beta, total	☒	☐	Concentration	pCi/L	4.97		1		
			Mass						
Radium, total	☒	☐	Concentration	pCi/L	0.0681		1		
			Mass						
Radium 226, total	☒	☐	Concentration	pCi/L	0.262		1		
			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	☒	☐	Published industry data (NCASI)	
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	☒	☐	Published industry data (NCASI)	
15.	Chlorpyrifos	☐	☒		
16.	Coumaphos	☐	☒		
17.	Cresol	☒	☐	Published industry data (NCASI)	
18.	Crotonaldehyde	☐	☒		
19.	Cyclohexane	☐	☒		

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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		
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.	Dinitrobenzene	☐	☒		
30.	Diquat	☐	☒		
31.	Disulfoton	☐	☒		
32.	Diuron	☐	☒		
33.	Epichlorohydrin	☐	☒		
34.	Ethion	☐	☒		
35.	Ethylene diamine	☐	☒		
36.	Ethylene dibromide	☐	☒		
37.	Formaldehyde	☒	☐	Published industry data (NCASI)	
38.	Furfural	☐	☒		

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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		
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	☐	☒		

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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		
58.	Phenolsulfonate	☐	☒		
59.	Phosgene	☐	☒		
60.	Propargite	☐	☒		
61.	Propylene oxide	☐	☒		
62.	Pyrethrins	☐	☒		
63.	Quinoline	☐	☒		
64.	Resorcinol	☐	☒		
65.	Strontium	☐	☒		
66.	Strychnine	☐	☒		
67.	Styrene	☒	☐	Published industry data (NCASI)	
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	☒	☐	Published industry data (NCASI)	

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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	☒	☐	Published industry data (NCASI)	
78.	Xylene	☒	☐	Published industry data (NCASI)	
79.	Xylenol	☐	☒		
80.	Zirconium	☐	☒		

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).

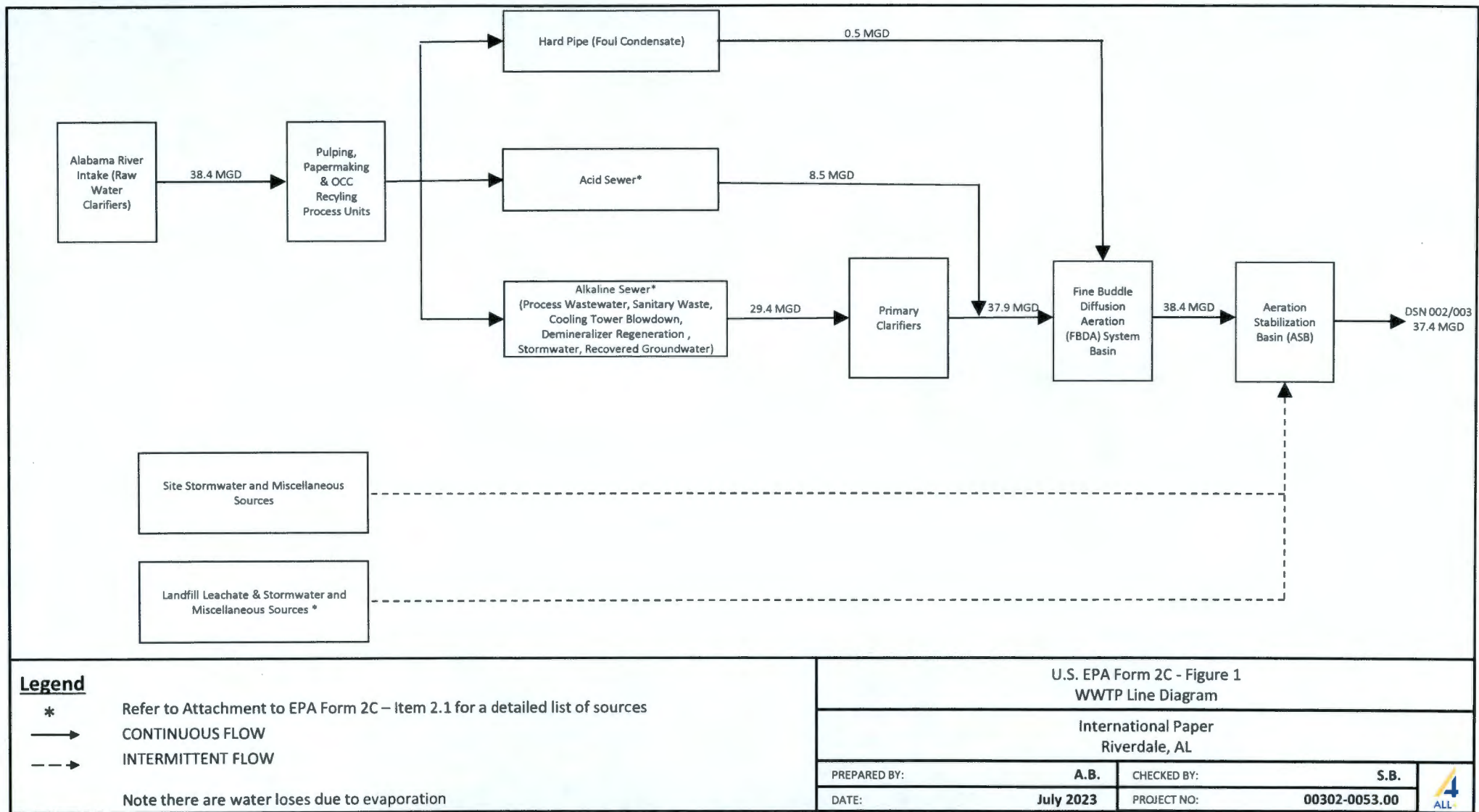
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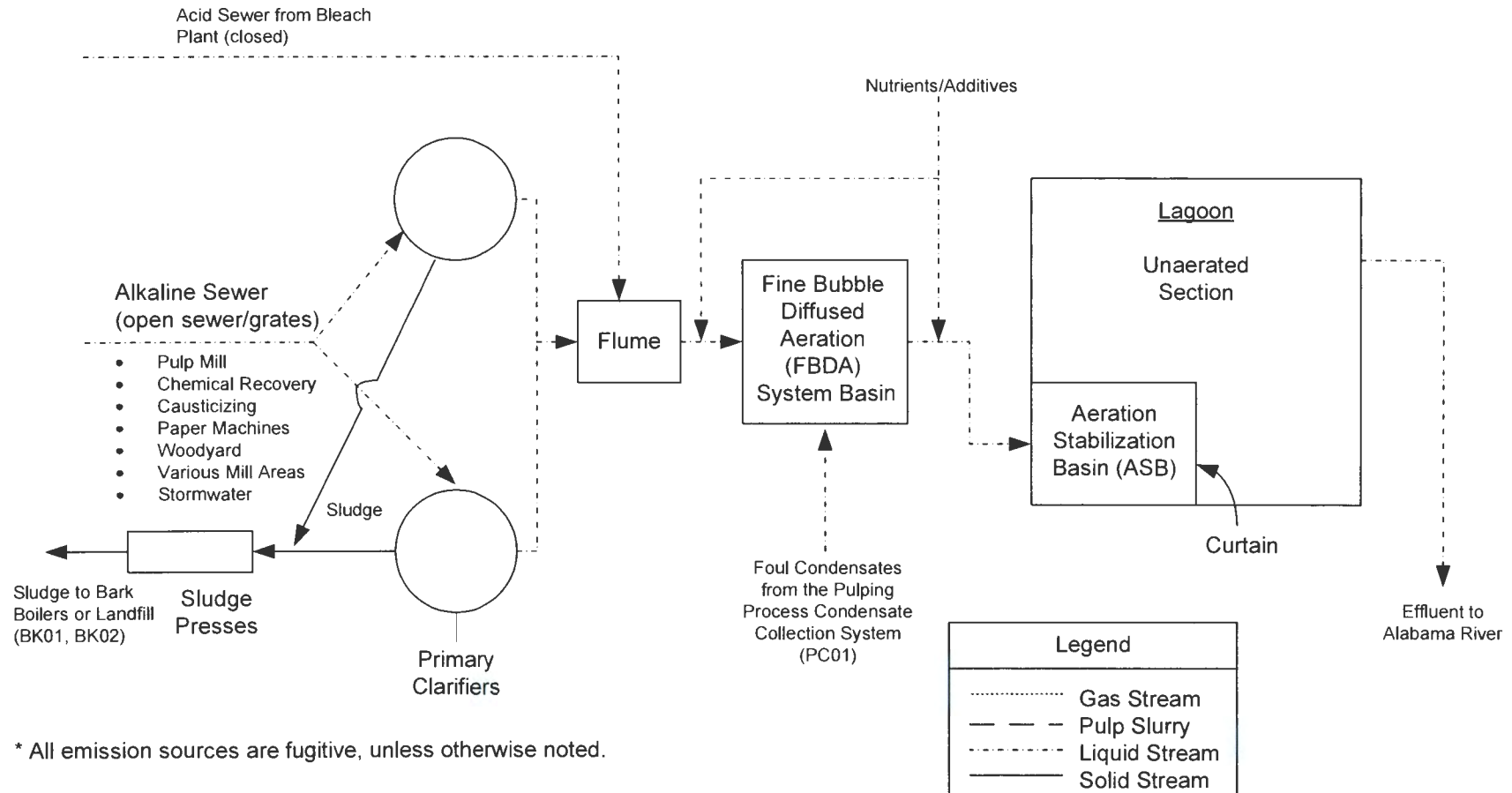
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TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☒	The Mill is required to monitor 2,3,7,8-TCDD at DSN002 and DSN003 annually and DSN003A and DSN003B semi-annually . Results of this monitoring for the past five years have been below laboratory detection levels.



Process Flow Diagram - Wastewater Collection and Treatment (WW01)*



U.S. EPA Form 2C Item 2.1:

Operations Contributing Wastewater:

Wastewater contributions include wastewater from kraft pulp and paper mill and recycled pulp mill; boiler and cooling tower blowdown; sludge dewatering liquid; lime kiln scrubber and boiler scrubber wastewater; miscellaneous wastewaters from shops and offices; sanitary wastewater, contaminated groundwater from a groundwater remediation project and process area stormwater. Bleached Kraft pulping, papermaking, and OCC plant process effluents are contained in the following streams: A). Alkaline sewer, B). Acid sewer, C). Fine Bubble Diffused Aeration (FBDA) system influent, D). Final Aerated Stabilization (ASB) influent.

A). The alkaline sewer normally flows to two primary clarifiers operating in parallel. Contributors to this sewer include:

- Bleaching (sodium hydroxide, hydrogen peroxide and oxygen extraction stages)
- Sanitary waste
- Kraft pulping
- Brown stock washers
- Chemical recovery
- Causticizing
- Boiler water
- Wood waste boiler scrubber discharge
- Demineralizer regenerate
- Cooling tower blowdown
- Paper machines and finishing areas
- Precipitated calcium carbonate plant
- Primary clarifier screw press drainage
- Hydraulic, lubricating, or fuel oil from equipment leaks
- Fuel oil and lubrication oil secondary containment stormwater
- Water layer from oil/water separators
- Turpentine recovery and storage
- Tall oil recovery, acidulation and storage
- OCC plant
- Quality control laboratories
- Sludge/ash stormwater runoff
- Stormwater from plant site
- Groundwater diesel fuel remediation
- Outside storage areas' stormwater.
- Vehicle and equipment maintenance activities (e.g. antifreeze from radiator flushing/draining, soap or degreasers from cleanup activities and other maintenance activities associated with the pulping and papermaking process)
- Miscellaneous discharges from activities supporting or related to the process such as rinsing out trucks, flushing spent ion exchange resin and other activities associated with the pulping and papermaking process.

B) The acid sewer bypasses the primary clarifiers and flows directly to the FBDA system. Contributors to this stream include:

- Bleaching acid stages (chlorine dioxide)
- Bleach plant scrubber blowdown and overflow
- Chlorine dioxide generators and storage tanks
- Miscellaneous discharges from activities supporting or related to the pulping and papermaking process

C) The contributors that flow to the FBDA system are:

- Acid sewer
- Cluster rule "hard pipe" condensates
- Wood waste storage stormwater
- Outside storage area stormwater
- Sanitary wastes
- Primary clarifiers overflows
- Groundwater from diesel fuel remediation
- Miscellaneous discharge from activities supporting or related to the pulping and papermaking process

D) The contributors that flow directly to the final effluent treatment basin include:

- Landfill stormwater and leachate
- Raw process water clarified solids
- Storm water and miscellaneous process waste from part of the causticizing area
- Woodyard stormwater and wastewater
- Precipitate calcium carbonate plant stormwater
- Outside storage area stormwater
- Fuel oil and lubrication oil secondary containment stormwater
- Hydraulic, lubrication, and fuel oils from equipment leaks
- Raw water and portable water storage tanks overflow
- Cooling tower blowdown water
- Groundwater from diesel fuel remediation
- Water layer from oil/water separators
- Miscellaneous discharges from activities supporting or related to the pulping and/or papermaking process.

Treatment Description

The majority of the process wastewater is directed to either the acid or alkaline process sewer. The alkaline sewer is split and flows to two primary clarifiers operating in parallel. The resulting solids are pumped to sludge presses where the separated liquid is allowed to flow back to the clarifiers. The clarified wastewater from the clarifiers mixes with acid process sewer forming a process wastewater with a pH of greater than 2 and less than 12.5. The wastewater enters the FBDA system basin. The cluster rule "hard pipe" condensates (cooking, turpentine recovery, non-condensable gas collection, evaporator 5th effect, etc.) are introduced to this basin. The process wastewater (effluent) exits the FBDA system into the ASB that is separated from the final polishing basin by a curtain. Stormwater

runoff from areas to the mill site including the permitted landfill, clarified solids from the mill process water clarifiers, woodyard wastewater, and lime kiln wastewater are contained in the waste streams that enter the final polishing basin. Effluent from the final polishing basin is discharged to the Alabama River through DSN002 and/or DSN003.

The wastewater treatment system includes the following major process components and systems:

- Process Sewer System
- Influent collection
- Clarification
- Sludge thickening and dewatering
- Sludge disposal/ incineration
- Treatment Chemicals & bioaugmentation systems
- Fine Bubble Diffused Aeration System (FBDA)
- Aerated Stabilization Basin (ASB)
- Quiescent/ settling zone
- Outfall to Alabama River

U.S. EPA Form 2C, Item 3.1
Operations Contributing to Flow and Treatment Units
International Paper - Riverdale, AL Mill

Outfall No.	Operations Contributing Flow		Treatment Units		
	Operation	Average Flow	Description	Code From Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
002/003	Alkaline Sewer (A)	29.4 MGD	Mixing, sedimentation, neutralization, aerated lagoons, stabilization ponds, discharge to surface waters	1-O, 1-U, 2-K, 3-B, 3-G, 4-A	5-O or 5-Q
	Acid Sewer (B)	8.5 MGD	Mixing, sedimentation, neutralization, screening, pressure filtration, aerated lagoon stabilization ponds, discharge to surface water	1-O, 1-U, 2-K, 1-T, 5-R, 3-B, 3-G, 4-A	
	Cluster Rule "Hard Pipes" Condensate (C)	0.5 MGD	Aerated lagoon, stabilization ponds, discharge to surface water	3-B, 3-G, 4-A	
	Landfilled leachate, remediated groundwater, stormwater, misc. sources	Intermittent	Mixing, sedimentation, aerated lagoon, stabilization ponds, discharge to surface water	1-O, 1-U, 3-B, 3-G, 4-A	

U.S. EPA Form 2C, Item 5.4
Average Daily Production
International Paper - Riverdale, AL Mill

Average Daily Production			
Outfall Number	Operation, Product or Material	Quantity per Day	Unit of Measure
DSN002 & DSN003	Bleached Paper Production	1,703	MDT/day
	Unbleached Pulp Entering No. 1 Bleach Plant	579	ADMT/day
	Unbleached Pulp Entering No. 2 Bleach Plant	551	ADMT/day
	OCC Production	866	ADT/day

EPA Identification Number ALD000645457		NPDES Permit Number AL0003018		Facility Name International Paper - Riverdale		Form Approved 03/05/19 OMB No. 2040-0004	
Form 2F NPDES		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
		DSN002	Alabama River	32°	24'	50" N or S	86° 50' 50" E or W
		DSN003	Alabama River	32°	24'	50" N or S	86° 50' 50" E or W
				°	'	" N or S	° ' " E or 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					

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Form 2F NPDES		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	
	004	Unnamed tributary of the	32°	25'	23"	86°	52' 31"
	005	Unnamed tributary of the	32°	25'	15"	86°	52' 26"
	006	Unnamed tributary of the	32°	25'	17"	86°	52' 15"
			°	'	"	°	' "
			°	'	"	°	' "
			°	'	"	°	' "
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						

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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
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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)		
		004	8	<i>specify units</i> Acres	13	<i>specify units</i> Acres	
		005	12	<i>specify units</i> Acres	18	<i>specify units</i> Acres	
		006	29	<i>specify units</i> Acres	55	<i>specify units</i> Acres	
				<i>specify units</i>		<i>specify units</i>	
				<i>specify units</i>		<i>specify units</i>	
				<i>specify units</i>		<i>specify units</i>	
	4.2	Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.) Any liquid or solid chemical storage, usage, loading and unloading area in Outfall 004 drainage area has secondary containment or drains to a process sewer that flows to the effluent treatment system and Outfalls 002/003. There are no chemical storage, use, or unloading areas that drain to Outfall 005. However, a firewater storage tank in this area can drain clean mill firewater to this outfall if the tank leaks or overflows. A diesel fuel storage tank, located next to this tank, has secondary containment capable of holding 110% of its volume. The area where trucks are loaded with paper for offsite shipment drains to Outfall 005. Vehicular fuel and deinking chemicals in the liquid and solid form are stored, used, loaded and unloaded in the area that drains to Outfall 006. Vehicular fuel tank has containment with valve that discharges to wastewater treatment. <u>Deinking chemicals area has curbing that directs flow to process sewer.</u>					
		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 Attachment			

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

Non-Stormwater Discharges	5.1	<i>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.</i>		
		Name (print or type first and last name) Michael Closson	Official title 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
		See Attachment		

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. No significant leaks or spills of toxic or hazardous pollutants have occurred at the facility in the past three years.
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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 <i>estimated data</i>. ☒ No → See instructions regarding submission of <i>actual data</i>.
	Tables A, B, C, and D	
	7.2	Have you completed Table A for each outfall? ☒ Yes ☐ No

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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 Pending Sampling Analysis/Results ☐ 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 Pending Sampling Analysis/Results ☐ 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 Pending Sampling Analysis/Results ☐ 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 Pending Sampling Analysis/Results ☐ 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	

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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
				☐ Yes ☐ No	01/18/2023
				☐ Yes ☐ No	01/25/2022
			☐ Yes ☐ No	01/28/2021	

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	Eurofins Pensacola		
	Laboratory address	3355 McLemore Drive		
	Phone number	(850) 474-1001		
	Pollutant(s) analyzed	Form 2C Table A through Table C		

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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>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
	Name (print or type first and last name)	Official title	
	Michael Closson	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	<1.8 mg/L		--		1	
2.	Biochemical oxygen demand (BOD ₅)	9.7 mg/L	N/A	--	--	1	
3.	Chemical oxygen demand (COD)	55 mg/L	N/A	--	--	1	
4.	Total suspended solids (TSS)	10 mg/L	N/A	--	--	1	
5.	Total phosphorus	0.10 mg/L	N/A	--	--	1	
6.	Total Kjeldahl nitrogen (TKN)	1.7 mg/L	N/A	--	--	1	
7.	Total nitrogen (as N)	1.7 mg/L	N/A	--	--	1	
8.	pH (minimum)	7.9 S.U.		--		1	
	pH (maximum)	7.9 S.U.		--		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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 002/003
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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		
Adsorbable Organic Halogens (AOX)	0.28 mg/L	N/A	--	--	1	
2,4,5-Trichlorophenol	<0.0038 mg/L	N/A	--	--	1	
2,4,6-Trichlorophenol	<0.0027 mg/L	N/A	--	--	1	
Pentachlorophenol	<0.0014 mg/L	N/A	--	--	1	
Chloroform	<0.00090 mg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzofuran (TCDF)	<0.30 pg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD)	<0.38 pg/L	N/A	--	--	1	
3,4,6-Trichloroguaiacol	Pending Results	N/A	--	--	1	
3,4,6-Trichlorocatechol	Pending Results	N/A	--	--	1	
3,4,5-Trichloroguaiacol	Pending Results	N/A	--	--	1	
3,4,5-Trichlorocatechol	Pending Results	N/A	--	--	1	
Tetrachloroguaiacol	Pending Results	N/A	--	--	1	
Tetrachlorocatechol	Pending Results	N/A	--	--	1	
Trichlorosyringol	Pending Results	N/A	--	--	1	
4,5,6-Trichloroguaiacol	Pending Results	N/A	--	--	1	
2,3,4,6-Tetrachlorophenol	<0.0016 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 002/003
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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		
Total Residual Chlorine	Pending Results	N/A	--	--	1	
Color, ADMI	Pending Results	N/A	--	--	1	
Fecal Coliform	Pending Results	N/A	--	--	1	
Total Organic Nitrogen (TON)	Pending Results	N/A	--	--	1	
Ammonia as Nitrogen, NH3-N	Pending Results	N/A	--	--	1	
Total Alpha	Pending Results	N/A	--	--	1	
Total Beta	Pending Results	N/A	--	--	1	
Total Radium	Pending Results	N/A	--	--	1	
Total Radium 226	Pending Results	N/A	--	--	1	
Sulfate (as SO4)	Pending Results	N/A	--	--	1	
Surfactants	Pending Results	N/A	--	--	1	
Total Aluminum	Pending Results	N/A	--	--	1	
Total Iron	Pending Results	N/A	--	--	1	
Total Magnesium	Pending Results	N/A	--	--	1	
Total Zinc	Pending Results	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility name International Paper - Riverdale	Outfall Number 002/003
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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)
08/29/2023	0.75-1 hour	1/4 inch	N/A	N/A	N/A

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

Because the discharge at this outfall is a controlled release, and stormwater is collected and stored for a period greater than 24 hours prior to discharge, a composite sample was not required.

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 004
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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	<1.8 mg/L		--		1	
2.	Biochemical oxygen demand (BOD ₅)	9.7 mg/L	N/A	--	--	1	
3.	Chemical oxygen demand (COD)	55 mg/L	N/A	--	--	1	
4.	Total suspended solids (TSS)	10 mg/L	N/A	--	--	1	
5.	Total phosphorus	0.10 mg/L	N/A	--	--	1	
6.	Total Kjeldahl nitrogen (TKN)	1.7 mg/L	N/A	--	--	1	
7.	Total nitrogen (as N)	1.7 mg/L	N/A	--	--	1	
8.	pH (minimum)	7.9 S.U.		--		1	
	pH (maximum)	7.9 S.U.		--		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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 004
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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		
Adsorbable Organic Halogens (AOX)	0.28 mg/L	N/A	--	--	1	
2,4,5-Trichlorophenol	<0.0038 mg/L	N/A	--	--	1	
2,4,6-Trichlorophenol	<0.0027 mg/L	N/A	--	--	1	
Pentachlorophenol	<0.0014 mg/L	N/A	--	--	1	
Chloroform	<0.00090 mg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzofuran (TCDF)	<0.30 pg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD)	<0.38 pg/L	N/A	--	--	1	
3,4,6-Trichloroguaiacol	Pending Results	N/A	--	--	1	
3,4,6-Trichlorocatechol	Pending Results	N/A	--	--	1	
3,4,5-Trichloroguaiacol	Pending Results	N/A	--	--	1	
3,4,5-Trichlorocatechol	Pending Results	N/A	--	--	1	
Tetrachloroguaiacol	Pending Results	N/A	--	--	1	
Tetrachlorocatechol	Pending Results	N/A	--	--	1	
Trichlorosyringol	Pending Results	N/A	--	--	1	
4,5,6-Trichloroguaiacol	Pending Results	N/A	--	--	1	
2,3,4,6-Tetrachlorophenol	<0.0016 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 004
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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		
Total Residual Chlorine	Pending Results	N/A	--	--	1	
Color, ADMI	Pending Results	N/A	--	--	1	
Fecal Coliform	Pending Results	N/A	--	--	1	
Total Organic Nitrogen (TON)	Pending Results	N/A	--	--	1	
Ammonia as Nitrogen, NH3-N	Pending Results	N/A	--	--	1	
Total Alpha	Pending Results	N/A	--	--	1	
Total Beta	Pending Results	N/A	--	--	1	
Total Radium	Pending Results	N/A	--	--	1	
Total Radium 226	Pending Results	N/A	--	--	1	
Sulfate (as SO4)	Pending Results	N/A	--	--	1	
Surfactants	Pending Results	N/A	--	--	1	
Total Aluminum	Pending Results	N/A	--	--	1	
Total Iron	Pending Results	N/A	--	--	1	
Total Magnesium	Pending Results	N/A	--	--	1	
Total Zinc	Pending Results	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility name International Paper - Riverdale	Outfall Number 004
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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)
08/29/2023	0.75-1 hour	1/4 inch	N/A	N/A	N/A

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

Because the discharge at this outfall is a controlled release, and stormwater is collected and stored for a period greater than 24 hours prior to discharge, a composite sample was not required.

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 005
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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	<1.5 mg/L		--		1	
2.	Biochemical oxygen demand (BOD ₅)	3.4 mg/L	N/A	--	--	1	
3.	Chemical oxygen demand (COD)	25 mg/L	N/A	--	--	1	
4.	Total suspended solids (TSS)	19 mg/L	N/A	--	--	1	
5.	Total phosphorus	0.14 mg/L	N/A	--	--	1	
6.	Total Kjeldahl nitrogen (TKN)	0.96 mg/L	N/A	--	--	1	
7.	Total nitrogen (as N)	1.4 mg/L	N/A	--	--	1	
8.	pH (minimum)	7.4 S.U.		--		1	
	pH (maximum)	7.4 S.U.		--		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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 005
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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		
Adsorbable Organic Halogens (AOX)	0.10 mg/L	N/A	--	--	1	
2,4,5-Trichlorophenol	<0.0035 mg/L	N/A	--	--	1	
2,4,6-Trichlorophenol	<0.0024 mg/L	N/A	--	--	1	
Pentachlorophenol	<0.0013 mg/L	N/A	--	--	1	
Chloroform	0.0027 mg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzofuran (TCDF)	<0.28 pg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD)	<0.46 pg/L	N/A	--	--	1	
3,4,6-Trichloroguaiacol	Pending Results	N/A	--	--	1	
3,4,6-Trichlorocatechol	Pending Results	N/A	--	--	1	
3,4,5-Trichloroguaiacol	Pending Results	N/A	--	--	1	
3,4,5-Trichlorocatechol	Pending Results	N/A	--	--	1	
Tetrachloroguaiacol	Pending Results	N/A	--	--	1	
Tetrachlorocatechol	Pending Results	N/A	--	--	1	
Trichlorosyringol	Pending Results	N/A	--	--	1	
4,5,6-Trichloroguaiacol	Pending Results	N/A	--	--	1	
2,3,4,6-Tetrachlorophenol	<0.0015 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 005
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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		
Total Residual Chlorine	Pending Results	N/A	--	--	1	
Color, ADMI	Pending Results	N/A	--	--	1	
Fecal Coliform	Pending Results	N/A	--	--	1	
Total Organic Nitrogen (TON)	Pending Results	N/A	--	--	1	
Ammonia as Nitrogen, NH3-N	Pending Results	N/A	--	--	1	
Total Alpha	Pending Results	N/A	--	--	1	
Total Beta	Pending Results	N/A	--	--	1	
Total Radium	Pending Results	N/A	--	--	1	
Total Radium 226	Pending Results	N/A	--	--	1	
Sulfate (as SO4)	Pending Results	N/A	--	--	1	
Surfactants	Pending Results	N/A	--	--	1	
Total Aluminum	Pending Results	N/A	--	--	1	
Total Iron	Pending Results	N/A	--	--	1	
Total Magnesium	Pending Results	N/A	--	--	1	
Total Zinc	Pending Results	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility name International Paper - Riverdale	Outfall Number 005
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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)
08/29/2023	0.75-1 hour	1/4 inch	N/A	N/A	N/A

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

Because the discharge at this outfall is a controlled release, and stormwater is collected and stored for a period greater than 24 hours prior to discharge, a composite sample was not required.

[Click to go back to the beginning of Form](#)

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 006
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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	<1.5 mg/L		--		1	
2.	Biochemical oxygen demand (BOD ₅)	2.1 mg/L	N/A	--	--	1	
3.	Chemical oxygen demand (COD)	29 mg/L	N/A	--	--	1	
4.	Total suspended solids (TSS)	<5.0 mg/L	N/A	--	--	1	
5.	Total phosphorus	0.28 mg/L	N/A	--	--	1	
6.	Total Kjeldahl nitrogen (TKN)	0.75 mg/L	N/A	--	--	1	
7.	Total nitrogen (as N)	0.75 mg/L	N/A	--	--	1	
8.	pH (minimum)	7.7 S.U.		--		1	
	pH (maximum)	7.7 S.U.		--		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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 006
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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		
Adsorbable Organic Halogens (AOX)	0.079 mg/L	N/A	--	--	1	
2,4,5-Trichlorophenol	<0.0035 mg/L	N/A	--	--	1	
2,4,6-Trichlorophenol	<0.0024 mg/L	N/A	--	--	1	
Pentachlorophenol	<0.0013 mg/L	N/A	--	--	1	
Chloroform	<0.00090 mg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzofuran (TCDF)	<0.26 pg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD)	<0.54 pg/L	N/A	--	--	1	
3,4,6-Trichloroguaiacol	Pending Results	N/A	--	--	1	
3,4,6-Trichlorocatechol	Pending Results	N/A	--	--	1	
3,4,5-Trichloroguaiacol	Pending Results	N/A	--	--	1	
3,4,5-Trichlorocatechol	Pending Results	N/A	--	--	1	
Tetrachloroguaiacol	Pending Results	N/A	--	--	1	
Tetrachlorocatechol	Pending Results	N/A	--	--	1	
Trichlorosyringol	Pending Results	N/A	--	--	1	
4,5,6-Trichloroguaiacol	Pending Results	N/A	--	--	1	
2,3,4,6-Tetrachlorophenol	<0.0015 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number 006
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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		
Total Residual Chlorine	Pending Results	N/A	--	--	1	
Color, ADMI	Pending Results	N/A	--	--	1	
Fecal Coliform	Pending Results	N/A	--	--	1	
Total Organic Nitrogen (TON)	Pending Results	N/A	--	--	1	
Ammonia as Nitrogen, NH3-N	Pending Results	N/A	--	--	1	
Total Alpha	Pending Results	N/A	--	--	1	
Total Beta	Pending Results	N/A	--	--	1	
Total Radium	Pending Results	N/A	--	--	1	
Total Radium 226	Pending Results	N/A	--	--	1	
Sulfate (as SO4)	Pending Results	N/A	--	--	1	
Surfactants	Pending Results	N/A	--	--	1	
Total Aluminum	Pending Results	N/A	--	--	1	
Total Iron	Pending Results	N/A	--	--	1	
Total Magnesium	Pending Results	N/A	--	--	1	
Total Zinc	Pending Results	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility name International Paper - Riverdale	Outfall Number 006
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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)
08/29/2023	0.75-1 hour	1/4 inch	N/A	N/A	N/A

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

Because the discharge at this outfall is a controlled release, and stormwater is collected and stored for a period greater than 24 hours prior to discharge, a composite sample was not required.

[Click to go back to the beginning of Form](#)

U.S. EPA Form 2F Item 4.3:

Structural control measures:

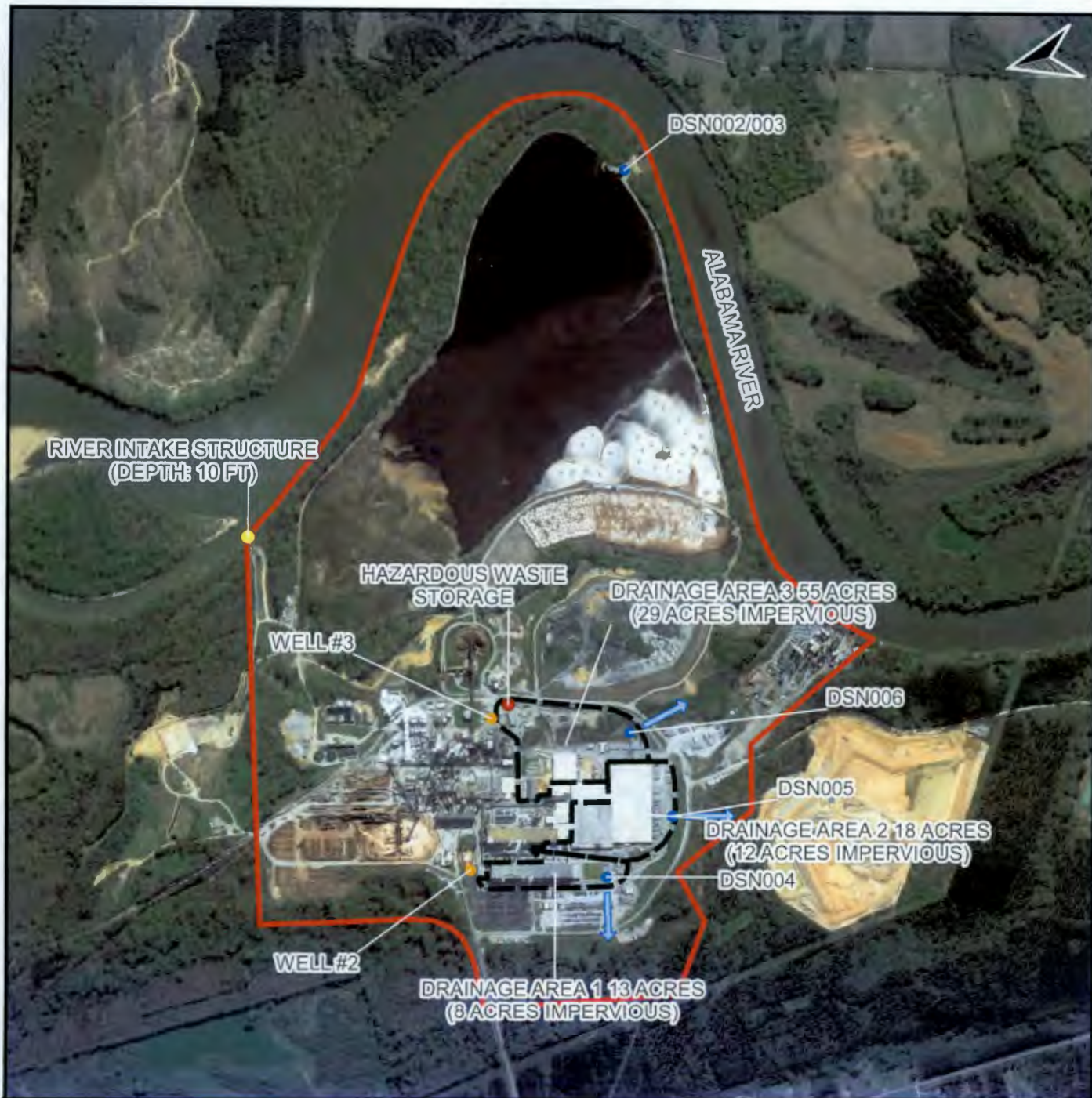
- Outfalls are equipped with valves that remain closed to collect stormwater from the Mill. The stormwater that is collected behind the valves is visually inspected for oil or other contamination prior to release. If contamination exists, the stormwater is not released until contamination is removed.
- The vehicular fuel area has secondary containment capable of containing 110% of the largest tank and stormwater from this area is routed to the effluent treatment system.
- The fire pump diesel fuel storage tank is contained in an enclosed, non-valved concrete containment capable of containing the total contents of the tank.

Non-structural control measures:

- Raw materials, manufactured products, waste materials, and by-products entering or exiting the Mill by truck are transported over Mill roads that pass through the area served by the outfall.
- All tank trucks carrying liquids onto the Mill roads are visually inspected for leaks prior to entering or exiting through the Mill gates.
- Stormwater is inspected and not released if potential contamination is observed.

U.S. EPA Form 2F, Section 5 Item 5.2
Testing Information
International Paper - Riverdale, AL Mill

Outfall Number	Description of Testing Method Used	Dates of Testing	Onsite Drainage Points Directly Observed During Test
004	Stormwater collection basins 004, 005 and 006 were monitored on 12/26/2017 during dry weather for non-stormwater drainage and were dry. Ditches and swells leading to the unnamed tributary of the Alabama River where outfalls 004,005 and 006 drain were monitored during dry weather and were also found to be dry.	12/26/2017	Stormwater Collection Basins
005			
006			



Legend

- Approximate Property Boundary
- Drainage Areas
- Outfall Location
- ➔ Flow Arrows
- Well Location
- River Intake Structure
- Hazardous Waste Storage (temporary)

0 0.25 0.5 0.75 1 mi

U.S. EPA Form 2F - Figure 1
Drainage Area Locations

International Paper - Riverdale Mill
Selma, AL

PREPARED BY: **A.B.**

CHECKED BY: **S.B.**

DATE: **July 2023**

PROJ NO.: **00302-0053.00**



**APPENDIX B -
LABORATORY ANALYTICAL DATA**

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

Generated 8/18/2023 4:17:56 PM

JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2C Table A

JOB NUMBER

400-241666-1

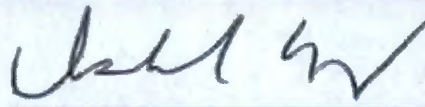
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Job Notes

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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Job ID: 400-241666-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative
400-241666-1

Comments

No additional comments.

Receipt

The samples were received on 8/8/2023 3:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.8° C.

General Chemistry

Method 350.1: The following sample was diluted to bring the concentration of target analytes within the calibration range: DSN002-003 FINAL EFFLUENT COMP (400-241666-1). Elevated reporting limits (RLs) are provided.

Method 410.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: DSN002-003 FINAL EFFLUENT COMP (400-241666-1). Elevated reporting limits (RLs) are provided.

Method 410.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-637548 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 415.1: Due to the high concentration of Total Organic Carbon (TOC), the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 400-636808 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP

Lab Sample ID: 400-241666-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	22		5.0	5.0	mg/L	1		160.2	Total/NA
Ammonia	3.1		0.10	0.048	mg/L	2		350.1	Total/NA
Biochemical Oxygen Demand	12		2.0	2.0	mg/L	1		405.1	Total/NA
Chemical Oxygen Demand (COD)	180	F1	20	13	mg/L	2		410.4	Total/NA
Total Organic Carbon (TOC)	100		1.0	0.50	mg/L	1		415.1	Total/NA

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241666-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	8.4	HF			S.U.	1		150.1	Total/NA
Temperature	25.0	HF			Degrees C	1		150.1	Total/NA

This Detection Summary does not include radiochemical test results.

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Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-241666-1	DSN002-003 FINAL EFFLUENT COMP	Water	08/08/23 08:45	08/08/23 15:10
400-241666-2	DSN002-003 FINAL EFFLUENT GRAB	Water	08/08/23 09:12	08/08/23 15:10

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP

Lab Sample ID: 400-241666-1

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (EPA 160.2)	22		5.0	5.0	mg/L			08/09/23 07:38	1
Ammonia (EPA 350.1)	3.1		0.10	0.048	mg/L			08/15/23 14:41	2
Biochemical Oxygen Demand (EPA 405.1)	12		2.0	2.0	mg/L			08/09/23 14:38	1
Chemical Oxygen Demand (COD) (EPA 410.4)	180	F1	20	13	mg/L			08/18/23 14:46	2
Total Organic Carbon (TOC) (EPA 415.1)	100		1.0	0.50	mg/L			08/11/23 16:13	1

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB Lab Sample ID: 400-241666-2
Date Collected: 08/08/23 09:12 Matrix: Water
Date Received: 08/08/23 15:10

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (EPA 150.1)	8.4	HF			S.U.			08/09/23 08:30	1
Temperature (EPA 150.1)	25.0	HF			Degrees C			08/09/23 08:30	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

General Chemistry

Analysis Batch: 636348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241666-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	160.2	
MB 400-636348/1	Method Blank	Total/NA	Water	160.2	
LCS 400-636348/2	Lab Control Sample	Total/NA	Water	160.2	

Analysis Batch: 636446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241666-2	DSN002-003 FINAL EFFLUENT GRAB	Total/NA	Water	150.1	
LCS 400-636446/4	Lab Control Sample	Total/NA	Water	150.1	

Analysis Batch: 636487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241666-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	405.1	
USB 400-636487/1	Method Blank	Total/NA	Water	405.1	
LCS 400-636487/2	Lab Control Sample	Total/NA	Water	405.1	

Analysis Batch: 636808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241666-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	415.1	
MB 400-636808/38	Method Blank	Total/NA	Water	415.1	
MB 400-636808/6	Method Blank	Total/NA	Water	415.1	
LCS 400-636808/39	Lab Control Sample	Total/NA	Water	415.1	
LCSD 400-636808/40	Lab Control Sample Dup	Total/NA	Water	415.1	
MRL 400-636808/5	Lab Control Sample	Total/NA	Water	415.1	

Analysis Batch: 637092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241666-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	350.1	
MB 400-637092/12	Method Blank	Total/NA	Water	350.1	
LCS 400-637092/13	Lab Control Sample	Total/NA	Water	350.1	
MRL 400-637092/6	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 637118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-637118/12	Method Blank	Total/NA	Water	350.1	
LCS 400-637118/13	Lab Control Sample	Total/NA	Water	350.1	
MRL 400-637118/6	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 637548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241666-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	410.4	
MB 400-637548/5	Method Blank	Total/NA	Water	410.4	
LCS 400-637548/6	Lab Control Sample	Total/NA	Water	410.4	
MRL 400-637548/7	Lab Control Sample	Total/NA	Water	410.4	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Method: 150.1 - pH (Electrometric)

Lab Sample ID: LCS 400-636446/4
Matrix: Water
Analysis Batch: 636446

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		S.U.		100	98.6 - 101.4

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 400-636348/1
Matrix: Water
Analysis Batch: 636348

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<0.50		0.50	0.50	mg/L			08/09/23 07:38	1

Lab Sample ID: LCS 400-636348/2
Matrix: Water
Analysis Batch: 636348

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	259	258		mg/L		100	79 - 124

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 400-637092/12
Matrix: Water
Analysis Batch: 637092

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	<0.024		0.050	0.024	mg/L			08/15/23 14:41	1

Lab Sample ID: LCS 400-637092/13
Matrix: Water
Analysis Batch: 637092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.00	3.01		mg/L		100	90 - 110

Lab Sample ID: MRL 400-637092/6
Matrix: Water
Analysis Batch: 637092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.0500	0.0570		mg/L		114	50 - 150

Lab Sample ID: MB 400-637118/12
Matrix: Water
Analysis Batch: 637118

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	<0.024		0.050	0.024	mg/L			08/15/23 16:01	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 400-637118/13
Matrix: Water
Analysis Batch: 637118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.00	3.06		mg/L		102	90 - 110

Lab Sample ID: MRL 400-637118/6
Matrix: Water
Analysis Batch: 637118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.0500	0.0570		mg/L		114	50 - 150

Method: 405.1 - BOD, 5-Day

Lab Sample ID: USB 400-636487/1
Matrix: Water
Analysis Batch: 636487

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			08/09/23 14:10	1

Lab Sample ID: LCS 400-636487/2
Matrix: Water
Analysis Batch: 636487

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	198	203		mg/L		103	85 - 115

Method: 410.4 - COD

Lab Sample ID: MB 400-637548/5
Matrix: Water
Analysis Batch: 637548

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (COD)	<6.4		10	6.4	mg/L			08/18/23 11:28	1

Lab Sample ID: LCS 400-637548/6
Matrix: Water
Analysis Batch: 637548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand (COD)	50.0	53.3		mg/L		107	90 - 110

Lab Sample ID: MRL 400-637548/7
Matrix: Water
Analysis Batch: 637548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand (COD)	10.0	13.0		mg/L		130	50 - 150

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Method: 415.1 - TOC

Lab Sample ID: MB 400-636808/38
Matrix: Water
Analysis Batch: 636808

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (TOC)	<0.50		1.0	0.50	mg/L			08/11/23 08:42	1

Lab Sample ID: MB 400-636808/6
Matrix: Water
Analysis Batch: 636808

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (TOC)	<0.50		1.0	0.50	mg/L			08/11/23 00:06	1

Lab Sample ID: LCS 400-636808/39
Matrix: Water
Analysis Batch: 636808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Total Organic Carbon (TOC)	20.0	19.4		mg/L		97	85 - 115	

Lab Sample ID: LCSD 400-636808/40
Matrix: Water
Analysis Batch: 636808

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon (TOC)	20.0	19.8		mg/L		99	85 - 115	2	30

Lab Sample ID: MRL 400-636808/5
Matrix: Water
Analysis Batch: 636808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	
Total Organic Carbon (TOC)	1.00	1.11		mg/L		111	50 - 150	

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP

Lab Sample ID: 400-241666-1

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	636348	08/09/23 07:38	HA	EET PEN
Total/NA	Analysis	350.1		2	10 mL	10 mL	637092	08/15/23 14:41	VB	EET PEN
Total/NA	Analysis	405.1		1	300 mL	300 mL	636487	08/09/23 14:38	SRC	EET PEN
							Completed:	08/14/23 09:50		
Total/NA	Analysis	410.4		2	2 mL	2 mL	637548	08/18/23 14:46	CJK	EET PEN
Total/NA	Analysis	415.1		1	50 mL	50 mL	636808	08/11/23 16:13	DEK	EET PEN

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241666-2

Date Collected: 08/08/23 09:12

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	150.1		1			636446	08/09/23 08:30	SF	EET PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-636348/1

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	1000 mL	100 mL	636348	08/09/23 07:38	HA	EET PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-636808/38

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	415.1		1	50 mL	50 mL	636808	08/11/23 08:42	DEK	EET PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-636808/6

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	415.1		1	50 mL	50 mL	636808	08/11/23 00:06	DEK	EET PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-637092/12

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	637092	08/15/23 14:41	VB	EET PEN

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Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Client Sample ID: Method Blank

Date Collected: N/A

Date Received: N/A

Lab Sample ID: MB 400-637118/12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	637118	08/15/23 16:01	VB	EET PEN

Client Sample ID: Method Blank

Date Collected: N/A

Date Received: N/A

Lab Sample ID: MB 400-637548/5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	410.4		1	2 mL	2 mL	637548	08/18/23 11:28	CJK	EET PEN

Client Sample ID: Method Blank

Date Collected: N/A

Date Received: N/A

Lab Sample ID: USB 400-636487/1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	405.1		1	300 mL	300 mL	636487	08/09/23 14:10	SRC	EET PEN
Completed:								08/14/23 09:50	1	

Client Sample ID: Lab Control Sample

Date Collected: N/A

Date Received: N/A

Lab Sample ID: LCS 400-636348/2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	636348	08/09/23 07:38	HA	EET PEN

Client Sample ID: Lab Control Sample

Date Collected: N/A

Date Received: N/A

Lab Sample ID: LCS 400-636446/4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	150.1		1			636446	08/09/23 08:30	SF	EET PEN

Client Sample ID: Lab Control Sample

Date Collected: N/A

Date Received: N/A

Lab Sample ID: LCS 400-636487/2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	405.1		1	1 mL	1 mL	636487	08/09/23 14:10	SRC	EET PEN
Completed:								08/14/23 09:50	1	

Client Sample ID: Lab Control Sample

Date Collected: N/A

Date Received: N/A

Lab Sample ID: LCS 400-636808/39

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	415.1		1	50 mL	50 mL	636808	08/11/23 08:56	DEK	EET PEN

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Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-637092/13

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	637092	08/15/23 14:41	VB	EET PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-637118/13

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	637118	08/15/23 16:01	VB	EET PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-637548/6

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	410.4		1	2 mL	2 mL	637548	08/18/23 11:28	CJK	EET PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-636808/40

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	415.1		1	50 mL	50 mL	636808	08/11/23 09:13	DEK	EET PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: MRL 400-636808/5

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	415.1		1	50 mL	50 mL	636808	08/10/23 23:47	DEK	EET PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: MRL 400-637092/6

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	100 mL	100 mL	637092	08/15/23 14:41	VB	EET PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: MRL 400-637118/6

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	100 mL	100 mL	637118	08/15/23 16:01	VB	EET PEN

Eurofins Pensacola

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Client Sample ID: Lab Control Sample

Lab Sample ID: MRL 400-637548/7

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	410.4		1	2 mL	2 mL	637548	08/18/23 11:28	CJK	EET PEN

* This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

Method	Method Description	Protocol	Laboratory
150.1	pH (Electrometric)	EPA	EET PEN
160.2	Solids, Total Suspended (TSS)	EPA	EET PEN
350.1	Nitrogen, Ammonia	EPA	EET PEN
405.1	BOD, 5-Day	EPA	EET PEN
410.4	COD	EPA	EET PEN
415.1	TOC	EPA	EET PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241666-1
SDG: Form 2C Table A

laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	09-01-23
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	08-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

Eurofins pensacola

3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record



Environment Testing

Client Information		Sampler CARLA PEARSON	Lab PM Whitmire, Cheyenne R	Carrier Tracking No(s)	COC No 400-121852-41785.1							
Client Contact Carla Pearson		Phone 334-418-5236	E-Mail Cheyenne.Whitmire@et.eurofinsus.com	State of Origin	Page Page 1 of 1							
Company International Paper Company		PWSID	Analysis Requested									
Address 601 County Road 78		Due Date Requested:	 400-241666 COC			Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)						
City Selma		TAT Requested (days): ASAP										
State, Zip AL, 36703		Compliance Project: ☐ Yes ☐ No										
Phone 334-418-5236(Tel)		PO # 16969625										
Email Carla.Pearson@ipaper.com		WO #										
Project Name Form 2C Table A		Project # 40016047										
Site IP- RIVERDALE HILL (P/DALE)		SSOW#										
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	350.1 - 410.4	416.1 - TOC	405.1 - BOD, 5-Day	180.2 - TSS	150.1 - pH & Temperature	Special Instructions/Note:
DSN002-003 FINAL EFFLUENT		8/08/23	9:45	C	Water	☒	☒	☒	☒	☒	☒	86°F / 7.6
"		"	"	C	WATER	☒	☒	☒	☒	☒		
"		"	"	C	"	☒	☒	☒	☒	☒		
"		"	"	C	"	☒	☒	☒	☒	☒		
"		"	9:12	G	"	☒	☒	☒	☒	☒		
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			Special Instructions/QC Requirements: AFTER 1 MONTH, DISPOSE							
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		☐ Return To Client ☐ Disposal By Lab ☒ Archive For 1 Months										
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by: Carla Pearson			Date/Time: 8/08/23 9:35 Company: IP-P/DALE							
		Date/Time: 8/08/23 9:35 Company: IP-P/DALE			Received by: Custody Seal - Sawyer Date/Time: 8/08/23 9:35 Company: ATER							
		Date/Time: 8/8/23 1510 Company: IP-P/DALE			Received by: ATER Date/Time: 8/8/23 1030 Company: ETER							
		Date/Time: 8/8/23 1510 Company: IP-P/DALE			Received by: ETER Date/Time: 8/8/23 1510 Company: ETER							
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks: 4.8°C DR10							

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-241666-1

SDG Number: Form 2C Table A

Login Number: 241666

List Number: 1

Creator: Perez, Trina M

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C IR-10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

Generated 9/14/2023 3:54:05 PM Revision 1

JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2C Table B Sections 1-5

JOB NUMBER

400-241663-1

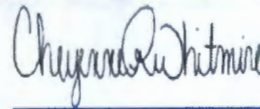
Eurofins Pensacola

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



Authorized for release by
Cheyenne Whitmire, Project Manager II
Cheyenne.Whitmire@et.eurofinsus.com
(850)471-6222

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Revision 1

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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Job ID: 400-241663-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative
400-241663-1

Receipt

The samples were received on 8/8/2023 3:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.2° C.

GC/MS VOA

Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-636341 was outside control limits. Sample matrix interference is suspected.

Method 624.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-636341 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method 624.1: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-636341 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

GC/MS Semi VOA

Method 625.1: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (LCSD 400-636821/3-A). These results have been reported and qualified.

Method 625.1: The continuing calibration verification (CCV) associated with batch 400-636936 recovered above the upper control limit for 2,4,6-Trichlorophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 625.1: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-636821 and analytical batch 400-636936 recovered outside control limits for the following analyte(s): Benzidine and Hexachlorocyclopentadiene. Benzidine and Hexachlorocyclopentadiene has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 625.1: The method blank for preparation batch 400-636821 and analytical batch 400-636936 contained Anthracene, Indeno[1,2,3-cd]pyrene, Diethyl phthalate, Butyl benzyl phthalate, Pyrene, Benzo[b]fluoranthene, Fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Benzo[a]anthracene, Pentachlorophenol, Benzo[a]pyrene, Di-n-octyl phthalate and Dibenz(a,h)anthracene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 625.1: The following sample was diluted due to the nature of the sample matrix: DSN002-003 FINAL EFF GRAB (400-241663-1). Elevated reporting limits (RLs) are provided.

Metals

Method 200.8: The following sample was diluted due to the abundance of non-target analytes: DSN002-003 FINAL EFF COMPOSITE (400-241663-2). Elevated reporting limits (RLs) are provided.

General Chemistry

Method 420.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-637634 and analytical batch 400-638036 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Revision

The report being provided is a revision of the original report sent on 8/22/2023. The report (revision 1) is being revised due to: 4-bromophenyl phenyl ether was added to the 624.1 list.

Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Job ID: 400-241663-1 (Continued)

Laboratory: Eurofins Pensacola (Continued)

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Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzo[a]anthracene	3.2	J B	48	0.87	ug/L	5			625.1	Total/NA
Benzo[a]pyrene	1.0	J B	48	0.58	ug/L	5			625.1	Total/NA
3,4-Benzofluoranthene	1.0	J B	48	0.72	ug/L	5			625.1	Total/NA
Benzo[k]fluoranthene	1.5	J B	48	0.77	ug/L	5			625.1	Total/NA
Butyl benzyl phthalate	1.2	J B	48	0.92	ug/L	5			625.1	Total/NA
Chrysene	2.3	J B	48	0.92	ug/L	5			625.1	Total/NA
Di-n-octyl phthalate	1.0	J B	48	0.82	ug/L	5			625.1	Total/NA

Client Sample ID: DSN002-003 FINAL EFF COMPOSITE

Lab Sample ID: 400-241663-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	0.0027		0.0025	0.0010	mg/L	5			200.8	Total/NA
Copper	0.0023	J	0.0025	0.0010	mg/L	5			200.8	Total/NA
Lead	0.0011	J	0.0013	0.00029	mg/L	5			200.8	Total/NA
Nickel	0.0045		0.0025	0.0015	mg/L	5			200.8	Total/NA
Zinc	0.046		0.020	0.0088	mg/L	5			200.8	Total/NA

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-3

No Detections.

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-4

No Detections.

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET PEN
625.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET PEN
608.3	Organochlorine Pesticides/PCBs in Water	EPA	EET PEN
200.8	Metals (ICP/MS)	EPA	EET PEN
335.2	Cyanide, Total	EPA	EET PEN
420.4	Phenolics, Total Recoverable	EPA	EET PEN
200.8	Preparation, Total Metals	EPA	EET PEN
3511	Microextraction of Organic Compounds	SW846	EET PEN
625	Liquid-Liquid Extraction	EPA	EET PEN
Distill/CN	Distillation, Cyanide	None	EET PEN
Distill/Phenol	Distillation, Phenolics	None	EET PEN

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-241663-1	DSN002-003 FINAL EFF GRAB	Water	08/08/23 08:41	08/08/23 15:10
400-241663-2	DSN002-003 FINAL EFF COMPOSITE	Water	08/08/23 08:45	08/08/23 15:10
400-241663-3	DSN002-003 FINAL EFF GRAB	Water	08/08/23 08:44	08/08/23 15:10
400-241663-4	DSN002-003 FINAL EFF GRAB	Water	08/08/23 08:39	08/08/23 15:10
400-241663-6	DSN002-003 FINAL EFF GRAB	Water	08/08/23 08:38	08/08/23 15:10

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-1

Date Collected: 08/08/23 08:41

Matrix: Water

Date Received: 08/08/23 15:10

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.77		48	0.77	ug/L		08/12/23 13:50	08/14/23 18:57	5
Acenaphthylene	<0.82		48	0.82	ug/L		08/12/23 13:50	08/14/23 18:57	5
Anthracene	<0.87		48	0.87	ug/L		08/12/23 13:50	08/14/23 18:57	5
1,2-Diphenylhydrazine (as Azobenzene)	<4.8		48	4.8	ug/L		08/12/23 13:50	08/14/23 18:57	5
Benzidine	<96	*	120	96	ug/L		08/12/23 13:50	08/14/23 18:57	5
Benzo[a]anthracene	3.2	J B	48	0.87	ug/L		08/12/23 13:50	08/14/23 18:57	5
Benzo[a]pyrene	1.0	J B	48	0.58	ug/L		08/12/23 13:50	08/14/23 18:57	5
3,4-Benzofluoranthene	1.0	J B	48	0.72	ug/L		08/12/23 13:50	08/14/23 18:57	5
Benzo[g,h,i]perylene	<1.1		48	1.1	ug/L		08/12/23 13:50	08/14/23 18:57	5
Benzo[k]fluoranthene	1.5	J B	48	0.77	ug/L		08/12/23 13:50	08/14/23 18:57	5
Bis(2-chloroethoxy)methane	<0.77		48	0.77	ug/L		08/12/23 13:50	08/14/23 18:57	5
Bis(2-chloroethyl)ether	<13		48	13	ug/L		08/12/23 13:50	08/14/23 18:57	5
Bis(2-ethylhexyl) phthalate	<24		48	24	ug/L		08/12/23 13:50	08/14/23 18:57	5
4-Bromophenyl phenyl ether	<0.96		48	0.96	ug/L		08/12/23 13:50	08/14/23 18:57	5
Butyl benzyl phthalate	1.2	J B	48	0.92	ug/L		08/12/23 13:50	08/14/23 18:57	5
p-Chloro-m-cresol	<18		48	18	ug/L		08/12/23 13:50	08/14/23 18:57	5
2-Chloronaphthalene	<0.67		48	0.67	ug/L		08/12/23 13:50	08/14/23 18:57	5
2-Chlorophenol	<11		48	11	ug/L		08/12/23 13:50	08/14/23 18:57	5
4-Chlorophenyl phenyl ether	<9.6		48	9.6	ug/L		08/12/23 13:50	08/14/23 18:57	5
Chrysene	2.3	J B	48	0.92	ug/L		08/12/23 13:50	08/14/23 18:57	5
Dibenz(a,h)anthracene	<1.2		48	1.2	ug/L		08/12/23 13:50	08/14/23 18:57	5
3,3'-Dichlorobenzidine	<13		48	13	ug/L		08/12/23 13:50	08/14/23 18:57	5
2,4-Dichlorophenol	<9.6		48	9.6	ug/L		08/12/23 13:50	08/14/23 18:57	5
Diethyl phthalate	<1.2		48	1.2	ug/L		08/12/23 13:50	08/14/23 18:57	5
2,4-Dimethylphenol	<9.6		48	9.6	ug/L		08/12/23 13:50	08/14/23 18:57	5
Dimethyl phthalate	<0.82		48	0.82	ug/L		08/12/23 13:50	08/14/23 18:57	5
Di-n-butyl phthalate	<6.7		48	6.7	ug/L		08/12/23 13:50	08/14/23 18:57	5
4,6-Dinitro-o-cresol	<7.7		48	7.7	ug/L		08/12/23 13:50	08/14/23 18:57	5
2,4-Dinitrophenol	<16		140	16	ug/L		08/12/23 13:50	08/14/23 18:57	5
2,4-Dinitrotoluene	<9.2		48	9.2	ug/L		08/12/23 13:50	08/14/23 18:57	5
2,6-Dinitrotoluene	<9.2		48	9.2	ug/L		08/12/23 13:50	08/14/23 18:57	5
Di-n-octyl phthalate	1.0	J B	48	0.82	ug/L		08/12/23 13:50	08/14/23 18:57	5
Fluoranthene	<0.87		48	0.87	ug/L		08/12/23 13:50	08/14/23 18:57	5
Fluorene	<0.87		48	0.87	ug/L		08/12/23 13:50	08/14/23 18:57	5
Hexachlorobenzene	<0.82		48	0.82	ug/L		08/12/23 13:50	08/14/23 18:57	5
Hexachlorobutadiene	<17		48	17	ug/L		08/12/23 13:50	08/14/23 18:57	5
Hexachlorocyclopentadiene	<13	*+	96	13	ug/L		08/12/23 13:50	08/14/23 18:57	5
Hexachloroethane	<20		48	20	ug/L		08/12/23 13:50	08/14/23 18:57	5
Indeno[1,2,3-cd]pyrene	<1.1		48	1.1	ug/L		08/12/23 13:50	08/14/23 18:57	5
Isophorone	<0.67		48	0.67	ug/L		08/12/23 13:50	08/14/23 18:57	5
Naphthalene	<0.82		48	0.82	ug/L		08/12/23 13:50	08/14/23 18:57	5
Nitrobenzene	<0.63		48	0.63	ug/L		08/12/23 13:50	08/14/23 18:57	5
2-Nitrophenol	<12		48	12	ug/L		08/12/23 13:50	08/14/23 18:57	5
4-Nitrophenol	<10		48	10	ug/L		08/12/23 13:50	08/14/23 18:57	5
N-Nitrosodimethylamine	<17		48	17	ug/L		08/12/23 13:50	08/14/23 18:57	5
N-Nitrosodi-n-propylamine	<16		48	16	ug/L		08/12/23 13:50	08/14/23 18:57	5
N-Nitrosodiphenylamine	<0.87		48	0.87	ug/L		08/12/23 13:50	08/14/23 18:57	5
bis(chloroisopropyl) ether	<0.77		48	0.77	ug/L		08/12/23 13:50	08/14/23 18:57	5
Pentachlorophenol	<6.7		96	6.7	ug/L		08/12/23 13:50	08/14/23 18:57	5

Eurofins Pensacola

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-1

Date Collected: 08/08/23 08:41

Matrix: Water

Date Received: 08/08/23 15:10

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	<0.87		48	0.87	ug/L		08/12/23 13:50	08/14/23 18:57	5
Phenol	<5.3		48	5.3	ug/L		08/12/23 13:50	08/14/23 18:57	5
Pyrene	<1.0		48	1.0	ug/L		08/12/23 13:50	08/14/23 18:57	5
1,2,4-Trichlorobenzene	<0.87		48	0.87	ug/L		08/12/23 13:50	08/14/23 18:57	5
2,4,6-Trichlorophenol	<13		48	13	ug/L		08/12/23 13:50	08/14/23 18:57	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		32 - 109				08/12/23 13:50	08/14/23 18:57	5
2-Fluorophenol	63		10 - 104				08/12/23 13:50	08/14/23 18:57	5
Nitrobenzene-d5	60		31 - 111				08/12/23 13:50	08/14/23 18:57	5
Phenol-d5	46		10 - 110				08/12/23 13:50	08/14/23 18:57	5
Terphenyl-d14	113		30 - 129				08/12/23 13:50	08/14/23 18:57	5
2,4,6-Tribromophenol	89		15 - 135				08/12/23 13:50	08/14/23 18:57	5

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Client Sample ID: DSN002-003 FINAL EFF COMPOSITE

Lab Sample ID: 400-241663-2

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

Method: EPA 608.3 - Organochlorine Pesticides/PCBs in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0000015		0.000018	0.0000015	mg/L		08/09/23 22:29	08/10/23 18:08	1
alpha-BHC	<0.0000023		0.000018	0.0000023	mg/L		08/09/23 22:29	08/10/23 18:08	1
beta-BHC	<0.0000066		0.000018	0.0000066	mg/L		08/09/23 22:29	08/10/23 18:08	1
Chlordane (technical)	<0.000021		0.00018	0.000021	mg/L		08/09/23 22:29	08/10/23 18:08	1
4,4'-DDD	<0.0000032		0.000018	0.0000032	mg/L		08/09/23 22:29	08/10/23 18:08	1
4,4'-DDE	<0.0000044		0.000018	0.0000044	mg/L		08/09/23 22:29	08/10/23 18:08	1
4,4'-DDT	<0.0000069		0.000018	0.0000069	mg/L		08/09/23 22:29	08/10/23 18:08	1
delta-BHC	<0.0000033		0.000018	0.0000033	mg/L		08/09/23 22:29	08/10/23 18:08	1
Dieldrin	<0.0000018		0.000018	0.0000018	mg/L		08/09/23 22:29	08/10/23 18:08	1
alpha-Endosulfan	<0.0000038		0.000018	0.0000038	mg/L		08/09/23 22:29	08/10/23 18:08	1
beta-Endosulfan	<0.0000083		0.000018	0.0000083	mg/L		08/09/23 22:29	08/10/23 18:08	1
Endosulfan sulfate	<0.000017		0.000018	0.000017	mg/L		08/09/23 22:29	08/10/23 18:08	1
Endrin	<0.0000041		0.000018	0.0000041	mg/L		08/09/23 22:29	08/10/23 18:08	1
Endrin aldehyde	<0.0000059		0.000018	0.0000059	mg/L		08/09/23 22:29	08/10/23 18:08	1
gamma-BHC (Lindane)	<0.0000016		0.000018	0.0000016	mg/L		08/09/23 22:29	08/10/23 18:08	1
Heptachlor	<0.0000059		0.000018	0.0000059	mg/L		08/09/23 22:29	08/10/23 18:08	1
Heptachlor epoxide	<0.0000023		0.000018	0.0000023	mg/L		08/09/23 22:29	08/10/23 18:08	1
Methoxychlor	<0.0000036		0.000046	0.0000036	mg/L		08/09/23 22:29	08/10/23 18:08	1
PCB-1016	<0.000059		0.00046	0.000059	mg/L		08/09/23 22:29	08/10/23 18:08	1
PCB-1221	<0.00014		0.00046	0.00014	mg/L		08/09/23 22:29	08/10/23 18:08	1
PCB-1232	<0.00012		0.00046	0.00012	mg/L		08/09/23 22:29	08/10/23 18:08	1
PCB-1242	<0.00013		0.00046	0.00013	mg/L		08/09/23 22:29	08/10/23 18:08	1
PCB-1248	<0.000090		0.00046	0.000090	mg/L		08/09/23 22:29	08/10/23 18:08	1
PCB-1254	<0.00011		0.00046	0.00011	mg/L		08/09/23 22:29	08/10/23 18:08	1
PCB-1260	<0.000043		0.00046	0.000043	mg/L		08/09/23 22:29	08/10/23 18:08	1
Toxaphene	<0.00014		0.0011	0.00014	mg/L		08/09/23 22:29	08/10/23 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	20		10 - 130	08/09/23 22:29	08/10/23 18:08	1
Tetrachloro-m-xylene	49		43 - 130	08/09/23 22:29	08/10/23 18:08	1

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0015		0.0025	0.0015	mg/L		08/17/23 06:00	08/18/23 04:36	5
Arsenic	<0.0039		0.013	0.0039	mg/L		08/17/23 06:00	08/20/23 15:42	50
Beryllium	<0.00017		0.0025	0.00017	mg/L		08/17/23 06:00	08/18/23 04:36	5
Cadmium	<0.00028		0.0025	0.00028	mg/L		08/17/23 06:00	08/18/23 04:36	5
Chromium	0.0027		0.0025	0.0010	mg/L		08/17/23 06:00	08/18/23 04:36	5
Copper	0.0023 J		0.0025	0.0010	mg/L		08/17/23 06:00	08/18/23 04:36	5
Lead	0.0011 J		0.0013	0.00029	mg/L		08/17/23 06:00	08/18/23 04:36	5
Nickel	0.0045		0.0025	0.0015	mg/L		08/17/23 06:00	08/18/23 04:36	5
Selenium	<0.00082		0.0013	0.00082	mg/L		08/17/23 06:00	08/18/23 04:36	5
Silver	<0.00012		0.0013	0.00012	mg/L		08/17/23 06:00	08/18/23 04:36	5
Thallium	<0.00012		0.00050	0.00012	mg/L		08/17/23 06:00	08/18/23 04:36	5
Zinc	0.046		0.020	0.0088	mg/L		08/17/23 06:00	08/18/23 04:36	5

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Client Sample Results

Client: International Paper Company
 Project/Site: Riverdale Mill

Job ID: 400-241663-1
 SDG: Form 2C Table B Sections 1-5

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-3

Date Collected: 08/08/23 08:44

Matrix: Water

Date Received: 08/08/23 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenols, Total (EPA 420.4)	<0.0020		0.0050	0.0020	mg/L		08/18/23 14:49	08/22/23 14:51	1

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-4

Date Collected: 08/08/23 08:39

Matrix: Water

Date Received: 08/08/23 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (EPA 335.2)	<0.0035		0.0050	0.0035	mg/L		08/09/23 15:41	08/11/23 15:12	1

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-6

Date Collected: 08/08/23 08:38

Matrix: Water

Date Received: 08/08/23 15:10

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	<0.0033		0.020	0.0033	mg/L			08/09/23 17:50	1
Acrylonitrile	<0.0028		0.010	0.0028	mg/L			08/09/23 17:50	1
Benzene	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
Bromoform	<0.00025		0.0050	0.00025	mg/L			08/09/23 17:50	1
Carbon tetrachloride	<0.00019		0.0010	0.00019	mg/L			08/09/23 17:50	1
Chlorobenzene	<0.00015		0.0010	0.00015	mg/L			08/09/23 17:50	1
Chlorodibromomethane	<0.00024		0.0010	0.00024	mg/L			08/09/23 17:50	1
Chloroethane	<0.00076		0.0010	0.00076	mg/L			08/09/23 17:50	1
2-Chloroethyl vinyl ether	<0.0020		0.0050	0.0020	mg/L			08/09/23 17:50	1
Chloroform	<0.00090		0.0010	0.00090	mg/L			08/09/23 17:50	1
Methyl chloride	<0.00090		0.0010	0.00090	mg/L			08/09/23 17:50	1
1,2-Dichlorobenzene	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
1,3-Dichlorobenzene	<0.00054		0.0010	0.00054	mg/L			08/09/23 17:50	1
1,4-Dichlorobenzene	<0.00064		0.0010	0.00064	mg/L			08/09/23 17:50	1
Dichlorobromomethane	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
1,1-Dichloroethane	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
1,2-Dichloroethane	<0.00019		0.0010	0.00019	mg/L			08/09/23 17:50	1
1,1-Dichloroethylene	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
1,2-Dichloropropane	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
Ethylbenzene	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
Methylene Chloride	<0.0030		0.0050	0.0030	mg/L			08/09/23 17:50	1
1,1,2,2-Tetrachloroethane	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
Tetrachloroethylene	<0.00090		0.0010	0.00090	mg/L			08/09/23 17:50	1
Toluene	<0.00090		0.0010	0.00090	mg/L			08/09/23 17:50	1
1,2-trans-Dichloroethylene	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
1,1,1-Trichloroethane	<0.00018		0.0010	0.00018	mg/L			08/09/23 17:50	1
1,1,2-Trichloroethane	<0.00021		0.0050	0.00021	mg/L			08/09/23 17:50	1
Trichloroethylene	<0.00015		0.0010	0.00015	mg/L			08/09/23 17:50	1
Vinyl chloride	<0.00050		0.0010	0.00050	mg/L			08/09/23 17:50	1
Methyl bromide	<0.00098		0.0010	0.00098	mg/L			08/09/23 17:50	1
1,3-Dichloropropylene	<0.0010		0.0050	0.0010	mg/L			08/09/23 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		78 - 118		08/09/23 17:50	1
Dibromofluoromethane	102		81 - 121		08/09/23 17:50	1
Toluene-d8 (Surr)	93		80 - 120		08/09/23 17:50	1

Eurofins Pensacola

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
SQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-1

Date Collected: 08/08/23 08:41

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			259.4 mL	1 mL	636821	08/12/23 13:50	STC	EET PEN
Total/NA	Analysis	625.1		5	0.4 mL	0.4 mL	636936	08/14/23 18:57	S1B	EET PEN

Client Sample ID: DSN002-003 FINAL EFF COMPOSITE

Lab Sample ID: 400-241663-2

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			54.7 mL	2 mL	636477	08/09/23 22:29	BKL	EET PEN
Total/NA	Analysis	608.3		1			636542	08/10/23 18:08	JAW	EET PEN
Total/NA	Prep	200.8			50 mL	50 mL	637299	08/17/23 06:00	KWN	EET PEN
Total/NA	Analysis	200.8		5			637518	08/18/23 04:36	NTH	EET PEN
Total/NA	Prep	200.8			50 mL	50 mL	637299	08/17/23 06:00	KWN	EET PEN
Total/NA	Analysis	200.8		50			637735	08/20/23 15:42	NTH	EET PEN

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-3

Date Collected: 08/08/23 08:44

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Distill/Phenol			10 mL	10 mL	637634	08/18/23 14:49	CAC	EET PEN
Total/NA	Analysis	420.4		1	10 mL	10 mL	638036	08/22/23 14:51	CAC	EET PEN

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-4

Date Collected: 08/08/23 08:39

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Distill/CN			6 mL	6 mL	636473	08/09/23 15:41	VB	EET PEN
Total/NA	Analysis	335.2		1	100 mL	100 mL	636790	08/11/23 15:12	DEK	EET PEN

Client Sample ID: DSN002-003 FINAL EFF GRAB

Lab Sample ID: 400-241663-6

Date Collected: 08/08/23 08:38

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	636341	08/09/23 17:50	WPD	EET PEN

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Eurofins Pensacola

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

iC/MS VOA

Analysis Batch: 636341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-6	DSN002-003 FINAL EFF GRAB	Total/NA	Water	624.1	
MB 400-636341/5	Method Blank	Total/NA	Water	624.1	
LCS 400-636341/3	Lab Control Sample	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 636821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-1	DSN002-003 FINAL EFF GRAB	Total/NA	Water	625	
MB 400-636821/1-A	Method Blank	Total/NA	Water	625	
LCS 400-636821/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 400-636821/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 636936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-1	DSN002-003 FINAL EFF GRAB	Total/NA	Water	625.1	636821
MB 400-636821/1-A	Method Blank	Total/NA	Water	625.1	636821
LCS 400-636821/2-A	Lab Control Sample	Total/NA	Water	625.1	636821
LCSD 400-636821/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	636821

GC Semi VOA

Prep Batch: 636477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-2	DSN002-003 FINAL EFF COMPOSITE	Total/NA	Water	3511	
MB 400-636477/1-A	Method Blank	Total/NA	Water	3511	
LCS 400-636477/2-A	Lab Control Sample	Total/NA	Water	3511	
LCS 400-636477/4-A	Lab Control Sample	Total/NA	Water	3511	
LCSD 400-636477/3-A	Lab Control Sample Dup	Total/NA	Water	3511	
LCSD 400-636477/5-A	Lab Control Sample Dup	Total/NA	Water	3511	

Analysis Batch: 636542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-2	DSN002-003 FINAL EFF COMPOSITE	Total/NA	Water	608.3	636477
MB 400-636477/1-A	Method Blank	Total/NA	Water	608.3	636477
LCS 400-636477/2-A	Lab Control Sample	Total/NA	Water	608.3	636477
LCS 400-636477/4-A	Lab Control Sample	Total/NA	Water	608.3	636477
LCSD 400-636477/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	636477
LCSD 400-636477/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	636477

Metals

Prep Batch: 637299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-2	DSN002-003 FINAL EFF COMPOSITE	Total/NA	Water	200.8	
MB 400-637299/1-A ^5	Method Blank	Total/NA	Water	200.8	
LCS 400-637299/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	

Analysis Batch: 637518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-2	DSN002-003 FINAL EFF COMPOSITE	Total/NA	Water	200.8	637299
MB 400-637299/1-A ^5	Method Blank	Total/NA	Water	200.8	637299

Eurofins Pensacola

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Metals (Continued)

Analysis Batch: 637518 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-637299/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	637299

Analysis Batch: 637735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-2	DSN002-003 FINAL EFF COMPOSITE	Total/NA	Water	200.8	637299

General Chemistry

Prep Batch: 636473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-4	DSN002-003 FINAL EFF GRAB	Total/NA	Water	Distill/CN	
MB 400-636473/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 400-636473/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
400-241663-4 MS	DSN002-003 FINAL EFF GRAB	Total/NA	Water	Distill/CN	
400-241663-4 MSD	DSN002-003 FINAL EFF GRAB	Total/NA	Water	Distill/CN	

Analysis Batch: 636790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-4	DSN002-003 FINAL EFF GRAB	Total/NA	Water	335.2	636473
MB 400-636473/1-A	Method Blank	Total/NA	Water	335.2	636473
LCS 400-636473/2-A	Lab Control Sample	Total/NA	Water	335.2	636473
MRL 400-636790/13	Lab Control Sample	Total/NA	Water	335.2	
400-241663-4 MS	DSN002-003 FINAL EFF GRAB	Total/NA	Water	335.2	636473
400-241663-4 MSD	DSN002-003 FINAL EFF GRAB	Total/NA	Water	335.2	636473

Prep Batch: 637634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-3	DSN002-003 FINAL EFF GRAB	Total/NA	Water	Distill/Phenol	
MB 400-637634/1-A	Method Blank	Total/NA	Water	Distill/Phenol	
LCS 400-637634/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	

Analysis Batch: 638036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241663-3	DSN002-003 FINAL EFF GRAB	Total/NA	Water	420.4	637634
MB 400-637634/1-A	Method Blank	Total/NA	Water	420.4	637634
LCS 400-637634/2-A	Lab Control Sample	Total/NA	Water	420.4	637634
MRL 400-638036/15	Lab Control Sample	Total/NA	Water	420.4	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-636341/5
Matrix: Water
Analysis Batch: 636341

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	<0.0033		0.020	0.0033	mg/L			08/09/23 08:59	1
Acrylonitrile	<0.0028		0.010	0.0028	mg/L			08/09/23 08:59	1
Benzene	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
Bromoform	<0.00025		0.0050	0.00025	mg/L			08/09/23 08:59	1
Carbon tetrachloride	<0.00019		0.0010	0.00019	mg/L			08/09/23 08:59	1
Chlorobenzene	<0.00015		0.0010	0.00015	mg/L			08/09/23 08:59	1
Chlorodibromomethane	<0.00024		0.0010	0.00024	mg/L			08/09/23 08:59	1
Chloroethane	<0.00076		0.0010	0.00076	mg/L			08/09/23 08:59	1
2-Chloroethyl vinyl ether	<0.0020		0.0050	0.0020	mg/L			08/09/23 08:59	1
Chloroform	<0.00090		0.0010	0.00090	mg/L			08/09/23 08:59	1
Methyl chloride	<0.00090		0.0010	0.00090	mg/L			08/09/23 08:59	1
1,2-Dichlorobenzene	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
1,3-Dichlorobenzene	<0.00054		0.0010	0.00054	mg/L			08/09/23 08:59	1
1,4-Dichlorobenzene	<0.00064		0.0010	0.00064	mg/L			08/09/23 08:59	1
Dichlorobromomethane	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
1,1-Dichloroethane	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
1,2-Dichloroethane	<0.00019		0.0010	0.00019	mg/L			08/09/23 08:59	1
1,1-Dichloroethylene	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
1,2-Dichloropropane	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
Ethylbenzene	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
Methylene Chloride	<0.0030		0.0050	0.0030	mg/L			08/09/23 08:59	1
1,1,2,2-Tetrachloroethane	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
Tetrachloroethylene	<0.00090		0.0010	0.00090	mg/L			08/09/23 08:59	1
Toluene	<0.00090		0.0010	0.00090	mg/L			08/09/23 08:59	1
1,2-trans-Dichloroethylene	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
1,1,1-Trichloroethane	<0.00018		0.0010	0.00018	mg/L			08/09/23 08:59	1
1,1,2-Trichloroethane	<0.00021		0.0050	0.00021	mg/L			08/09/23 08:59	1
Trichloroethylene	<0.00015		0.0010	0.00015	mg/L			08/09/23 08:59	1
Vinyl chloride	<0.00050		0.0010	0.00050	mg/L			08/09/23 08:59	1
Methyl bromide	<0.00098		0.0010	0.00098	mg/L			08/09/23 08:59	1
1,3-Dichloropropylene	<0.0010		0.0050	0.0010	mg/L			08/09/23 08:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118		08/09/23 08:59	1
Dibromofluoromethane	101		81 - 121		08/09/23 08:59	1
Toluene-d8 (Surr)	92		80 - 120		08/09/23 08:59	1

Lab Sample ID: LCS 400-636341/3
Matrix: Water
Analysis Batch: 636341

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acrolein	0.250	0.326		mg/L		131	60 - 140
Acrylonitrile	0.500	0.621		mg/L		124	60 - 140
Benzene	0.0500	0.0478		mg/L		96	65 - 135
Bromoform	0.0500	0.0447		mg/L		89	70 - 130
Carbon tetrachloride	0.0500	0.0478		mg/L		96	70 - 130
Chlorobenzene	0.0500	0.0431		mg/L		86	65 - 135

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-636341/3

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 636341

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorodibromomethane	0.0500	0.0464		mg/L		93	69 - 133
Chloroethane	0.0250	0.0237		mg/L		95	40 - 160
2-Chloroethyl vinyl ether	0.0250	0.0252		mg/L		101	1 - 225
Chloroform	0.0500	0.0468		mg/L		94	70 - 135
Methyl chloride	0.0250	0.0215		mg/L		86	1 - 205
1,2-Dichlorobenzene	0.0500	0.0411		mg/L		82	65 - 135
1,3-Dichlorobenzene	0.0500	0.0389		mg/L		78	70 - 130
1,4-Dichlorobenzene	0.0500	0.0399		mg/L		80	65 - 135
Dichlorobromomethane	0.0500	0.0481		mg/L		96	65 - 135
1,1-Dichloroethane	0.0500	0.0482		mg/L		96	70 - 130
1,2-Dichloroethane	0.0500	0.0475		mg/L		95	70 - 130
1,1-Dichloroethylene	0.0500	0.0619		mg/L		124	50 - 150
1,2-Dichloropropane	0.0500	0.0491		mg/L		98	35 - 165
Ethylbenzene	0.0500	0.0425		mg/L		85	60 - 140
Methylene Chloride	0.0500	0.0629		mg/L		126	60 - 140
1,1,2,2-Tetrachloroethane	0.0500	0.0414		mg/L		83	60 - 140
Tetrachloroethylene	0.0500	0.0420		mg/L		84	70 - 130
Toluene	0.0500	0.0426		mg/L		85	70 - 130
1,2-trans-Dichloroethylene	0.0500	0.0578		mg/L		116	70 - 130
1,1,1-Trichloroethane	0.0500	0.0477		mg/L		95	70 - 130
1,1,2-Trichloroethane	0.0500	0.0455		mg/L		91	70 - 130
Trichloroethylene	0.0500	0.0485		mg/L		97	65 - 135
Vinyl chloride	0.0250	0.0221		mg/L		88	5 - 195
Methyl bromide	0.0250	0.0293		mg/L		117	15 - 185
1,3-Dichloropropylene	0.100	0.0898		mg/L		90	25 - 175

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		78 - 118
Dibromofluoromethane	100		81 - 121
Toluene-d8 (Surr)	95		80 - 120

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-636821/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 636936

Prep Batch: 636821

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.16		10	0.16	ug/L		08/12/23 13:50	08/14/23 15:21	1
Acenaphthylene	<0.17		10	0.17	ug/L		08/12/23 13:50	08/14/23 15:21	1
Anthracene	0.691 J		10	0.18	ug/L		08/12/23 13:50	08/14/23 15:21	1
1,2-Diphenylhydrazine (as Azobenzene)	<1.0		10	1.0	ug/L		08/12/23 13:50	08/14/23 15:21	1
Benzidine	<20		25	20	ug/L		08/12/23 13:50	08/14/23 15:21	1
Benzo[a]anthracene	1.14 J		10	0.18	ug/L		08/12/23 13:50	08/14/23 15:21	1
Benzo[a]pyrene	0.282 J		10	0.12	ug/L		08/12/23 13:50	08/14/23 15:21	1
3,4-Benzofluoranthene	0.301 J		10	0.15	ug/L		08/12/23 13:50	08/14/23 15:21	1
Benzo[g,h,i]perylene	0.699 J		10	0.23	ug/L		08/12/23 13:50	08/14/23 15:21	1
Benzo[k]fluoranthene	0.437 J		10	0.16	ug/L		08/12/23 13:50	08/14/23 15:21	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-636821/1-A
Matrix: Water
Analysis Batch: 636936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 636821

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	<0.16		10	0.16	ug/L		08/12/23 13:50	08/14/23 15:21	1
Bis(2-chloroethyl)ether	<2.7		10	2.7	ug/L		08/12/23 13:50	08/14/23 15:21	1
Bis(2-ethylhexyl) phthalate	<5.0		10	5.0	ug/L		08/12/23 13:50	08/14/23 15:21	1
4-Bromophenyl phenyl ether	<0.20		10	0.20	ug/L		08/12/23 13:50	08/14/23 15:21	1
Butyl benzyl phthalate	0.834	J	10	0.19	ug/L		08/12/23 13:50	08/14/23 15:21	1
p-Chloro-m-cresol	<3.8		10	3.8	ug/L		08/12/23 13:50	08/14/23 15:21	1
2-Chloronaphthalene	<0.14		10	0.14	ug/L		08/12/23 13:50	08/14/23 15:21	1
2-Chlorophenol	<2.2		10	2.2	ug/L		08/12/23 13:50	08/14/23 15:21	1
4-Chlorophenyl phenyl ether	<2.0		10	2.0	ug/L		08/12/23 13:50	08/14/23 15:21	1
Chrysene	0.943	J	10	0.19	ug/L		08/12/23 13:50	08/14/23 15:21	1
Dibenz(a,h)anthracene	0.469	J	10	0.24	ug/L		08/12/23 13:50	08/14/23 15:21	1
3,3'-Dichlorobenzidine	<2.6		10	2.6	ug/L		08/12/23 13:50	08/14/23 15:21	1
2,4-Dichlorophenol	<2.0		10	2.0	ug/L		08/12/23 13:50	08/14/23 15:21	1
Diethyl phthalate	0.946	J	10	0.24	ug/L		08/12/23 13:50	08/14/23 15:21	1
2,4-Dimethylphenol	<2.0		10	2.0	ug/L		08/12/23 13:50	08/14/23 15:21	1
Dimethyl phthalate	<0.17		10	0.17	ug/L		08/12/23 13:50	08/14/23 15:21	1
Di-n-butyl phthalate	<1.4		10	1.4	ug/L		08/12/23 13:50	08/14/23 15:21	1
4,6-Dinitro-o-cresol	<1.6		10	1.6	ug/L		08/12/23 13:50	08/14/23 15:21	1
2,4-Dinitrophenol	<3.4		30	3.4	ug/L		08/12/23 13:50	08/14/23 15:21	1
2,4-Dinitrotoluene	<1.9		10	1.9	ug/L		08/12/23 13:50	08/14/23 15:21	1
2,6-Dinitrotoluene	<1.9		10	1.9	ug/L		08/12/23 13:50	08/14/23 15:21	1
Di-n-octyl phthalate	0.250	J	10	0.17	ug/L		08/12/23 13:50	08/14/23 15:21	1
Fluoranthene	1.17	J	10	0.18	ug/L		08/12/23 13:50	08/14/23 15:21	1
Fluorene	<0.18		10	0.18	ug/L		08/12/23 13:50	08/14/23 15:21	1
Hexachlorobenzene	<0.17		10	0.17	ug/L		08/12/23 13:50	08/14/23 15:21	1
Hexachlorobutadiene	<3.6		10	3.6	ug/L		08/12/23 13:50	08/14/23 15:21	1
Hexachlorocyclopentadiene	<2.6		20	2.6	ug/L		08/12/23 13:50	08/14/23 15:21	1
Hexachloroethane	<4.2		10	4.2	ug/L		08/12/23 13:50	08/14/23 15:21	1
Indeno[1,2,3-cd]pyrene	0.382	J	10	0.22	ug/L		08/12/23 13:50	08/14/23 15:21	1
Isophorone	<0.14		10	0.14	ug/L		08/12/23 13:50	08/14/23 15:21	1
Naphthalene	<0.17		10	0.17	ug/L		08/12/23 13:50	08/14/23 15:21	1
Nitrobenzene	<0.13		10	0.13	ug/L		08/12/23 13:50	08/14/23 15:21	1
2-Nitrophenol	<2.4		10	2.4	ug/L		08/12/23 13:50	08/14/23 15:21	1
4-Nitrophenol	<2.1		10	2.1	ug/L		08/12/23 13:50	08/14/23 15:21	1
N-Nitrosodimethylamine	<3.5		10	3.5	ug/L		08/12/23 13:50	08/14/23 15:21	1
N-Nitrosodi-n-propylamine	<3.3		10	3.3	ug/L		08/12/23 13:50	08/14/23 15:21	1
N-Nitrosodiphenylamine	<0.18		10	0.18	ug/L		08/12/23 13:50	08/14/23 15:21	1
bis(chloroisopropyl) ether	<0.16		10	0.16	ug/L		08/12/23 13:50	08/14/23 15:21	1
Pentachlorophenol	6.15	J	20	1.4	ug/L		08/12/23 13:50	08/14/23 15:21	1
Phenanthrene	<0.18		10	0.18	ug/L		08/12/23 13:50	08/14/23 15:21	1
Phenol	<1.1		10	1.1	ug/L		08/12/23 13:50	08/14/23 15:21	1
Pyrene	1.19	J	10	0.21	ug/L		08/12/23 13:50	08/14/23 15:21	1
1,2,4-Trichlorobenzene	<0.18		10	0.18	ug/L		08/12/23 13:50	08/14/23 15:21	1
2,4,6-Trichlorophenol	<2.6		10	2.6	ug/L		08/12/23 13:50	08/14/23 15:21	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	91		32 - 109				08/12/23 13:50	08/14/23 15:21	1
2-Fluorophenol	72		10 - 104				08/12/23 13:50	08/14/23 15:21	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-636821/1-A
Matrix: Water
Analysis Batch: 636936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 636821

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	81		31 - 111	08/12/23 13:50	08/14/23 15:21	1
Phenol-d5	52		10 - 110	08/12/23 13:50	08/14/23 15:21	1
Terphenyl-d14	118		30 - 129	08/12/23 13:50	08/14/23 15:21	1
2,4,6-Tribromophenol	103		15 - 135	08/12/23 13:50	08/14/23 15:21	1

Lab Sample ID: LCS 400-636821/2-A
Matrix: Water
Analysis Batch: 636936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 636821

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	105		ug/L		87	60 - 132
Acenaphthylene	120	111		ug/L		92	54 - 126
Anthracene	120	118		ug/L		98	43 - 120
1,2-Diphenylhydrazine (as Azobenzene)	120	89.1		ug/L		74	40 - 130
Benzidine	659	<20	*-	ug/L		2	5 - 130
Benzo[a]anthracene	120	115		ug/L		96	42 - 133
Benzo[a]pyrene	120	126		ug/L		105	32 - 148
3,4-Benzofluoranthene	120	123		ug/L		103	42 - 140
Benzo[g,h,i]perylene	120	117		ug/L		97	10 - 195
Benzo[k]fluoranthene	120	129		ug/L		108	25 - 146
Bis(2-chloroethoxy)methane	120	101		ug/L		84	49 - 165
Bis(2-chloroethyl)ether	120	110		ug/L		92	43 - 126
Bis(2-ethylhexyl) phthalate	120	111		ug/L		92	29 - 137
4-Bromophenyl phenyl ether	120	138		ug/L		115	65 - 120
Butyl benzyl phthalate	120	117		ug/L		97	10 - 140
p-Chloro-m-cresol	120	117		ug/L		97	41 - 128
2-Chloronaphthalene	120	113		ug/L		94	65 - 120
2-Chlorophenol	120	108		ug/L		90	36 - 120
4-Chlorophenyl phenyl ether	120	140		ug/L		117	38 - 145
Chrysene	120	120		ug/L		100	44 - 140
Dibenz(a,h)anthracene	120	118		ug/L		99	10 - 200
3,3'-Dichlorobenzidine	240	221		ug/L		92	10 - 213
2,4-Dichlorophenol	120	127		ug/L		106	53 - 122
Diethyl phthalate	120	107		ug/L		89	10 - 120
2,4-Dimethylphenol	120	133		ug/L		111	42 - 120
Dimethyl phthalate	120	122		ug/L		102	10 - 120
Di-n-butyl phthalate	120	107		ug/L		89	10 - 120
4,6-Dinitro-o-cresol	240	216		ug/L		90	53 - 130
2,4-Dinitrophenol	240	220		ug/L		92	10 - 173
2,4-Dinitrotoluene	120	135		ug/L		112	48 - 127
2,6-Dinitrotoluene	120	137		ug/L		114	68 - 137
Di-n-octyl phthalate	120	110		ug/L		92	19 - 132
Fluoranthene	120	134		ug/L		112	43 - 121
Fluorene	120	102		ug/L		85	70 - 120
Hexachlorobenzene	120	143		ug/L		119	10 - 142
Hexachlorobutadiene	120	128		ug/L		107	38 - 120
Hexachlorocyclopentadiene	120	179	*+	ug/L		149	10 - 130
Hexachloroethane	120	99.1		ug/L		83	55 - 120

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-636821/2-A

Matrix: Water

Analysis Batch: 636936

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 636821

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Indeno[1,2,3-cd]pyrene	120	109		ug/L		91	10 - 151
Isophorone	120	97.5		ug/L		81	47 - 180
Naphthalene	120	111		ug/L		93	36 - 120
Nitrobenzene	120	96.8		ug/L		81	54 - 158
2-Nitrophenol	120	116		ug/L		97	61 - 163
4-Nitrophenol	240	142		ug/L		59	13 - 129
N-Nitrosodimethylamine	120	66.4		ug/L		55	31 - 130
N-Nitrosodi-n-propylamine	120	94.7		ug/L		79	14 - 198
N-Nitrosodiphenylamine	119	117		ug/L		98	57 - 130
bis(chloroisopropyl) ether	120	85.8		ug/L		71	63 - 139
Pentachlorophenol	240	216		ug/L		90	38 - 152
Phenanthrene	120	115		ug/L		96	65 - 120
Phenol	120	69.5		ug/L		58	17 - 120
Pyrene	120	109		ug/L		91	70 - 120
1,2,4-Trichlorobenzene	120	117		ug/L		97	57 - 130
2,4,6-Trichlorophenol	120	133		ug/L		111	52 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	107		32 - 109
2-Fluorophenol	79		10 - 104
Nitrobenzene-d5	87		31 - 111
Phenol-d5	62		10 - 110
Terphenyl-d14	118		30 - 129
2,4,6-Tribromophenol	134		15 - 135

Lab Sample ID: LCSD 400-636821/3-A

Matrix: Water

Analysis Batch: 636936

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 636821

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Acenaphthene	120	101		ug/L		84	60 - 132	4	40
Acenaphthylene	120	108		ug/L		90	54 - 126	3	40
Anthracene	120	112		ug/L		94	43 - 120	5	40
1,2-Diphenylhydrazine (as Azobenzene)	120	86.1		ug/L		72	40 - 130	3	40
Benzidine	659	<20	*	ug/L		2	5 - 130	29	40
Benzo[a]anthracene	120	113		ug/L		94	42 - 133	1	40
Benzo[a]pyrene	120	120		ug/L		100	32 - 148	4	40
3,4-Benzofluoranthene	120	116		ug/L		97	42 - 140	6	40
Benzo[g,h,i]perylene	120	114		ug/L		95	10 - 195	3	40
Benzo[k]fluoranthene	120	124		ug/L		104	25 - 146	4	40
Bis(2-chloroethoxy)methane	120	98.9		ug/L		82	49 - 165	2	40
Bis(2-chloroethyl)ether	120	77.8		ug/L		65	43 - 126	34	40
Bis(2-ethylhexyl) phthalate	120	109		ug/L		91	29 - 137	2	40
4-Bromophenyl phenyl ether	120	136		ug/L		113	65 - 120	2	40
Butyl benzyl phthalate	120	114		ug/L		95	10 - 140	3	40
p-Chloro-m-cresol	120	119		ug/L		99	41 - 128	2	40
2-Chloronaphthalene	120	109		ug/L		91	65 - 120	4	24
2-Chlorophenol	120	106		ug/L		88	36 - 120	1	40

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-636821/3-A

Matrix: Water

Analysis Batch: 636936

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 636821

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4-Chlorophenyl phenyl ether	120	139		ug/L		116	38 - 145	1	40
Chrysene	120	117		ug/L		98	44 - 140	2	40
Dibenz(a,h)anthracene	120	114		ug/L		95	10 - 200	4	40
3,3'-Dichlorobenzidine	240	234		ug/L		98	10 - 213	6	40
2,4-Dichlorophenol	120	128		ug/L		107	53 - 122	1	40
Diethyl phthalate	120	106		ug/L		88	10 - 120	1	40
2,4-Dimethylphenol	120	133		ug/L		111	42 - 120	0	40
Dimethyl phthalate	120	124		ug/L		104	10 - 120	2	40
Di-n-butyl phthalate	120	103		ug/L		86	10 - 120	4	40
4,6-Dinitro-o-cresol	240	224		ug/L		93	53 - 130	4	40
2,4-Dinitrophenol	240	237		ug/L		99	10 - 173	8	40
2,4-Dinitrotoluene	120	138		ug/L		115	48 - 127	2	40
2,6-Dinitrotoluene	120	138		ug/L		115	68 - 137	1	40
Di-n-octyl phthalate	120	111		ug/L		92	19 - 132	0	40
Fluoranthene	120	130		ug/L		108	43 - 121	3	40
Fluorene	120	99.4		ug/L		83	70 - 120	3	38
Hexachlorobenzene	120	141		ug/L		117	10 - 142	1	40
Hexachlorobutadiene	120	122		ug/L		102	38 - 120	4	40
Hexachlorocyclopentadiene	120	192	++	ug/L		160	10 - 130	7	40
Hexachloroethane	120	94.3		ug/L		79	55 - 120	5	40
Indeno[1,2,3-cd]pyrene	120	106		ug/L		89	10 - 151	3	40
Isophorone	120	97.3		ug/L		81	47 - 180	0	40
Naphthalene	120	104		ug/L		87	36 - 120	6	40
Nitrobenzene	120	94.8		ug/L		79	54 - 158	2	40
2-Nitrophenol	120	122		ug/L		101	61 - 163	5	40
4-Nitrophenol	240	169		ug/L		70	13 - 129	17	40
N-Nitrosodimethylamine	120	68.4		ug/L		57	31 - 130	3	40
N-Nitrosodi-n-propylamine	120	95.9		ug/L		80	14 - 198	1	40
N-Nitrosodiphenylamine	119	115		ug/L		96	57 - 130	1	40
bis(chloroisopropyl) ether	120	82.0		ug/L		68	63 - 139	5	40
Pentachlorophenol	240	235		ug/L		98	38 - 152	9	40
Phenanthrene	120	110		ug/L		91	65 - 120	4	39
Phenol	120	71.0		ug/L		59	17 - 120	2	40
Pyrene	120	106		ug/L		88	70 - 120	3	40
1,2,4-Trichlorobenzene	120	114		ug/L		95	57 - 130	2	40
2,4,6-Trichlorophenol	120	136		ug/L		114	52 - 129	2	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	105		32 - 109
2-Fluorophenol	78		10 - 104
Nitrobenzene-d5	85		31 - 111
Phenol-d5	62		10 - 110
Terphenyl-d14	114		30 - 129
2,4,6-Tribromophenol	138	S1+	15 - 135

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

ethod: 608.3 - Organochlorine Pesticides/PCBs in Water

Lab Sample ID: MB 400-636477/1-A
Matrix: Water
Analysis Batch: 636542

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 636477

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0000016		0.000020	0.0000016	mg/L		08/09/23 15:59	08/10/23 15:54	1
alpha-BHC	<0.0000025		0.000020	0.0000025	mg/L		08/09/23 15:59	08/10/23 15:54	1
beta-BHC	<0.0000072		0.000020	0.0000072	mg/L		08/09/23 15:59	08/10/23 15:54	1
Chlordane (technical)	<0.000023		0.00020	0.000023	mg/L		08/09/23 15:59	08/10/23 15:54	1
4,4'-DDD	<0.0000035		0.000020	0.0000035	mg/L		08/09/23 15:59	08/10/23 15:54	1
4,4'-DDE	<0.0000048		0.000020	0.0000048	mg/L		08/09/23 15:59	08/10/23 15:54	1
4,4'-DDT	<0.0000075		0.000020	0.0000075	mg/L		08/09/23 15:59	08/10/23 15:54	1
delta-BHC	<0.0000036		0.000020	0.0000036	mg/L		08/09/23 15:59	08/10/23 15:54	1
Dieldrin	<0.0000020		0.000020	0.0000020	mg/L		08/09/23 15:59	08/10/23 15:54	1
alpha-Endosulfan	<0.0000042		0.000020	0.0000042	mg/L		08/09/23 15:59	08/10/23 15:54	1
beta-Endosulfan	<0.0000091		0.000020	0.0000091	mg/L		08/09/23 15:59	08/10/23 15:54	1
Endosulfan sulfate	<0.000019		0.000020	0.000019	mg/L		08/09/23 15:59	08/10/23 15:54	1
Endrin	<0.0000045		0.000020	0.0000045	mg/L		08/09/23 15:59	08/10/23 15:54	1
Endrin aldehyde	<0.0000064		0.000020	0.0000064	mg/L		08/09/23 15:59	08/10/23 15:54	1
gamma-BHC (Lindane)	<0.0000017		0.000020	0.0000017	mg/L		08/09/23 15:59	08/10/23 15:54	1
Heptachlor	<0.0000065		0.000020	0.0000065	mg/L		08/09/23 15:59	08/10/23 15:54	1
Heptachlor epoxide	<0.0000025		0.000020	0.0000025	mg/L		08/09/23 15:59	08/10/23 15:54	1
Methoxychlor	<0.0000039		0.000050	0.0000039	mg/L		08/09/23 15:59	08/10/23 15:54	1
PCB-1016	<0.000065		0.00050	0.000065	mg/L		08/09/23 15:59	08/10/23 15:54	1
PCB-1221	<0.00016		0.00050	0.00016	mg/L		08/09/23 15:59	08/10/23 15:54	1
PCB-1232	<0.00013		0.00050	0.00013	mg/L		08/09/23 15:59	08/10/23 15:54	1
PCB-1242	<0.00014		0.00050	0.00014	mg/L		08/09/23 15:59	08/10/23 15:54	1
PCB-1248	<0.000098		0.00050	0.000098	mg/L		08/09/23 15:59	08/10/23 15:54	1
PCB-1254	<0.00012		0.00050	0.00012	mg/L		08/09/23 15:59	08/10/23 15:54	1
PCB-1260	<0.000047		0.00050	0.000047	mg/L		08/09/23 15:59	08/10/23 15:54	1
Toxaphene	<0.00016		0.0012	0.00016	mg/L		08/09/23 15:59	08/10/23 15:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	102		10 - 130	08/09/23 15:59	08/10/23 15:54	1
Tetrachloro-m-xylene	71		43 - 130	08/09/23 15:59	08/10/23 15:54	1

Lab Sample ID: LCS 400-636477/2-A
Matrix: Water
Analysis Batch: 636542

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 636477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	0.000500	0.000392		mg/L		78	42 - 140
alpha-BHC	0.000500	0.000424		mg/L		85	37 - 140
beta-BHC	0.000500	0.000395		mg/L		79	17 - 147
4,4'-DDD	0.000500	0.000571		mg/L		114	31 - 141
4,4'-DDE	0.000500	0.000433		mg/L		87	30 - 145
4,4'-DDT	0.000500	0.000315		mg/L		63	25 - 160
delta-BHC	0.000500	0.000449		mg/L		90	19 - 140
Dieldrin	0.000500	0.000446		mg/L		89	36 - 146
alpha-Endosulfan	0.000500	0.000434		mg/L		87	45 - 153
beta-Endosulfan	0.000500	0.000459		mg/L		92	1 - 202
Endosulfan sulfate	0.000500	0.000488		mg/L		98	26 - 144
Endrin	0.000500	0.000482		mg/L		96	30 - 147

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 608.3 - Organochlorine Pesticides/PCBs in Water (Continued)

Lab Sample ID: LCS 400-636477/2-A

Matrix: Water

Analysis Batch: 636542

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 636477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Endrin aldehyde	0.000500	0.000503		mg/L		101	30 - 130
gamma-BHC (Lindane)	0.000500	0.000413		mg/L		83	32 - 140
Heptachlor	0.000500	0.000431		mg/L		86	34 - 140
Heptachlor epoxide	0.000500	0.000429		mg/L		86	37 - 142
Methoxychlor	0.000500	0.000382		mg/L		76	30 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	98		10 - 130
Tetrachloro-m-xylene	78		43 - 130

Lab Sample ID: LCS 400-636477/4-A

Matrix: Water

Analysis Batch: 636542

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 636477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	0.00505	0.00535		mg/L		106	50 - 114
PCB-1260	0.00503	0.00551		mg/L		110	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	98		10 - 130
Tetrachloro-m-xylene	81		43 - 130

Lab Sample ID: LCSD 400-636477/3-A

Matrix: Water

Analysis Batch: 636542

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 636477

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Aldrin	0.000500	0.000440		mg/L		88	42 - 140	12	30
alpha-BHC	0.000500	0.000465		mg/L		93	37 - 140	9	30
beta-BHC	0.000500	0.000426		mg/L		85	17 - 147	7	30
4,4'-DDD	0.000500	0.000606		mg/L		121	31 - 141	6	30
4,4'-DDE	0.000500	0.000463		mg/L		93	30 - 145	7	30
4,4'-DDT	0.000500	0.000380		mg/L		76	25 - 160	19	30
delta-BHC	0.000500	0.000485		mg/L		97	19 - 140	8	30
Dieldrin	0.000500	0.000483		mg/L		97	36 - 146	8	30
alpha-Endosulfan	0.000500	0.000467		mg/L		93	45 - 153	7	28
beta-Endosulfan	0.000500	0.000487		mg/L		97	1 - 202	6	30
Endosulfan sulfate	0.000500	0.000538		mg/L		108	26 - 144	10	30
Endrin	0.000500	0.000524		mg/L		105	30 - 147	8	30
Endrin aldehyde	0.000500	0.000549		mg/L		110	30 - 130	9	30
gamma-BHC (Lindane)	0.000500	0.000448		mg/L		90	32 - 140	8	30
Heptachlor	0.000500	0.000471		mg/L		94	34 - 140	9	30
Heptachlor epoxide	0.000500	0.000464		mg/L		93	37 - 142	8	26
Methoxychlor	0.000500	0.000426		mg/L		85	30 - 130	11	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	99		10 - 130
Tetrachloro-m-xylene	85		43 - 130

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 608.3 - Organochlorine Pesticides/PCBs in Water

Lab Sample ID: LCSD 400-636477/5-A

Matrix: Water

Analysis Batch: 636542

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 636477

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PCB-1016	0.00505	0.00541		mg/L		107	50 - 114	1	30
PCB-1260	0.00503	0.00559		mg/L		111	8 - 127	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
DCB Decachlorobiphenyl	100		10 - 130
Tetrachloro-m-xylene	84		43 - 130

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 400-637299/1-A ^5

Matrix: Water

Analysis Batch: 637518

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 637299

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0015		0.0025	0.0015	mg/L		08/17/23 06:00	08/18/23 02:09	5
Arsenic	<0.00039		0.0013	0.00039	mg/L		08/17/23 06:00	08/18/23 02:09	5
Beryllium	<0.00017		0.0025	0.00017	mg/L		08/17/23 06:00	08/18/23 02:09	5
Cadmium	<0.00028		0.0025	0.00028	mg/L		08/17/23 06:00	08/18/23 02:09	5
Chromium	<0.0010		0.0025	0.0010	mg/L		08/17/23 06:00	08/18/23 02:09	5
Copper	<0.0010		0.0025	0.0010	mg/L		08/17/23 06:00	08/18/23 02:09	5
Lead	<0.00029		0.0013	0.00029	mg/L		08/17/23 06:00	08/18/23 02:09	5
Nickel	<0.0015		0.0025	0.0015	mg/L		08/17/23 06:00	08/18/23 02:09	5
Selenium	<0.00082		0.0013	0.00082	mg/L		08/17/23 06:00	08/18/23 02:09	5
Silver	<0.00012		0.0013	0.00012	mg/L		08/17/23 06:00	08/18/23 02:09	5
Thallium	<0.00012		0.00050	0.00012	mg/L		08/17/23 06:00	08/18/23 02:09	5
Zinc	<0.0088		0.020	0.0088	mg/L		08/17/23 06:00	08/18/23 02:09	5

Lab Sample ID: LCS 400-637299/2-A ^5

Matrix: Water

Analysis Batch: 637518

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 637299

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0500	0.0539		mg/L		108	85 - 115
Arsenic	0.0500	0.0508		mg/L		102	85 - 115
Beryllium	0.0500	0.0515		mg/L		103	85 - 115
Cadmium	0.0500	0.0561		mg/L		112	85 - 115
Chromium	0.0500	0.0530		mg/L		106	85 - 115
Copper	0.0500	0.0553		mg/L		111	85 - 115
Lead	0.0500	0.0511		mg/L		102	85 - 115
Nickel	0.0500	0.0527		mg/L		105	85 - 115
Selenium	0.0500	0.0507		mg/L		101	85 - 115
Silver	0.0500	0.0521		mg/L		104	85 - 115
Thallium	0.0100	0.00997		mg/L		100	85 - 115
Zinc	0.0500	0.0536		mg/L		107	85 - 115

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 335.2 - Cyanide, Total

Lab Sample ID: MB 400-636473/1-A
Matrix: Water
Analysis Batch: 636790

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 636473

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.0035		0.0050	0.0035	mg/L		08/09/23 15:41	08/11/23 15:06	1

Lab Sample ID: LCS 400-636473/2-A
Matrix: Water
Analysis Batch: 636790

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 636473

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	0.281	0.312		mg/L		111	75 - 125

Lab Sample ID: 400-241663-4 MS
Matrix: Water
Analysis Batch: 636790

Client Sample ID: DSN002-003 FINAL EFF GRAB
Prep Type: Total/NA
Prep Batch: 636473

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	<0.0035		0.0833	0.0705		mg/L		85	68 - 133

Lab Sample ID: 400-241663-4 MSD
Matrix: Water
Analysis Batch: 636790

Client Sample ID: DSN002-003 FINAL EFF GRAB
Prep Type: Total/NA
Prep Batch: 636473

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	<0.0035		0.0833	0.0739		mg/L		89	68 - 133	5	36

Lab Sample ID: MRL 400-636790/13
Matrix: Water
Analysis Batch: 636790

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	0.00400	0.00311	J	mg/L		78	50 - 150

Method: 420.4 - Phenolics, Total Recoverable

Lab Sample ID: MB 400-637634/1-A
Matrix: Water
Analysis Batch: 638036

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 637634

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenols, Total	<0.0020		0.0050	0.0020	mg/L		08/18/23 14:49	08/22/23 14:45	1

Lab Sample ID: LCS 400-637634/2-A
Matrix: Water
Analysis Batch: 638036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 637634

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phenols, Total	0.100	0.0978		mg/L		98	90 - 110

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241663-1
SDG: Form 2C Table B Sections 1-5

Method: 420.4 - Phenolics, Total Recoverable (Continued)

Lab Sample ID: MRL 400-638036/15
Matrix: Water
Analysis Batch: 638036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Phenols, Total	0.00500	0.00563		mg/L		113	50 - 150

[illegible]

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-241663-1
SDG Number: Form 2C Table B Sections 1-5

Login Number: 241663
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2°C IR-10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	Only a Field Blank was received for LLHg, no sample.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: International Paper Company

Job ID: 400-241663-1

Project/Site: Riverdale Mill

SDG: Form 2C Table B Sections 1-5

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-31-23
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	08-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

Eurofins Pensacola

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2C Table C

JOB NUMBER

400-241664-1

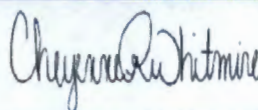
Eurofins Pensacola

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Job ID: 400-241664-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-241664-1

Receipt

The samples were received on 8/8/2023 3:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.8° C.

HPLC/IC

Method 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: DSN002-003 FINAL EFFLUENT COMP (400-241664-1). Elevated reporting limits (RLs) are provided.

RAD

Methods 900.0: Gross Alpha and Gross Beta batch 623797. The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: DSN002-003 FINAL EFFLUENT COMP (400-241664-1) and (400-241664-G-1-D DU). Analytical results are reported with the detection limit achieved.

Methods 900.0: Gross Alpha and Gross Beta batch 623797. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN002-003 FINAL EFFLUENT COMP (400-241664-1), (LCS 160-623797/2-A), (LCSB 160-623797/3-A), (MB 160-623797/1-A), (400-241664-G-1-D DU), (400-241664-G-1-B MS) and (400-241664-G-1-C MSBT)

Method 903.0: Radium-226 prep batch 160-623961. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN002-003 FINAL EFFLUENT COMP (400-241664-1), (LCS 160-623961/2-A), (MB 160-623961/1-A), (810-73129-A-1-A) and (810-73129-C-1-A DU)

Method 903.0: Total Alpha Radium batch 624494. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN002-003 FINAL EFFLUENT COMP (400-241664-1), (LCS 160-624494/2-A), (LCSD 160-624494/3-A) and (MB 160-624494/1-A)

Method PrecSep_0: Radium-228 Prep Batch 160-624494. The following sample was prepared at a reduced aliquot due to Matrix: DSN002-003 FINAL EFFLUENT COMP (400-241664-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-624493. The following sample was prepared at a reduced aliquot due to Matrix: DSN002-003 FINAL EFFLUENT COMP (400-241664-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Metals

Method 200.8: The method blank for preparation batch 400-637559 and analytical batch 400-637997 contained Aluminum and Boron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 200.8: The post digestion spike % recovery associated with batch 400-637997 was outside of control limits. The associated sample is: (400-241664-A-8-A PDS ^5).

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-637559 and analytical batch 400-637997 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

General Chemistry

Method SM 9222D: The following samples contained residual chlorine upon receipt: (400-241638-A-1) and (400-241638-A-1 DU).

Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Job ID: 400-241664-1 (Continued)

Laboratory: Eurofins Pensacola (Continued)

Method 376.2: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 400-636573 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Sulfide in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 353.2: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 400-639241 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 353.2: The following samples were diluted to bring the concentration of target analytes within the calibration range: DSN002-003 FINAL EFFLUENT COMP (400-241664-1), (400-241664-B-1 MS) and (400-241664-B-1 MSD). Elevated reporting limits (RLs) are provided.

Method 350.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-639519 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 350.1: The following samples were diluted to bring the concentration of target analytes within the calibration range: DSN002-003 FINAL EFFLUENT COMP (400-241664-1) and (400-241420-E-2 MSD). Elevated reporting limits (RLs) are provided.

Organic Prep

Method 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 400-638530 and analytical batch 400-638609.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP

Lab Sample ID: 400-241664-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	270		10	3.9	mg/L	10		300.0	Total/NA
Aluminum	0.60	B	0.13	0.070	mg/L	5		200.8	Total/NA
Barium	0.17		0.013	0.0035	mg/L	5		200.8	Total/NA
Boron	0.15	J	0.25	0.090	mg/L	5		200.8	Total/NA
Magnesium	6.9		0.63	0.21	mg/L	5		200.8	Total/NA
Manganese	0.68		0.063	0.018	mg/L	5		200.8	Total/NA
Color	1700		50	50	Color Units	10		110.2	Total/NA
pH at time of analysis	7.8		0.010	0.010	SU	10		110.2	Total/NA
Nitrogen, Kjeldahl	7.7		0.50	0.26	mg/L	1		351.2	Total/NA
Nitrate Nitrite as N	4.3		0.40	0.14	mg/L	7.94		353.2	Total/NA
Phosphorus, Total	1.2		0.10	0.049	mg/L	1		365.4	Total/NA
Sulfide	0.52		0.10	0.057	mg/L	1		376.2	Total/NA
Nitrogen, Total Organic	7.7		0.50	0.26	mg/L	1		Nitrogen,Org	Total/NA

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-2

No Detections.

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Coliform, Fecal	7000		1.0	1.0	CFU/100mL	1		SM 9222D	Total/NA

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PEN
200.8	Metals (ICP/MS)	EPA	EET PEN
110.2	Color, Colorimetric	EPA	EET PEN
1664B	HEM and SGT-HEM	1664B	EET PEN
350.1	Nitrogen, Ammonia	EPA	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET PEN
365.4	Phosphorus, Total	EPA	EET PEN
376.2	Sulfide	EPA	EET PEN
Nitrogen,Org	Nitrogen, Organic	EPA	EET PEN
SM 4500 Cl G	Chlorine, Residual	SM	EET PEN
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET PEN
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
903.0	Total Alpha Radium (GFPC)	EPA	EET SL
SM 9222D	Coliforms, Fecal (Membrane Filter)	SM	EET PEN
1664B	HEM and SGT-HEM (Aqueous)	1664B	EET PEN
200.8	Preparation, Total Metals	EPA	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
365.2/365.3/365	Phosphorus, Total	EPA	EET PEN
Evaporation	Preparation, Evaporation	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

1664B = EPA-821-98-002

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Water	08/08/23 08:45	08/08/23 15:10
400-241664-2	DSN002-003 FINAL EFFLUENT GRAB	Water	08/08/23 09:32	08/08/23 15:10
400-241664-3	DSN002-003 FINAL EFFLUENT GRAB	Water	08/08/23 09:35	08/08/23 15:10
400-241664-4	DSN002-003 FINAL EFFLUENT GRAB	Water	08/08/23 09:30	08/08/23 15:10

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP

Lab Sample ID: 400-241664-1

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	<7.9		10	7.9	mg/L			08/27/23 06:28	10
Fluoride	<2.2		10	2.2	mg/L			08/27/23 06:28	10
Sulfate	270		10	3.9	mg/L			08/27/23 06:28	10

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.60	B	0.13	0.070	mg/L		08/18/23 12:15	08/22/23 05:48	5
Barium	0.17		0.013	0.0035	mg/L		08/18/23 12:15	08/22/23 05:48	5
Boron	0.15	J	0.25	0.090	mg/L		08/18/23 12:15	08/22/23 12:48	5
Cobalt	<0.0028		0.013	0.0028	mg/L		08/18/23 12:15	08/22/23 05:48	5
Iron	<0.40		0.63	0.40	mg/L		08/18/23 12:15	08/22/23 05:48	5
Magnesium	6.9		0.63	0.21	mg/L		08/18/23 12:15	08/22/23 05:48	5
Manganese	0.68		0.063	0.018	mg/L		08/18/23 12:15	08/22/23 05:48	5
Molybdenum	<0.023		0.075	0.023	mg/L		08/18/23 12:15	08/22/23 05:48	5
Tin	<0.0080		0.013	0.0080	mg/L		08/18/23 12:15	08/22/23 05:48	5
Titanium	<0.0090		0.013	0.0090	mg/L		08/18/23 12:15	08/22/23 05:48	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color (EPA 110.2)	1700		50	50	Color Units			08/08/23 21:25	10
pH at time of analysis (EPA 110.2)	7.8		0.010	0.010	SU			08/08/23 21:25	10
Ammonia (EPA 350.1)	<0.024		0.050	0.024	mg/L			09/01/23 15:01	1
Nitrogen, Kjeldahl (EPA 351.2)	7.7		0.50	0.26	mg/L		08/25/23 14:20	08/28/23 10:44	1
Nitrate Nitrite as N (EPA 353.2)	4.3		0.40	0.14	mg/L			08/30/23 22:49	7.94
Phosphorus, Total (EPA 365.4)	1.2		0.10	0.049	mg/L		08/25/23 14:23	08/28/23 12:56	1
Sulfide (EPA 376.2)	0.52		0.10	0.057	mg/L			08/10/23 09:35	1
Nitrogen, Total Organic (EPA Nitrogen,Org)	7.7		0.50	0.26	mg/L			09/05/23 13:10	1
MBAS - Surfactants (SM 5540C)	<0.067		0.10	0.067	mg/l LAS MW 340			08/09/23 10:25	1

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-1.13	U G	5.14	5.14	3.00	10.5	pCi/L	08/11/23 10:02	08/15/23 16:20	1
Gross Beta	4.97		2.60	2.65	4.00	3.83	pCi/L	08/11/23 10:02	08/15/23 16:20	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.262		0.171	0.173	1.00	0.230	pCi/L	08/14/23 09:26	09/05/23 20:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.7		30 - 110					08/14/23 09:26	09/05/23 20:06	1

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP

Lab Sample ID: 400-241664-1

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

Method: EPA 903.0 - Total Alpha Radium (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Alpha Radium	0.0681	U	0.180	0.180	1.00	0.340	pCi/L	08/17/23 10:53	08/25/23 08:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.9		30 - 110					08/17/23 10:53	08/25/23 08:26	1

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-2

Date Collected: 08/08/23 09:32

Matrix: Water

Date Received: 08/08/23 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil and Grease) (1864B)	<1.3		3.8	1.3	mg/L		08/25/23 12:08	08/25/23 16:19	1

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-3

Date Collected: 08/08/23 09:35

Matrix: Water

Date Received: 08/08/23 15:10

Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	7000		1.0	1.0	CFU/100mL			08/08/23 15:45	1

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-4

Date Collected: 08/08/23 09:30
Date Received: 08/08/23 15:10

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual (SM 4500 Cl G)	<0.057		0.10	0.057	mg/L			08/09/23 08:50	1

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Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP

Lab Sample ID: 400-241664-1

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	10 mL	10 mL	638754	08/27/23 06:28	LHB	EET PEN
Total/NA	Prep	200.8			10 mL	50 mL	637559	08/18/23 12:15	KWN	EET PEN
Total/NA	Analysis	200.8		5			637997	08/22/23 05:48	NTH	EET PEN
Total/NA	Prep	200.8			10 mL	50 mL	637559	08/18/23 12:15	KWN	EET PEN
Total/NA	Analysis	200.8		5			638017	08/22/23 12:48	NTH	EET PEN
Total/NA	Analysis	110.2		10			636438	08/08/23 21:25	DEK	EET PEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	639519	09/01/23 15:01	CAC	EET PEN
Total/NA	Prep	351.2			25 mL	25 mL	638571	08/25/23 14:20	VB	EET PEN
Total/NA	Analysis	351.2		1			638796	08/28/23 10:44	VB	EET PEN
Total/NA	Analysis	353.2		7.94	5 mL	5 mL	639241	08/30/23 22:49	DEK	EET PEN
Total/NA	Prep	365.2/365.3/365			25 mL	25 mL	638573	08/25/23 14:23	VB	EET PEN
Total/NA	Analysis	365.4		1	10 mL	10 mL	638861	08/28/23 12:56	VB	EET PEN
Total/NA	Analysis	376.2		1	7.5 mL	7.5 mL	636573	08/10/23 09:35	SF	EET PEN
Total/NA	Analysis	Nitrogen,Org		1			639739	09/05/23 13:10	KWS	EET PEN
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	636283	08/09/23 10:25	SF	EET PEN
Total/NA	Prep	Evaporation			46.00 mL	1.0 g	623797	08/11/23 10:02	DQC	EET SL
Total/NA	Analysis	900.0		1			624212	08/15/23 16:20	SWS	EET SL
Total/NA	Prep	PrecSep_0			499.93 mL	1.0 g	624494	08/17/23 10:53	KAC	EET SL
Total/NA	Analysis	903.0		1			625591	08/25/23 08:26	FLC	EET SL
Total/NA	Prep	PrecSep-21			511.14 mL	1.0 g	623961	08/14/23 09:26	SRH	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	626662	09/05/23 20:06	SCB	EET SL

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-2

Date Collected: 08/08/23 09:32

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			1046 mL	1000 mL	638530	08/25/23 12:08	AR	EET PEN
Total/NA	Analysis	1664B		1			638609	08/25/23 16:19	AR	EET PEN

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-3

Date Collected: 08/08/23 09:35

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 9222D		1			636441	08/08/23 15:45	AT	EET PEN
								Completed:	08/09/23 13:47	¹

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB

Lab Sample ID: 400-241664-4

Date Collected: 08/08/23 09:30

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl G		1	10 mL	10 mL	636448	08/09/23 08:50	CAC	EET PEN

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Eurofins Pensacola

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Laboratory References:
EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

PLC/IC

Analysis Batch: 638754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	300.0	
MB 400-638754/55	Method Blank	Total/NA	Water	300.0	
LCS 400-638754/59	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-638754/60	Lab Control Sample Dup	Total/NA	Water	300.0	

Metals

Prep Batch: 637559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	200.8	
MB 400-637559/1-A ^5	Method Blank	Total/NA	Water	200.8	
LCS 400-637559/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	

Analysis Batch: 637997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	200.8	637559
MB 400-637559/1-A ^5	Method Blank	Total/NA	Water	200.8	637559
LCS 400-637559/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	637559

Analysis Batch: 638017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	200.8	637559

Analysis Batch: 638191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-637559/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	637559

General Chemistry

Analysis Batch: 636283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	SM 5540C	
MB 400-636283/3	Method Blank	Total/NA	Water	SM 5540C	
LCS 400-636283/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MRL 400-636283/5	Lab Control Sample	Total/NA	Water	SM 5540C	

Analysis Batch: 636438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	110.2	
MB 400-636438/1	Method Blank	Total/NA	Water	110.2	
LCS 400-636438/3	Lab Control Sample	Total/NA	Water	110.2	

Analysis Batch: 636448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-4	DSN002-003 FINAL EFFLUENT GRAB	Total/NA	Water	SM 4500 CI G	
MB 400-636448/4	Method Blank	Total/NA	Water	SM 4500 CI G	
LCS 400-636448/5	Lab Control Sample	Total/NA	Water	SM 4500 CI G	
MRL 400-636448/3	Lab Control Sample	Total/NA	Water	SM 4500 CI G	
400-241664-4 DU	DSN002-003 FINAL EFFLUENT GRAB	Total/NA	Water	SM 4500 CI G	

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

General Chemistry

Analysis Batch: 636573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	376.2	
MB 400-636573/3	Method Blank	Total/NA	Water	376.2	
LCS 400-636573/4	Lab Control Sample	Total/NA	Water	376.2	
MRL 400-636573/2	Lab Control Sample	Total/NA	Water	376.2	

Prep Batch: 638530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-2	DSN002-003 FINAL EFFLUENT GRAB	Total/NA	Water	1664B	
MB 400-638530/1-A	Method Blank	Total/NA	Water	1664B	
LCS 400-638530/2-A	Lab Control Sample	Total/NA	Water	1664B	
LCSD 400-638530/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	

Prep Batch: 638571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	351.2	
MB 400-638571/1-A	Method Blank	Total/NA	Water	351.2	
LCS 400-638571/2-A	Lab Control Sample	Total/NA	Water	351.2	
400-241664-1 MS	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	351.2	
400-241664-1 MSD	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	351.2	

Prep Batch: 638573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	365.2/365.3/365	
MB 400-638573/1-A	Method Blank	Total/NA	Water	365.2/365.3/365	
LCS 400-638573/2-A	Lab Control Sample	Total/NA	Water	365.2/365.3/365	
400-241664-1 MS	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	365.2/365.3/365	
400-241664-1 MSD	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	365.2/365.3/365	

Analysis Batch: 638609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-2	DSN002-003 FINAL EFFLUENT GRAB	Total/NA	Water	1664B	638530
MB 400-638530/1-A	Method Blank	Total/NA	Water	1664B	638530
LCS 400-638530/2-A	Lab Control Sample	Total/NA	Water	1664B	638530
LCSD 400-638530/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	638530

Analysis Batch: 638796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	351.2	638571
MB 400-638571/1-A	Method Blank	Total/NA	Water	351.2	638571
LCS 400-638571/2-A	Lab Control Sample	Total/NA	Water	351.2	638571
MRL 400-638796/9	Lab Control Sample	Total/NA	Water	351.2	
400-241664-1 MS	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	351.2	638571
400-241664-1 MSD	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	351.2	638571

Analysis Batch: 638861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	365.4	638573
MB 400-638573/1-A	Method Blank	Total/NA	Water	365.4	638573
LCS 400-638573/2-A	Lab Control Sample	Total/NA	Water	365.4	638573
MRL 400-638861/10	Lab Control Sample	Total/NA	Water	365.4	
400-241664-1 MS	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	365.4	638573

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

General Chemistry (Continued)

Analysis Batch: 638861 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1 MSD	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	365.4	638573

Analysis Batch: 639241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	353.2	
MB 400-639241/47	Method Blank	Total/NA	Water	353.2	
LCS 400-639241/48	Lab Control Sample	Total/NA	Water	353.2	
MRL 400-639241/18	Lab Control Sample	Total/NA	Water	353.2	
400-241664-1 MS	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	353.2	
400-241664-1 MSD	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	353.2	

Analysis Batch: 639519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	350.1	
MB 400-639519/24	Method Blank	Total/NA	Water	350.1	
LCS 400-639519/25	Lab Control Sample	Total/NA	Water	350.1	
MRL 400-639519/18	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 639739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	Nitrogen,Org	

Rad

Prep Batch: 623797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	Evaporation	
MB 160-623797/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-623797/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-623797/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
400-241664-1 MS	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	Evaporation	
400-241664-1 MSBT	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	Evaporation	
400-241664-1 DU	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	Evaporation	

Prep Batch: 623961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	PrecSep-21	
MB 160-623961/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-623961/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 624494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-1	DSN002-003 FINAL EFFLUENT COMP	Total/NA	Water	PrecSep_0	
MB 160-624494/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-624494/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-624494/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Biology

Analysis Batch: 636441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241664-3	DSN002-003 FINAL EFFLUENT GRAB	Total/NA	Water	SM 9222D	

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

iology (Continued)

Analysis Batch: 636441 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-636441/1	Method Blank	Total/NA	Water	SM 9222D	
LCS 400-636441/2	Lab Control Sample	Total/NA	Water	SM 9222D	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-638754/55
Matrix: Water
Analysis Batch: 638754

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	<0.79		1.0	0.79	mg/L			08/26/23 23:47	1
Fluoride	<0.22		1.0	0.22	mg/L			08/26/23 23:47	1
Sulfate	<0.39		1.0	0.39	mg/L			08/26/23 23:47	1

Lab Sample ID: LCS 400-638754/59
Matrix: Water
Analysis Batch: 638754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	10.0	9.07		mg/L		91	90 - 110
Fluoride	10.0	9.85		mg/L		98	90 - 110
Sulfate	10.0	9.97		mg/L		100	90 - 110

Lab Sample ID: LCSD 400-638754/60
Matrix: Water
Analysis Batch: 638754

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	10.0	9.58		mg/L		96	90 - 110	5	15
Fluoride	10.0	9.81		mg/L		98	90 - 110	0	15
Sulfate	10.0	10.3		mg/L		103	90 - 110	3	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 400-637559/1-A ^5
Matrix: Water
Analysis Batch: 637997

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 637559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0143	J	0.025	0.014	mg/L		08/18/23 12:15	08/22/23 03:21	5
Barium	<0.00070		0.0025	0.00070	mg/L		08/18/23 12:15	08/22/23 03:21	5
Boron	0.0195	J	0.050	0.018	mg/L		08/18/23 12:15	08/22/23 03:21	5
Cobalt	<0.00056		0.0025	0.00056	mg/L		08/18/23 12:15	08/22/23 03:21	5
Iron	<0.079		0.13	0.079	mg/L		08/18/23 12:15	08/22/23 03:21	5
Magnesium	<0.041		0.13	0.041	mg/L		08/18/23 12:15	08/22/23 03:21	5
Manganese	<0.0035		0.013	0.0035	mg/L		08/18/23 12:15	08/22/23 03:21	5
Molybdenum	<0.0045		0.015	0.0045	mg/L		08/18/23 12:15	08/22/23 03:21	5
Tin	<0.0016		0.0025	0.0016	mg/L		08/18/23 12:15	08/22/23 03:21	5
Titanium	<0.0018		0.0025	0.0018	mg/L		08/18/23 12:15	08/22/23 03:21	5

Lab Sample ID: LCS 400-637559/2-A ^5
Matrix: Water
Analysis Batch: 637997

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 637559

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	0.500	0.500		mg/L		100	85 - 115
Barium	0.0500	0.0568		mg/L		114	85 - 115
Cobalt	0.0500	0.0512		mg/L		102	85 - 115
Iron	5.00	5.27		mg/L		105	85 - 115
Magnesium	5.00	5.03		mg/L		101	85 - 115

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 400-637559/2-A ^5

Matrix: Water

Analysis Batch: 637997

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 637559

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	0.500	0.517		mg/L		103	85 - 115
Molybdenum	0.0500	0.0495		mg/L		99	85 - 115
Tin	0.0500	0.0494		mg/L		99	85 - 115
Titanium	0.0500	0.0533		mg/L		107	85 - 115

Lab Sample ID: LCS 400-637559/2-A ^5

Matrix: Water

Analysis Batch: 638191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 637559

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.100	0.103		mg/L		103	85 - 115

Method: 110.2 - Color, Colorimetric

Lab Sample ID: MB 400-636438/1

Matrix: Water

Analysis Batch: 636438

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	<5.0		5.0	5.0	Color Units			08/08/23 21:25	1
pH at time of analysis	6.02		0.010	0.010	SU			08/08/23 21:25	1

Lab Sample ID: LCS 400-636438/3

Matrix: Water

Analysis Batch: 636438

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Color	35.0	33.0		Color Units		94	90 - 110

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 400-638530/1-A

Matrix: Water

Analysis Batch: 638609

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 638530

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil and Grease)	<1.4		4.0	1.4	mg/L		08/25/23 12:08	08/25/23 16:19	1

Lab Sample ID: LCS 400-638530/2-A

Matrix: Water

Analysis Batch: 638609

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 638530

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil and Grease)	39.9	34.30		mg/L		86	78 - 114

Lab Sample ID: LCSD 400-638530/3-A

Matrix: Water

Analysis Batch: 638609

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 638530

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil and Grease)	39.9	31.80		mg/L		80	78 - 114	8	18

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 400-639519/24
Matrix: Water
Analysis Batch: 639519

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	<0.024		0.050	0.024	mg/L			09/01/23 15:00	1

Lab Sample ID: LCS 400-639519/25
Matrix: Water
Analysis Batch: 639519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.00	2.98		mg/L		99	90 - 110

Lab Sample ID: MRL 400-639519/18
Matrix: Water
Analysis Batch: 639519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.0500	0.0490	J	mg/L		98	50 - 150

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 400-638571/1-A
Matrix: Water
Analysis Batch: 638796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 638571

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	<0.26		0.50	0.26	mg/L		08/25/23 14:19	08/28/23 10:42	1

Lab Sample ID: LCS 400-638571/2-A
Matrix: Water
Analysis Batch: 638796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 638571

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	10.0	10.8		mg/L		108	90 - 110

Lab Sample ID: 400-241664-1 MS
Matrix: Water
Analysis Batch: 638796

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA
Prep Batch: 638571

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	7.7		4.00	11.9		mg/L		104	90 - 110

Lab Sample ID: 400-241664-1 MSD
Matrix: Water
Analysis Batch: 638796

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA
Prep Batch: 638571

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	7.7		4.00	11.9		mg/L		106	90 - 110	1	22

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: MRL 400-638796/9
Matrix: Water
Analysis Batch: 638796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	0.500	0.597		mg/L		119	50 - 150

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 400-639241/47
Matrix: Water
Analysis Batch: 639241

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.018		0.050	0.018	mg/L			08/30/23 22:02	1

Lab Sample ID: LCS 400-639241/48
Matrix: Water
Analysis Batch: 639241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	0.944		mg/L		94	90 - 110

Lab Sample ID: MRL 400-639241/18
Matrix: Water
Analysis Batch: 639241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.0500	0.0600		mg/L		120	50 - 150

Lab Sample ID: 400-241664-1 MS
Matrix: Water
Analysis Batch: 639241

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	4.3		0.993	5.20	4	mg/L		93	90 - 110

Lab Sample ID: 400-241664-1 MSD
Matrix: Water
Analysis Batch: 639241

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	4.3		0.993	5.26	4	mg/L		99	90 - 110	1	4

Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 400-638573/1-A
Matrix: Water
Analysis Batch: 638861

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 638573

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus, Total	<0.049		0.10	0.049	mg/L		08/25/23 14:23	08/28/23 12:53	1

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: LCS 400-638573/2-A
Matrix: Water
Analysis Batch: 638861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 638573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	1.98	1.93		mg/L		97	75 - 113

Lab Sample ID: 400-241664-1 MS
Matrix: Water
Analysis Batch: 638861

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA
Prep Batch: 638573

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	1.2		0.400	1.58		mg/L		93	72 - 120

Lab Sample ID: 400-241664-1 MSD
Matrix: Water
Analysis Batch: 638861

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA
Prep Batch: 638573

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Phosphorus, Total	1.2		0.400	1.58		mg/L		93	72 - 120	0	27

Lab Sample ID: MRL 400-638861/10
Matrix: Water
Analysis Batch: 638861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	0.100	0.0910	J	mg/L		91	50 - 150

Method: 376.2 - Sulfide

Lab Sample ID: MB 400-636573/3
Matrix: Water
Analysis Batch: 636573

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<0.057		0.10	0.057	mg/L			08/10/23 09:35	1

Method: SM 4500 Cl G - Chlorine, Residual

Lab Sample ID: MB 400-636448/4
Matrix: Water
Analysis Batch: 636448

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	<0.057		0.10	0.057	mg/L			08/09/23 08:50	1

Lab Sample ID: LCS 400-636448/5
Matrix: Water
Analysis Batch: 636448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorine, Total Residual	1.17	1.23		mg/L		105	85 - 115

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: SM 4500 Cl G - Chlorine, Residual (Continued)

Lab Sample ID: MRL 400-636448/3
Matrix: Water
Analysis Batch: 636448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlorine, Total Residual	0.117	0.120		mg/L		103	50 - 150

Lab Sample ID: 400-241664-4 DU
Matrix: Water
Analysis Batch: 636448

Client Sample ID: DSN002-003 FINAL EFFLUENT GRAB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chlorine, Total Residual	<0.057		<0.057		mg/L		NC	10

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 400-636283/3
Matrix: Water
Analysis Batch: 636283

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS - Surfactants	<0.067		0.10	0.067	mg/l LAS MW 340			08/08/23 10:30	1

Lab Sample ID: LCS 400-636283/4
Matrix: Water
Analysis Batch: 636283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS - Surfactants	0.500	0.456		mg/l LAS MW 340		91	90 - 110

Lab Sample ID: MRL 400-636283/5
Matrix: Water
Analysis Batch: 636283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
MBAS - Surfactants	0.100	0.0880	J	mg/L		88	75 - 125

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-623797/1-A
Matrix: Water
Analysis Batch: 624600

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 623797

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.3566	U	0.648	0.649	3.00	1.12	pCi/L	08/11/23 10:02	08/17/23 14:33	1
Gross Beta	0.2104	U	0.519	0.520	4.00	0.884	pCi/L	08/11/23 10:02	08/17/23 14:33	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: LCS 160-623797/2-A
Matrix: Water
Analysis Batch: 624092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 623797

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	49.6	50.53		7.43	3.00	1.78	pCi/L	102	75 - 125

Lab Sample ID: LCSB 160-623797/3-A
Matrix: Water
Analysis Batch: 624092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 623797

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	72.8	72.33		7.77	4.00	0.895	pCi/L	99	75 - 125

Lab Sample ID: 400-241664-1 MS
Matrix: Water
Analysis Batch: 624212

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA
Prep Batch: 623797

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	-1.13	U G	216	151.9		26.1	3.00	11.5	pCi/L	70	60 - 140

Lab Sample ID: 400-241664-1 MSBT
Matrix: Water
Analysis Batch: 624212

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA
Prep Batch: 623797

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	4.97		316	322.0		34.5	4.00	3.56	pCi/L	100	60 - 140

Lab Sample ID: 400-241664-1 DU
Matrix: Water
Analysis Batch: 624212

Client Sample ID: DSN002-003 FINAL EFFLUENT COMP
Prep Type: Total/NA
Prep Batch: 623797

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	-1.13	U G	-0.6465	U G	7.25	3.00	14.0	pCi/L	0.04	1
Gross Beta	4.97		9.058		3.04	4.00	3.66	pCi/L	0.72	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-623961/1-A
Matrix: Water
Analysis Batch: 626664

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 623961

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01024	U	0.0599	0.0599	1.00	0.126	pCi/L	08/14/23 09:26	09/05/23 20:04	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		30 - 110					08/14/23 09:26	09/05/23 20:04	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-623961/2-A

Matrix: Water

Analysis Batch: 627058

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 623961

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.18		1.06	1.00	0.119	pCi/L	90	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	92.4		30 - 110						

Method: 903.0 - Total Alpha Radium (GFPC)

Lab Sample ID: MB 160-624494/1-A

Matrix: Water

Analysis Batch: 625591

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 624494

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Alpha Radium	0.06963	U	0.139	0.139	1.00	0.246	pCi/L	08/17/23 10:53	08/25/23 08:26	1
Carrier	MB %Yield	MB Qualifier	Limits							
Ba Carrier	86.5		30 - 110							
								Prepared	Analyzed	Dil Fac
								08/17/23 10:53	08/25/23 08:26	1

Lab Sample ID: LCS 160-624494/2-A

Matrix: Water

Analysis Batch: 625591

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 624494

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Total Alpha Radium	11.3	11.15		1.25	1.00	0.152	pCi/L	98	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	85.5		30 - 110						

Lab Sample ID: LCSD 160-624494/3-A

Matrix: Water

Analysis Batch: 625591

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 624494

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Total Alpha Radium	11.3	11.00		1.24	1.00	0.188	pCi/L	97	75 - 125	0.06	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	82.6		30 - 110								

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Lab Sample ID: MB 400-636441/1
Matrix: Water
Analysis Batch: 636441

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Coliform, Fecal	<1.0		1.0	1.0	CFU/100mL			08/08/23 14:42	1

Eurofins Pensacola

3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record



Environmental Testing

Client Information		Sampler: CARLA C. PEARSON	Lab PM: Whitmire, Cheyenne R	400-241664 COC	mer Tracking No(s)	COC No: 400-121854-41788 1																										
Client Contact: Carla Pearson		Phone: 334-418-5236	E-Mail: Cheyenne.Whitmire@et.eurofinsus.com	State of Origin: AL		Page 1 of 1																										
Company: International Paper Company		PWSID	Analysis Requested																													
Address: 601 County Road 78		Due Date Requested:	<table border="1"> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>903.0, 903.0_TAR</td> <td>900.0 - Gross Alpha & Gross Beta</td> <td>350.1, 351.2, Nitrogen, Org</td> <td>353.2_Pres, 365.4</td> <td>1564B - Oil & Grease</td> <td>110.2 - Color</td> <td>300_ORGFM, 28D - Bromide, Fluoride & Sulfate</td> <td>200.8_CWA - Non-Conventional Pollutants</td> <td>5540C - Surfactants</td> <td>376.2 - Sulfide</td> <td>9222D - Coliforms, Fecal</td> <td>SM4500SC1_B - Sulfide</td> <td>SM4500 Chlor_B - Chlorine, Total Residual</td> </tr> </table>				Field Filtered Sample (Yes or No)	903.0, 903.0_TAR	900.0 - Gross Alpha & Gross Beta	350.1, 351.2, Nitrogen, Org	353.2_Pres, 365.4	1564B - Oil & Grease	110.2 - Color	300_ORGFM, 28D - Bromide, Fluoride & Sulfate	200.8_CWA - Non-Conventional Pollutants	5540C - Surfactants	376.2 - Sulfide	9222D - Coliforms, Fecal	SM4500SC1_B - Sulfide	SM4500 Chlor_B - Chlorine, Total Residual												
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City: Selma		TAT Requested (days): ASAP																														
State, Zip: AL, 36703		Compliance Project: ☐ Yes ☐ No																														
Phone: 334-418-5236(Tel)		PO #: 16969625																														
Email: Carla.Pearson@ipaper.com		WO #:																														
Project Name: Form 2C Table C		Project #: 40016047	Preservation Codes:																													
IP-RIVERDALE MILL (R/DALE)		SSOW#:	<table border="0"> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Y - Trizma</td> </tr> <tr> <td colspan="2">Z - other (specify)</td> </tr> </table>				A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O3	G - Amchlor	S - H2SO4	H - Ascorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - pH 4-5	L - EDA	Y - Trizma	Z - other (specify)	
A - HCL	M - Hexane																															
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L - EDA	Y - Trizma																															
Z - other (specify)																																
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	903.0, 903.0_TAR	900.0 - Gross Alpha & Gross Beta	350.1, 351.2, Nitrogen, Org	353.2_Pres, 365.4	1564B - Oil & Grease	110.2 - Color	300_ORGFM, 28D - Bromide, Fluoride & Sulfate	200.8_CWA - Non-Conventional Pollutants	5540C - Surfactants	376.2 - Sulfide	9222D - Coliforms, Fecal	SM4500SC1_B - Sulfide	SM4500 Chlor_B - Chlorine, Total Residual	Special Instructions/Note:												
DSN002-003 FINAL EFF		8/08/23	9:45	C	Water	X																										
"			"	C	WATER			X																								
"			"	C																												
"			"	C																												
"			9:32	G																												
"			8:45	C																												
"			"	C																												
"			"	C																												
"			9:35	G																												
"			8:45	C																												
"			9:30	G																												
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																														
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		☐ Return To Client ☐ Disposal By Lab ☒ Archive For 1 Months																														
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements: AFTER 1 MONTH, DISPOSE																														
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment																												
Relinquished by: [Signature]		Date/Time: 8/08/23 9:35	Company: IP-RDALE	Custody Seal - Sayu																												
Relinquished by: [Signature]		Date/Time: 8/8/23 1570	Company: CC:INE	Custody Seal - Sayu																												
Relinquished by: [Signature]		Date/Time: 8/8/23 1570	Company: CC:INE	Custody Seal - Sayu																												
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No:		Cooler Temperature(s) °C and Other Remarks: 4.8°C JR 10																												

eurofins | Environment Testing

[illegible]

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-241664-1

SDG Number: Form 2C Table C

Login Number: 241664

List Number: 1

Creator: Perez, Trina M

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C IR-10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	FLGNV23001	01-08-26
USDA	US Federal Programs	P330-21-00056	05-17-24
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pensacola

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241664-1
SDG: Form 2C Table C

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23 *
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
West Virginia DEP	State	381	10-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2C Table E

JOB NUMBER

400-241662-1

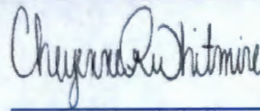
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Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241662-1
SDG: Form 2C Table E

Job ID: 400-241662-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-241662-1

Receipt

The sample was received on 8/8/2023 3:10 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.2°C

Dioxin

Method 1613B_Tetras: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: DSN002-003 FINAL EFF (400-241662-1), (CCV 320-706174/2), (LCS 320-705098/2-A), (LCSD 320-705098/3-A) and (MB 320-705098/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241662-1
SDG: Form 2C Table E

Method	Method Description	Protocol	Laboratory
1613B	Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241662-1
SDG: Form 2C Table E

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-241662-1	DSN002-003 FINAL EFF	Water	08/08/23 08:45	08/08/23 15:10

1

2

3

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13

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241662-1
SDG: Form 2C Table E

Client Sample ID: DSN002-003 FINAL EFF

Lab Sample ID: 400-241662-1

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

Method: EPA 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	<1.7		9.6	1.7	pg/L		09/11/23 09:11	09/15/23 06:40	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	57		31 - 137				09/11/23 09:11	09/15/23 06:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	98		42 - 164				09/11/23 09:11	09/15/23 06:40	1

Definitions/Glossary

Client: International Paper Company

Project/Site: Riverdale Mill

Job ID: 400-241662-1

SDG: Form 2C Table E

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241662-1
SDG: Form 2C Table E

lient Sample ID: DSN002-003 FINAL EFF

Lab Sample ID: 400-241662-1

Date Collected: 08/08/23 08:45

Matrix: Water

Date Received: 08/08/23 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1040.4 mL	20.0 uL	705098	09/11/23 09:11	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	706174	09/15/23 06:40	CB	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241662-1
SDG: Form 2C Table E

Specialty Organics

Prep Batch: 705098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241662-1	DSN002-003 FINAL EFF	Total/NA	Water	1613B	
MB 320-705098/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-705098/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-705098/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 706174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-241662-1	DSN002-003 FINAL EFF	Total/NA	Water	1613B	705098
MB 320-705098/1-A	Method Blank	Total/NA	Water	1613B	705098
LCS 320-705098/2-A	Lab Control Sample	Total/NA	Water	1613B	705098
LCSD 320-705098/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	705098

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241662-1
SDG: Form 2C Table E

Method: 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS

Lab Sample ID: MB 320-705098/1-A
Matrix: Water
Analysis Batch: 706174

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 705098

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	<1.3		10	1.3	pg/L		09/11/23 09:11	09/15/23 00:15	1
Isotope Dilution	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	78		31 - 137				09/11/23 09:11	09/15/23 00:15	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	102		42 - 164				09/11/23 09:11	09/15/23 00:15	1

Lab Sample ID: LCS 320-705098/2-A
Matrix: Water
Analysis Batch: 706174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 705098

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDD	200	189		pg/L		94	73 - 146
Isotope Dilution	%Recovery	LCS Qualifier	Limits				
13C-2,3,7,8-TCDD	78		25 - 141				
Surrogate	%Recovery	LCS Qualifier	Limits				
37Cl4-2,3,7,8-TCDD	97		37 - 158				

Lab Sample ID: LCSD 320-705098/3-A
Matrix: Water
Analysis Batch: 706174

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 705098

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	212		pg/L		106	73 - 146	11	50
Isotope Dilution	%Recovery	LCSD Qualifier	Limits						
13C-2,3,7,8-TCDD	66		25 - 141						
Surrogate	%Recovery	LCSD Qualifier	Limits						
37Cl4-2,3,7,8-TCDD	97		37 - 158						

[illegible]

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-241662-1

SDG Number: Form 2C Table E

Login Number: 241662

List Number: 1

Creator: Perez, Trina M

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2°C IR-10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-241662-1

SDG Number: Form 2C Table E

Login Number: 241662

List Number: 2

Creator: Oropeza, Salvador

List Source: Eurofins Sacramento

List Creation: 08/11/23 08:15 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2315746
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.3C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-241662-1
SDG: Form 2C Table E

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23 *
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Form 2C Table B Sections 1-5
SDG NUMBER Riverdale Mill

JOB NUMBER

400-242660-1

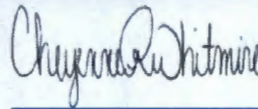
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Job Notes

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Case Narrative

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Job ID: 400-242660-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative
400-242660-1

Receipt

The samples were received on 8/29/2023 1:45 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.5° C.

Metals

Method 1631E: Routine preservation and digestion of samples analyzed by EPA 1631E consists of the addition of 0.4mL bromine monochloride (BrCl) solution. Additional BrCl was required to ensure complete sample oxidation for the following sample: DSN002-003 FINAL EFF (400-242660-1). An additional method digestion blank, with like amounts of BrCl, was prepared and analyzed with the sample. The mercury concentration in this additional method blank is less than the reporting limit.

Method 1631E: The following sample was diluted due to the nature of the sample matrix: DSN002-003 FINAL EFF (400-242660-1). Elevated reporting limits (RLs) are provided. The sample appears to be dark, dirty and cloudy.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Client Sample ID: DSN002-003 FINAL EFF

Lab Sample ID: 400-242660-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.0000075		0.0000025	0.0000010	mg/L	1		1631E	Total/NA

Client Sample ID: DSN002-003 FINAL EFF-FIELD BLANK

Lab Sample ID: 400-242660-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

Method Summary

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	EET PEN
1631E	Preparation, Mercury, Low Level	EPA	EET PEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242660-1	DSN002-003 FINAL EFF	Water	08/28/23 17:15	08/29/23 13:45
400-242660-2	DSN002-003 FINAL EFF-FIELD BLANK	Water	08/28/23 17:15	08/29/23 13:45

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Client Sample Results

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Client Sample ID: DSN002-003 FINAL EFF

Lab Sample ID: 400-242660-1

Date Collected: 08/28/23 17:15

Matrix: Water

Date Received: 08/29/23 13:45

Method: EPA 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0000075		0.0000025	0.0000010	mg/L		08/29/23 15:55	08/30/23 11:13	1

Client Sample ID: DSN002-003 FINAL EFF-FIELD BLANK

Lab Sample ID: 400-242660-2

Date Collected: 08/28/23 17:15

Matrix: Water

Date Received: 08/29/23 13:45

Method: EPA 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00000020		0.0000005 0	0.0000002 0	mg/L		08/29/23 15:55	08/30/23 11:05	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Client Sample ID: DSN002-003 FINAL EFF

Lab Sample ID: 400-242660-1

Date Collected: 08/28/23 17:15

Matrix: Water

Date Received: 08/29/23 13:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			8 mL	40 mL	639047	08/29/23 15:55	VLC	EET PEN
							Completed: 08/30/23 08:30 ¹			
Total/NA	Analysis	1631E		1			639148	08/30/23 11:13	VLC	EET PEN

Client Sample ID: DSN002-003 FINAL EFF-FIELD BLANK

Lab Sample ID: 400-242660-2

Date Collected: 08/28/23 17:15

Matrix: Water

Date Received: 08/29/23 13:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			40 mL	40 mL	639047	08/29/23 15:55	VLC	EET PEN
							Completed: 08/30/23 08:30 ¹			
Total/NA	Analysis	1631E		1			639148	08/30/23 11:05	VLC	EET PEN

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Metals

Prep Batch: 639047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242660-1	DSN002-003 FINAL EFF	Total/NA	Water	1631E	
400-242660-2	DSN002-003 FINAL EFF-FIELD BLANK	Total/NA	Water	1631E	
MB 400-639047/3-A	Method Blank	Total/NA	Water	1631E	
LCS 400-639047/4-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-639047/5-A	Lab Control Sample Dup	Total/NA	Water	1631E	

Analysis Batch: 639148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242660-1	DSN002-003 FINAL EFF	Total/NA	Water	1631E	639047
400-242660-2	DSN002-003 FINAL EFF-FIELD BLANK	Total/NA	Water	1631E	639047
MB 400-639047/3-A	Method Blank	Total/NA	Water	1631E	639047
LCS 400-639047/4-A	Lab Control Sample	Total/NA	Water	1631E	639047
LCSD 400-639047/5-A	Lab Control Sample Dup	Total/NA	Water	1631E	639047

QC Sample Results

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-639047/3-A
Matrix: Water
Analysis Batch: 639148

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639047

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00000020		0.0000005 0	0.0000002 0	mg/L		08/29/23 16:20	08/30/23 09:26	1

Lab Sample ID: LCS 400-639047/4-A
Matrix: Water
Analysis Batch: 639148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639047

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0000050 0	0.00000488		mg/L		98	79 - 121

Lab Sample ID: LCSD 400-639047/5-A
Matrix: Water
Analysis Batch: 639148

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 639047

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD RPD Limit
Mercury	0.0000050 0	0.00000566		mg/L		113	79 - 121	15 20

[illegible]

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242660-1

SDG Number: Riverdale Mill

Login Number: 242660

List Number: 1

Creator: Earnest, Tamantha

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.5°C IR 10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Form 2C Table B Sections 1-5

Job ID: 400-242660-1
SDG: Riverdale Mill

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-31-23
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (VW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	08-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table A

JOB NUMBER

400-242686-1

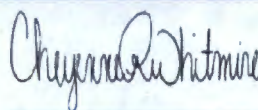
Eurofins Pensacola

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Job ID: 400-242686-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative
400-242686-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and was required, properly preserved and on ice. The temperature of the cooler at receipt was 0.3° C.

General Chemistry

Method 405.1: The USB dilution water D.O. depletion was greater than 0.2 mg/L. The associated sample results in batch 400-639272 are qualified and reported. USB reported at 0.38 mg/L.

Organic Prep

Method 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 400-640054 and analytical batch 400-640088.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242686-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.9	HF			S.U.	1		150.1	Total/NA
Temperature	23.7	HF			Degrees C	1		150.1	Total/NA
Total Suspended Solids	10		5.0	5.0	mg/L	1		160.2	Total/NA
Nitrogen, Kjeldahl	1.7		0.50	0.26	mg/L	1		351.2	Total/NA
Phosphorus, Total	0.10		0.10	0.049	mg/L	1		365.4	Total/NA
Biochemical Oxygen Demand	9.7	b	2.0	2.0	mg/L	1		405.1	Total/NA
Chemical Oxygen Demand (COD)	55		10	6.4	mg/L	1		410.4	Total/NA
Nitrogen, Total	1.7		0.50	0.26	mg/L	1		Total Nitrogen	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Method	Method Description	Protocol	Laboratory
150.1	pH (Electrometric)	EPA	EET PEN
160.2	Solids, Total Suspended (TSS)	EPA	EET PEN
1664B	HEM and SGT-HEM	1664B	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET PEN
365.4	Phosphorus, Total	EPA	EET PEN
405.1	BOD, 5-Day	EPA	EET PEN
410.4	COD	EPA	EET PEN
Total Nitrogen	Nitrogen, Total	EPA	EET PEN
1664B	HEM and SGT-HEM (Aqueous)	1664B	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
365.2/365.3/365	Phosphorus, Total	EPA	EET PEN

Protocol References:

1664B = EPA-821-98-002

EPA = US Environmental Protection Agency

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242686-1	DSN004 STORM POND	Water	08/29/23 14:40	08/30/23 11:55

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242686-1

Date Collected: 08/29/23 14:40

Matrix: Water

Date Received: 08/30/23 11:55

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (EPA 150.1)	7.9	HF			S.U.			08/31/23 14:00	1
Temperature (EPA 150.1)	23.7	HF			Degrees C			08/31/23 14:00	1
Total Suspended Solids (EPA 160.2)	10		5.0	5.0	mg/L			09/04/23 19:21	1
HEM (Oil and Grease) (1664B)	<1.8		5.0	1.8	mg/L		09/07/23 09:32	09/07/23 11:43	1
Nitrogen, Kjeldahl (EPA 351.2)	1.7		0.50	0.26	mg/L		09/06/23 17:22	09/07/23 11:38	1
Nitrate Nitrite as N (EPA 353.2)	<0.018		0.050	0.018	mg/L			09/07/23 17:39	1
Phosphorus, Total (EPA 365.4)	0.10		0.10	0.049	mg/L		09/05/23 17:10	09/06/23 11:33	1
Biochemical Oxygen Demand (EPA 405.1)	9.7	b	2.0	2.0	mg/L			08/30/23 15:46	1
Chemical Oxygen Demand (COD) (EPA 410.4)	55		10	6.4	mg/L			09/08/23 10:29	1
Nitrogen, Total (EPA Total Nitrogen)	1.7		0.50	0.26	mg/L			09/01/23 12:25	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Qualifiers

General Chemistry

Qualifier	Qualifier Description
b	Result Detected in the Unseeded Control blank (USB).
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

ient Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242686-1

Date Collected: 08/29/23 14:40

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	150.1		1			639368	08/31/23 14:00	SF	EET PEN
Total/NA	Analysis	160.2		1	100 mL	100 mL	639658	09/04/23 19:21	HA	EET PEN
Total/NA	Prep	1664B			798 mL	1000 mL	640054	09/07/23 09:32	AR	EET PEN
Total/NA	Analysis	1664B		1			640088	09/07/23 11:43	AR	EET PEN
Total/NA	Prep	351.2			25 mL	25 mL	640001	09/06/23 17:22	VB	EET PEN
Total/NA	Analysis	351.2		1			640133	09/07/23 11:38	VB	EET PEN
Total/NA	Analysis	353.2		1	5 mL	5 mL	640174	09/07/23 17:39	DEK	EET PEN
Total/NA	Prep	365.2/365.3/365			25 mL	25 mL	639818	09/05/23 17:10	VB	EET PEN
Total/NA	Analysis	365.4		1	10 mL	10 mL	639943	09/06/23 11:33	VB	EET PEN
Total/NA	Analysis	405.1		1	300 mL	300 mL	639272	08/30/23 15:46	AT	EET PEN
							Completed: 09/04/23 08:24 ¹			
Total/NA	Analysis	410.4		1	2 mL	2 mL	640225	09/08/23 10:29	CJK	EET PEN
Total/NA	Analysis	Total Nitrogen		1			639484	09/01/23 12:25	DEK	EET PEN

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

General Chemistry

Analysis Batch: 639272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	405.1	
USB 400-639272/1	Method Blank	Total/NA	Water	405.1	
LCS 400-639272/2	Lab Control Sample	Total/NA	Water	405.1	

Analysis Batch: 639368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	150.1	
LCS 400-639368/4	Lab Control Sample	Total/NA	Water	150.1	

Analysis Batch: 639484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	Total Nitrogen	

Analysis Batch: 639658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	160.2	
MB 400-639658/1	Method Blank	Total/NA	Water	160.2	
LCS 400-639658/2	Lab Control Sample	Total/NA	Water	160.2	

Prep Batch: 639818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	365.2/365.3/365	
MB 400-639818/1-A	Method Blank	Total/NA	Water	365.2/365.3/365	
LCS 400-639818/2-A	Lab Control Sample	Total/NA	Water	365.2/365.3/365	

Analysis Batch: 639943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	365.4	639818
MB 400-639818/1-A	Method Blank	Total/NA	Water	365.4	639818
LCS 400-639818/2-A	Lab Control Sample	Total/NA	Water	365.4	639818
MRL 400-639943/10	Lab Control Sample	Total/NA	Water	365.4	

Prep Batch: 640001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	351.2	
MB 400-640001/1-A	Method Blank	Total/NA	Water	351.2	
LCS 400-640001/2-A	Lab Control Sample	Total/NA	Water	351.2	

Prep Batch: 640054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	1664B	
MB 400-640054/1-A	Method Blank	Total/NA	Water	1664B	
LCS 400-640054/2-A	Lab Control Sample	Total/NA	Water	1664B	
LCSD 400-640054/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	

Analysis Batch: 640088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	1664B	640054
MB 400-640054/1-A	Method Blank	Total/NA	Water	1664B	640054
LCS 400-640054/2-A	Lab Control Sample	Total/NA	Water	1664B	640054
LCSD 400-640054/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	640054

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

General Chemistry

Analysis Batch: 640133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	351.2	640001
MB 400-640001/1-A	Method Blank	Total/NA	Water	351.2	640001
LCS 400-640001/2-A	Lab Control Sample	Total/NA	Water	351.2	640001

Analysis Batch: 640174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	353.2	
MB 400-640174/16	Method Blank	Total/NA	Water	353.2	
LCS 400-640174/17	Lab Control Sample	Total/NA	Water	353.2	
MRL 400-640174/18	Lab Control Sample	Total/NA	Water	353.2	

Analysis Batch: 640225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242686-1	DSN004 STORM POND	Total/NA	Water	410.4	
MB 400-640225/5	Method Blank	Total/NA	Water	410.4	
LCS 400-640225/6	Lab Control Sample	Total/NA	Water	410.4	
MRL 400-640225/7	Lab Control Sample	Total/NA	Water	410.4	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Method: 150.1 - pH (Electrometric)

Lab Sample ID: LCS 400-639368/4
Matrix: Water
Analysis Batch: 639368

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		S.U.		100	98.6 - 101.4

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 400-639658/1
Matrix: Water
Analysis Batch: 639658

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<0.50		0.50	0.50	mg/L			09/04/23 19:21	1

Lab Sample ID: LCS 400-639658/2
Matrix: Water
Analysis Batch: 639658

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	297	297		mg/L		100	79 - 124

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 400-640054/1-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 640054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil and Grease)	<1.4		4.0	1.4	mg/L		09/07/23 09:32	09/07/23 11:43	1

Lab Sample ID: LCS 400-640054/2-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 640054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil and Grease)	39.9	31.00		mg/L		78	78 - 114

Lab Sample ID: LCSD 400-640054/3-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 640054

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil and Grease)	39.9	31.70		mg/L		79	78 - 114	2	18

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 400-640001/1-A
Matrix: Water
Analysis Batch: 640133

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 640001

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	<0.26		0.50	0.26	mg/L		09/06/23 17:22	09/07/23 11:12	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: LCS 400-640001/2-A
Matrix: Water
Analysis Batch: 640133

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 640001

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	10.0	10.7		mg/L		107	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 400-640174/16
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.018		0.050	0.018	mg/L			09/07/23 17:19	1

Lab Sample ID: LCS 400-640174/17
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	0.997		mg/L		100	90 - 110

Lab Sample ID: MRL 400-640174/18
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.0500	0.0410	J	mg/L		82	50 - 150

Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 400-639818/1-A
Matrix: Water
Analysis Batch: 639943

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639818

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus, Total	<0.049		0.10	0.049	mg/L		09/05/23 17:06	09/06/23 11:12	1

Lab Sample ID: LCS 400-639818/2-A
Matrix: Water
Analysis Batch: 639943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639818

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	1.98	2.05		mg/L		104	75 - 113

Lab Sample ID: MRL 400-639943/10
Matrix: Water
Analysis Batch: 639943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	0.0400	<0.023		mg/L		50	50 - 150

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Method: 405.1 - BOD, 5-Day

Lab Sample ID: USB 400-639272/1
Matrix: Water
Analysis Batch: 639272

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			08/30/23 13:51	1

Lab Sample ID: LCS 400-639272/2
Matrix: Water
Analysis Batch: 639272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	198	173		mg/L		88	85 - 115

Method: 410.4 - COD

Lab Sample ID: MB 400-640225/5
Matrix: Water
Analysis Batch: 640225

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (COD)	<6.4		10	6.4	mg/L			09/08/23 10:29	1

Lab Sample ID: LCS 400-640225/6
Matrix: Water
Analysis Batch: 640225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand (COD)	50.0	53.6		mg/L		107	90 - 110

Lab Sample ID: MRL 400-640225/7
Matrix: Water
Analysis Batch: 640225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand (COD)	10.0	13.0		mg/L		130	50 - 150

Environment Testing

Ver. 06/08/2021

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242686-1

SDG Number: Form 2F Table A

Login Number: 242686

List Number: 1

Creator: Roberts, Alexis J

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ ($1/4''$).	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242686-1
SDG: Form 2F Table A

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table A

JOB NUMBER

400-242700-1

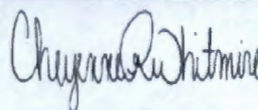
Eurofins Pensacola

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Job ID: 400-242700-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative
400-242700-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and was required, properly preserved and on ice. The temperature of the cooler at receipt was 5.5° C.

General Chemistry

Method 351.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-639817 and analytical batch 400-640062 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 405.1: The USB dilution water D.O. depletion was greater than 0.2 mg/L. The associated sample results in batch 400-639272 are qualified and reported. USB reported at 0.38 mg/L.

Organic Prep

Method 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 400-640054 and analytical batch 400-640088.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242700-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF			S.U.	1		150.1	Total/NA
Temperature	24.0	HF			Degrees C	1		150.1	Total/NA
Total Suspended Solids	19		5.0	5.0	mg/L	1		160.2	Total/NA
Nitrogen, Kjeldahl	0.96		0.50	0.26	mg/L	1		351.2	Total/NA
Nitrate Nitrite as N	0.47		0.050	0.018	mg/L	1		353.2	Total/NA
Phosphorus, Total	0.14		0.10	0.049	mg/L	1		365.4	Total/NA
Biochemical Oxygen Demand	3.4	b	2.0	2.0	mg/L	1		405.1	Total/NA
Chemical Oxygen Demand (COD)	25		10	6.4	mg/L	1		410.4	Total/NA
Nitrogen, Total	1.4		0.50	0.26	mg/L	1		Total Nitrogen	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Method	Method Description	Protocol	Laboratory
150.1	pH (Electrometric)	EPA	EET PEN
160.2	Solids, Total Suspended (TSS)	EPA	EET PEN
1664B	HEM and SGT-HEM	1664B	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET PEN
365.4	Phosphorus, Total	EPA	EET PEN
405.1	BOD, 5-Day	EPA	EET PEN
410.4	COD	EPA	EET PEN
Total Nitrogen	Nitrogen, Total	EPA	EET PEN
1664B	HEM and SGT-HEM (Aqueous)	1664B	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
365.2/365.3/365	Phosphorus, Total	EPA	EET PEN

Protocol References:

1664B = EPA-821-98-002

EPA = US Environmental Protection Agency

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242700-1	DSN005 STORM POND	Water	08/29/23 14:50	08/30/23 11:55

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242700-1

Date Collected: 08/29/23 14:50

Matrix: Water

Date Received: 08/30/23 11:55

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (EPA 150.1)	7.4	HF			S.U.			08/31/23 14:00	1
Temperature (EPA 150.1)	24.0	HF			Degrees C			08/31/23 14:00	1
Total Suspended Solids (EPA 160.2)	19		5.0	5.0	mg/L			09/04/23 19:21	1
HEM (Oil and Grease) (1664B)	<1.5		4.1	1.5	mg/L		09/07/23 09:32	09/07/23 11:43	1
Nitrogen, Kjeldahl (EPA 351.2)	0.96		0.50	0.26	mg/L		09/05/23 17:08	09/06/23 16:18	1
Nitrate Nitrite as N (EPA 353.2)	0.47		0.050	0.018	mg/L			09/07/23 17:45	1
Phosphorus, Total (EPA 365.4)	0.14		0.10	0.049	mg/L		09/05/23 17:10	09/06/23 11:22	1
Biochemical Oxygen Demand (EPA 405.1)	3.4	b	2.0	2.0	mg/L			08/30/23 16:01	1
Chemical Oxygen Demand (COD) (EPA 410.4)	25		10	6.4	mg/L			09/08/23 10:29	1
Nitrogen, Total (EPA Total Nitrogen)	1.4		0.50	0.26	mg/L			09/01/23 12:25	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Qualifiers

General Chemistry

Qualifier	Qualifier Description
b	Result Detected in the Unseeded Control blank (USB).
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
SQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

ient Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242700-1

Date Collected: 08/29/23 14:50

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	150.1		1			639368	08/31/23 14:00	SF	EET PEN
Total/NA	Analysis	160.2		1	100 mL	100 mL	639658	09/04/23 19:21	HA	EET PEN
Total/NA	Prep	1664B			964 mL	1000 mL	640054	09/07/23 09:32	AR	EET PEN
Total/NA	Analysis	1664B		1			640088	09/07/23 11:43	AR	EET PEN
Total/NA	Prep	351.2			25 mL	25 mL	639817	09/05/23 17:08	VB	EET PEN
Total/NA	Analysis	351.2		1			640062	09/06/23 16:18	KWS	EET PEN
Total/NA	Analysis	353.2		1	5 mL	5 mL	640174	09/07/23 17:45	DEK	EET PEN
Total/NA	Prep	365.2/365.3/365			25 mL	25 mL	639818	09/05/23 17:10	VB	EET PEN
Total/NA	Analysis	365.4		1	10 mL	10 mL	639943	09/06/23 11:22	VB	EET PEN
Total/NA	Analysis	405.1		1	300 mL	300 mL	639272	08/30/23 16:01	AT	EET PEN
							Completed:	09/04/23 08:24 ¹		
Total/NA	Analysis	410.4		1	2 mL	2 mL	640225	09/08/23 10:29	CJK	EET PEN
Total/NA	Analysis	Total Nitrogen		1			639484	09/01/23 12:25	DEK	EET PEN

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

General Chemistry

Analysis Batch: 639272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	405.1	
USB 400-639272/1	Method Blank	Total/NA	Water	405.1	
LCS 400-639272/2	Lab Control Sample	Total/NA	Water	405.1	

Analysis Batch: 639368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	150.1	
LCS 400-639368/4	Lab Control Sample	Total/NA	Water	150.1	

Analysis Batch: 639484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	Total Nitrogen	

Analysis Batch: 639658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	160.2	
MB 400-639658/1	Method Blank	Total/NA	Water	160.2	
LCS 400-639658/2	Lab Control Sample	Total/NA	Water	160.2	

Prep Batch: 639817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	351.2	
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	

Prep Batch: 639818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	365.2/365.3/365	

Analysis Batch: 639943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	365.4	639818
MRL 400-639943/10	Lab Control Sample	Total/NA	Water	365.4	

Prep Batch: 640054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	1664B	
MB 400-640054/1-A	Method Blank	Total/NA	Water	1664B	
LCS 400-640054/2-A	Lab Control Sample	Total/NA	Water	1664B	
LCSD 400-640054/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	

Analysis Batch: 640062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	351.2	639817
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	639817
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	639817
MRL 400-640062/10	Lab Control Sample	Total/NA	Water	351.2	

Analysis Batch: 640088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	1664B	640054

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

General Chemistry (Continued)

Analysis Batch: 640088 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-640054/1-A	Method Blank	Total/NA	Water	1664B	640054
LCS 400-640054/2-A	Lab Control Sample	Total/NA	Water	1664B	640054
LCSD 400-640054/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	640054

Analysis Batch: 640174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	353.2	
MB 400-640174/16	Method Blank	Total/NA	Water	353.2	
LCS 400-640174/17	Lab Control Sample	Total/NA	Water	353.2	
MRL 400-640174/18	Lab Control Sample	Total/NA	Water	353.2	

Analysis Batch: 640225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242700-1	DSN005 STORM POND	Total/NA	Water	410.4	
MB 400-640225/5	Method Blank	Total/NA	Water	410.4	
LCS 400-640225/6	Lab Control Sample	Total/NA	Water	410.4	
MRL 400-640225/7	Lab Control Sample	Total/NA	Water	410.4	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Method: 150.1 - pH (Electrometric)

Lab Sample ID: LCS 400-639368/4
Matrix: Water
Analysis Batch: 639368

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		S.U.		100	98.6 - 101.4

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 400-639658/1
Matrix: Water
Analysis Batch: 639658

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<0.50		0.50	0.50	mg/L			09/04/23 19:21	1

Lab Sample ID: LCS 400-639658/2
Matrix: Water
Analysis Batch: 639658

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	297	297		mg/L		100	79 - 124

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 400-640054/1-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 640054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil and Grease)	<1.4		4.0	1.4	mg/L		09/07/23 09:32	09/07/23 11:43	1

Lab Sample ID: LCS 400-640054/2-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 640054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil and Grease)	39.9	31.00		mg/L		78	78 - 114

Lab Sample ID: LCSD 400-640054/3-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 640054

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil and Grease)	39.9	31.70		mg/L		79	78 - 114	2	18

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 400-639817/1-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	<0.26		0.50	0.26	mg/L		09/05/23 17:04	09/06/23 16:08	1

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: LCS 400-639817/2-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639817
%Rec

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	10.0	10.2		mg/L		102	90 - 110

Lab Sample ID: MRL 400-640062/10
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	0.500	0.420	J	mg/L		84	50 - 150

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 400-640174/16
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.018		0.050	0.018	mg/L			09/07/23 17:19	1

Lab Sample ID: LCS 400-640174/17
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	0.997		mg/L		100	90 - 110

Lab Sample ID: MRL 400-640174/18
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.0500	0.0410	J	mg/L		82	50 - 150

Method: 365.4 - Phosphorus, Total

Lab Sample ID: MRL 400-639943/10
Matrix: Water
Analysis Batch: 639943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	0.0400	<0.023		mg/L		50	50 - 150

Method: 405.1 - BOD, 5-Day

Lab Sample ID: USB 400-639272/1
Matrix: Water
Analysis Batch: 639272

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			08/30/23 13:51	1

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Method: 405.1 - BOD, 5-Day (Continued)

Lab Sample ID: LCS 400-639272/2

Matrix: Water

Analysis Batch: 639272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	198	173		mg/L		88	85 - 115

Method: 410.4 - COD

Lab Sample ID: MB 400-640225/5

Matrix: Water

Analysis Batch: 640225

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (COD)	<6.4		10	6.4	mg/L			09/08/23 10:29	1

Lab Sample ID: LCS 400-640225/6

Matrix: Water

Analysis Batch: 640225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand (COD)	50.0	53.6		mg/L		107	90 - 110

Lab Sample ID: MRL 400-640225/7

Matrix: Water

Analysis Batch: 640225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand (COD)	10.0	13.0		mg/L		130	50 - 150

[illegible]

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242700-1

SDG Number: Form 2F Table A

Login Number: 242700

List Number: 1

Creator: Roberts, Alexis J

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.5°C IR10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242700-1
SDG: Form 2F Table A

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table A

JOB NUMBER

400-242685-1

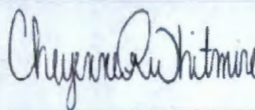
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Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Job ID: 400-242685-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative
400-242685-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and was required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6° C.

General Chemistry

Method 351.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-639817 and analytical batch 400-640062 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 405.1: The USB dilution water D.O. depletion was greater than 0.2 mg/L. The associated sample results in batch 400-639272 are qualified and reported. USB reported at 0.38 mg/L.

Organic Prep

Method 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 400-640054 and analytical batch 400-640088.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242685-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.7	HF			S.U.	1		150.1	Total/NA
Temperature	23.0	HF			Degrees C	1		150.1	Total/NA
Nitrogen, Kjeldahl	0.75		0.50	0.26	mg/L	1		351.2	Total/NA
Phosphorus, Total	0.28		0.10	0.049	mg/L	1		365.4	Total/NA
Biochemical Oxygen Demand	2.1	b	2.0	2.0	mg/L	1		405.1	Total/NA
Chemical Oxygen Demand (COD)	29		10	6.4	mg/L	1		410.4	Total/NA
Nitrogen, Total	0.75		0.50	0.26	mg/L	1		Total Nitrogen	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Method	Method Description	Protocol	Laboratory
150.1	pH (Electrometric)	EPA	EET PEN
160.2	Solids, Total Suspended (TSS)	EPA	EET PEN
1664B	HEM and SGT-HEM	1664B	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET PEN
365.4	Phosphorus, Total	EPA	EET PEN
405.1	BOD, 5-Day	EPA	EET PEN
410.4	COD	EPA	EET PEN
Total Nitrogen	Nitrogen, Total	EPA	EET PEN
1664B	HEM and SGT-HEM (Aqueous)	1664B	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
365.2/365.3/365	Phosphorus, Total	EPA	EET PEN

Protocol References:

1664B = EPA-821-98-002

EPA = US Environmental Protection Agency

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242685-1	DSN006 STORM POND	Water	08/29/23 15:10	08/30/23 11:55

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242685-1

Date Collected: 08/29/23 15:10

Matrix: Water

Date Received: 08/30/23 11:55

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (EPA 150.1)	7.7	HF			S.U.			08/31/23 14:00	1
Temperature (EPA 150.1)	23.0	HF			Degrees C			08/31/23 14:00	1
Total Suspended Solids (EPA 160.2)	<5.0		5.0	5.0	mg/L			09/04/23 19:21	1
HEM (Oil and Grease) (1664B)	<1.4		4.0	1.4	mg/L		09/07/23 09:32	09/07/23 11:43	1
Nitrogen, Kjeldahl (EPA 351.2)	0.75		0.50	0.26	mg/L		09/05/23 17:08	09/06/23 16:19	1
Nitrate Nitrite as N (EPA 353.2)	<0.018		0.050	0.018	mg/L			09/07/23 17:38	1
Phosphorus, Total (EPA 365.4)	0.28		0.10	0.049	mg/L		09/05/23 17:10	09/06/23 11:24	1
Biochemical Oxygen Demand (EPA 405.1)	2.1	b	2.0	2.0	mg/L			08/30/23 15:38	1
Chemical Oxygen Demand (COD) (EPA 410.4)	29		10	6.4	mg/L			09/08/23 10:29	1
Nitrogen, Total (EPA Total Nitrogen)	0.75		0.50	0.26	mg/L			09/01/23 12:25	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Qualifiers

General Chemistry

Qualifier	Qualifier Description
b	Result Detected in the Unseeded Control blank (USB).
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242685-1

Date Collected: 08/29/23 15:10

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	150.1		1			639368	08/31/23 14:00	SF	EET PEN
Total/NA	Analysis	160.2		1	100 mL	100 mL	639658	09/04/23 19:21	HA	EET PEN
Total/NA	Prep	1664B			1006 mL	1000 mL	640054	09/07/23 09:32	AR	EET PEN
Total/NA	Analysis	1664B		1			640088	09/07/23 11:43	AR	EET PEN
Total/NA	Prep	351.2			25 mL	25 mL	639817	09/05/23 17:08	VB	EET PEN
Total/NA	Analysis	351.2		1			640062	09/06/23 16:19	KWS	EET PEN
Total/NA	Analysis	353.2		1	5 mL	5 mL	640174	09/07/23 17:38	DEK	EET PEN
Total/NA	Prep	365.2/365.3/365			25 mL	25 mL	639818	09/05/23 17:10	VB	EET PEN
Total/NA	Analysis	365.4		1	10 mL	10 mL	639943	09/06/23 11:24	VB	EET PEN
Total/NA	Analysis	405.1		1	300 mL	300 mL	639272	08/30/23 15:38	AT	EET PEN
Completed:								09/04/23 08:24 ¹		
Total/NA	Analysis	410.4		1	2 mL	2 mL	640225	09/08/23 10:29	CJK	EET PEN
Total/NA	Analysis	Total Nitrogen		1			639484	09/01/23 12:25	DEK	EET PEN

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

General Chemistry

Analysis Batch: 639272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	405.1	
USB 400-639272/1	Method Blank	Total/NA	Water	405.1	
LCS 400-639272/2	Lab Control Sample	Total/NA	Water	405.1	

Analysis Batch: 639368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	150.1	
LCS 400-639368/4	Lab Control Sample	Total/NA	Water	150.1	
400-242685-1 DU	DSN006 STORM POND	Total/NA	Water	150.1	

Analysis Batch: 639484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	Total Nitrogen	

Analysis Batch: 639658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	160.2	
MB 400-639658/1	Method Blank	Total/NA	Water	160.2	
LCS 400-639658/2	Lab Control Sample	Total/NA	Water	160.2	

Prep Batch: 639817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	351.2	
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	

Prep Batch: 639818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	365.2/365.3/365	
MB 400-639818/1-A	Method Blank	Total/NA	Water	365.2/365.3/365	
LCS 400-639818/2-A	Lab Control Sample	Total/NA	Water	365.2/365.3/365	

Analysis Batch: 639943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	365.4	639818
MB 400-639818/1-A	Method Blank	Total/NA	Water	365.4	639818
LCS 400-639818/2-A	Lab Control Sample	Total/NA	Water	365.4	639818
MRL 400-639943/10	Lab Control Sample	Total/NA	Water	365.4	

Prep Batch: 640054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	1664B	
MB 400-640054/1-A	Method Blank	Total/NA	Water	1664B	
LCS 400-640054/2-A	Lab Control Sample	Total/NA	Water	1664B	
LCSD 400-640054/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	

Analysis Batch: 640062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	351.2	639817
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	639817
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	639817

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

General Chemistry (Continued)

Analysis Batch: 640062 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 400-640062/10	Lab Control Sample	Total/NA	Water	351.2	

Analysis Batch: 640088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	1664B	640054
MB 400-640054/1-A	Method Blank	Total/NA	Water	1664B	640054
LCS 400-640054/2-A	Lab Control Sample	Total/NA	Water	1664B	640054
LCSD 400-640054/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	640054

Analysis Batch: 640174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	353.2	
MB 400-640174/16	Method Blank	Total/NA	Water	353.2	
LCS 400-640174/17	Lab Control Sample	Total/NA	Water	353.2	
MRL 400-640174/18	Lab Control Sample	Total/NA	Water	353.2	

Analysis Batch: 640225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242685-1	DSN006 STORM POND	Total/NA	Water	410.4	
MB 400-640225/5	Method Blank	Total/NA	Water	410.4	
LCS 400-640225/6	Lab Control Sample	Total/NA	Water	410.4	
MRL 400-640225/7	Lab Control Sample	Total/NA	Water	410.4	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Method: 150.1 - pH (Electrometric)

Lab Sample ID: LCS 400-639368/4
Matrix: Water
Analysis Batch: 639368

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		S.U.		100	98.6 - 101.4

Lab Sample ID: 400-242685-1 DU
Matrix: Water
Analysis Batch: 639368

Client Sample ID: DSN006 STORM POND
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.8		S.U.		1	5
Temperature	23.0	HF	22.7		Degrees C		1	30

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 400-639658/1
Matrix: Water
Analysis Batch: 639658

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<0.50		0.50	0.50	mg/L			09/04/23 19:21	1

Lab Sample ID: LCS 400-639658/2
Matrix: Water
Analysis Batch: 639658

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	297	297		mg/L		100	79 - 124

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 400-640054/1-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 640054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil and Grease)	<1.4		4.0	1.4	mg/L		09/07/23 09:32	09/07/23 11:43	1

Lab Sample ID: LCS 400-640054/2-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 640054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil and Grease)	39.9	31.00		mg/L		78	78 - 114

Lab Sample ID: LCSD 400-640054/3-A
Matrix: Water
Analysis Batch: 640088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 640054

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil and Grease)	39.9	31.70		mg/L		79	78 - 114	2	18

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 400-639817/1-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	<0.26		0.50	0.26	mg/L		09/05/23 17:04	09/06/23 16:08	1

Lab Sample ID: LCS 400-639817/2-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	10.0	10.2		mg/L		102	90 - 110

Lab Sample ID: MRL 400-640062/10
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	0.500	0.420	J	mg/L		84	50 - 150

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 400-640174/16
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.018		0.050	0.018	mg/L			09/07/23 17:19	1

Lab Sample ID: LCS 400-640174/17
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.00	0.997		mg/L		100	90 - 110

Lab Sample ID: MRL 400-640174/18
Matrix: Water
Analysis Batch: 640174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.0500	0.0410	J	mg/L		82	50 - 150

Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 400-639818/1-A
Matrix: Water
Analysis Batch: 639943

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639818

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus, Total	<0.049		0.10	0.049	mg/L		09/05/23 17:06	09/06/23 11:12	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: LCS 400-639818/2-A
Matrix: Water
Analysis Batch: 639943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639818

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	1.98	2.05		mg/L		104	75 - 113

Lab Sample ID: MRL 400-639943/10
Matrix: Water
Analysis Batch: 639943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Phosphorus, Total	0.0400	<0.023		mg/L		50	50 - 150

Method: 405.1 - BOD, 5-Day

Lab Sample ID: USB 400-639272/1
Matrix: Water
Analysis Batch: 639272

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			08/30/23 13:51	1

Lab Sample ID: LCS 400-639272/2
Matrix: Water
Analysis Batch: 639272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	198	173		mg/L		88	85 - 115

Method: 410.4 - COD

Lab Sample ID: MB 400-640225/5
Matrix: Water
Analysis Batch: 640225

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (COD)	<6.4		10	6.4	mg/L			09/08/23 10:29	1

Lab Sample ID: LCS 400-640225/6
Matrix: Water
Analysis Batch: 640225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand (COD)	50.0	53.6		mg/L		107	90 - 110

Lab Sample ID: MRL 400-640225/7
Matrix: Water
Analysis Batch: 640225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand (COD)	10.0	13.0		mg/L		130	50 - 150

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3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record



Environment Testing

Client Information		Sampler: CARLA C. PEARSON		Lab PM: Whitmire, Cheyenne R		400-242685 COC		No(s): AL		COC No: 400-121856-41790.1	
Client Contact: Carla Pearson		Phone: 334-418-5236		E-Mail: Cheyenne.Whitmire@et.eurofinsus.com						Page 1 of 1	
Company: International Paper Company				PWSID:		Analysis Requested				Job #:	
Address: 601 County Road 78		Due Date Requested:		TAT Requested (days): ASAP!						Preservation Codes:	
City: Selma		Compliance Project: ☐ Yes ☐ No		PO #: 16969625						A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)	
State, Zip: AL, 36703		Project #: 40016047		WO #:						Other:	
Phone: 334-418-5236(Tel)		Project Name: Form 2F Table A		SSOW#:							
Email: Carla.Pearson@ipaper.com		Site: RIVERDALE MILL									
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	365.4, 410.4	351.2, 353.2, Pres, Nitrogen, Total	1664B - Oil & Grease	405.1 - BOD, 5-Day	180.2 - TSS	150.1 - pH & Temperature
DSN006 STORM POND	8/29/23	3:10	G	Water							
"	"	"	G	"							
"	"	"	G	"							
"	"	"	G	"							
"	"	"	G	"							
"	"	"	G	"							
						Special Instructions/Note:					
						PH - 8.34 Temp - 77.0					
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological						☐ Return To Client ☐ Disposal By Lab ☒ Archive For 1 Months					
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements: After 1 month, dispose					
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:					
Relinquished by: Carla Pearson		Date/Time: 8/30/23 7:45		Company: IP-RIVERDALE		Received by: Carla Pearson		Date/Time: 8/30/23 7:45		Company: Saya Cao	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time: 8/30/23 11:55		Company:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.: 2336408		Cooler Temperature(s) °C and Other Remarks: 0.6 IR8							

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242685-1

SDG Number: Form 2F Table A

Login Number: 242685

List Number: 1

Creator: Roberts, Alexis J

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC not relinquished.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242685-1
SDG: Form 2F Table A

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table B

JOB NUMBER

400-242687-1

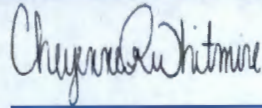
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Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
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(850)471-6222

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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Job ID: 400-242687-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-242687-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.3° C.

Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 12D5 exceeded this criteria: DSN004 STORM POND (400-242687-1), (CCV 320-707850/2), (LCS 320-706202/2-A), (LCSD 320-706202/3-A) and (MB 320-706202/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The ending resolution check indicated that the instrument was at slightly less than 10,000 resolution. The samples were evaluated for high mass fragmentation breakthrough and none was found. There is no adverse impact on the data. The following samples are impacted. DSN004 STORM POND (400-242687-1), (CCV 320-707850/2), (LCS 320-706202/2-A), (LCSD 320-706202/3-A), (MB 320-706202/1-A) and (WDM 320-707850/1)

General Chemistry

Method 1650 Rev. C: Breakthrough exceeded 25% for the following sample: DSN004 STORM POND (400-242687-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242687-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Adsorbable Organic Halides	0.28		0.020	0.0062	mg/L	1		1650 Rev. C	Total/NA

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This Detection Summary does not include radiochemical test results.

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Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET PEN
625.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET PEN
1613B	Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS	EPA	EET SAC
1650 Rev. C	Adsorbable Organic Halides (AOX)	EPA	EET SAV
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC
625	Liquid-Liquid Extraction	EPA	EET PEN
Carbon Trap	Carbon Trap Preparation	EPA-17	EET SAV

Protocol References:

EPA = US Environmental Protection Agency

EPA-17 = "Method 1650, Revision A, Adsorbable Organic Halides By Adsorption And Colometric Titration," EPA, February 1992

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242687-1	DSN004 STORM POND	Water	08/29/23 14:40	08/30/23 11:55

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242687-1

Date Collected: 08/29/23 14:40

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.00090		0.0010	0.00090	mg/L			09/08/23 10:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		78 - 118					09/08/23 10:46	1
Dibromofluoromethane	107		81 - 121					09/08/23 10:46	1
Toluene-d8 (Surr)	95		80 - 120					09/08/23 10:46	1

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	<0.0016		0.010	0.0016	mg/L		09/05/23 16:37	09/08/23 02:01	1
2,4,5-Trichlorophenol	<0.0038		0.010	0.0038	mg/L		09/05/23 16:37	09/08/23 02:01	1
2,4,6-Trichlorophenol	<0.0027		0.010	0.0027	mg/L		09/05/23 16:37	09/08/23 02:01	1
Pentachlorophenol	<0.0014		0.021	0.0014	mg/L		09/05/23 16:37	09/08/23 02:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	75		15 - 135				09/05/23 16:37	09/08/23 02:01	1
2-Fluorobiphenyl	86		32 - 109				09/05/23 16:37	09/08/23 02:01	1
2-Fluorophenol	65		10 - 104				09/05/23 16:37	09/08/23 02:01	1
Nitrobenzene-d5	78		31 - 111				09/05/23 16:37	09/08/23 02:01	1
Phenol-d5	51		10 - 110				09/05/23 16:37	09/08/23 02:01	1
Terphenyl-d14	104		30 - 129				09/05/23 16:37	09/08/23 02:01	1

Method: EPA 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	<0.38		9.5	0.38	pg/L		09/14/23 14:31	09/21/23 02:13	1
2,3,7,8-TCDF	<0.30		9.5	0.30	pg/L		09/14/23 14:31	09/21/23 02:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	71		31 - 137				09/14/23 14:31	09/21/23 02:13	1
13C-2,3,7,8-TCDF	70		29 - 140				09/14/23 14:31	09/21/23 02:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	86		42 - 164				09/14/23 14:31	09/21/23 02:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Halides (EPA 1650 Rev. C)	0.28		0.020	0.0062	mg/L		09/12/23 15:03	09/12/23 20:19	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242687-1

Date Collected: 08/29/23 14:40

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	640185	09/08/23 10:46	WPD	EET PEN
Total/NA	Prep	625			242.8 mL	1 mL	639791	09/05/23 16:37	BKL	EET PEN
Total/NA	Analysis	625.1		1	0.4 mL	0.4 mL	640110	09/08/23 02:01	S1B	EET PEN
Total/NA	Prep	1613B			1050 mL	20.0 uL	706202	09/14/23 14:31	CGB	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	707850	09/21/23 02:13	DB	EET SAC
Total/NA	Prep	Carbon Trap			100 mL	100 mL	797647	09/12/23 15:03	JLD	EET SAV
Total/NA	Analysis	1650 Rev. C		1			797814	09/12/23 20:19	JLD	EET SAV

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

C/MS VOA

Analysis Batch: 640185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242687-1	DSN004 STORM POND	Total/NA	Water	624.1	
MB 400-640185/5	Method Blank	Total/NA	Water	624.1	
LCS 400-640185/3	Lab Control Sample	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 639791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242687-1	DSN004 STORM POND	Total/NA	Water	625	
MB 400-639791/1-A	Method Blank	Total/NA	Water	625	
LCS 400-639791/2-A	Lab Control Sample	Total/NA	Water	625	

Analysis Batch: 640110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242687-1	DSN004 STORM POND	Total/NA	Water	625.1	639791

Analysis Batch: 640117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-639791/1-A	Method Blank	Total/NA	Water	625.1	639791
LCS 400-639791/2-A	Lab Control Sample	Total/NA	Water	625.1	639791

Specialty Organics

Prep Batch: 706202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242687-1	DSN004 STORM POND	Total/NA	Water	1613B	
MB 320-706202/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-706202/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-706202/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 707850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242687-1	DSN004 STORM POND	Total/NA	Water	1613B	706202
MB 320-706202/1-A	Method Blank	Total/NA	Water	1613B	706202
LCS 320-706202/2-A	Lab Control Sample	Total/NA	Water	1613B	706202
LCSD 320-706202/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	706202

General Chemistry

Prep Batch: 797647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242687-1	DSN004 STORM POND	Total/NA	Water	Carbon Trap	
MB 680-797647/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-797647/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	

Analysis Batch: 797814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242687-1	DSN004 STORM POND	Total/NA	Water	1650 Rev. C	797647
MB 680-797647/1-A	Method Blank	Total/NA	Water	1650 Rev. C	797647
LCS 680-797647/2-A	Lab Control Sample	Total/NA	Water	1650 Rev. C	797647

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-640185/5

Matrix: Water

Analysis Batch: 640185

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.00090		0.0010	0.00090	mg/L			09/08/23 09:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	84		78 - 118		09/08/23 09:09	1
Dibromofluoromethane	105		81 - 121		09/08/23 09:09	1
Toluene-d8 (Surr)	96		80 - 120		09/08/23 09:09	1

Lab Sample ID: LCS 400-640185/3

Matrix: Water

Analysis Batch: 640185

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	0.0500	0.0388		mg/L		78	70 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	90		78 - 118
Dibromofluoromethane	95		81 - 121
Toluene-d8 (Surr)	98		80 - 120

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-639791/1-A

Matrix: Water

Analysis Batch: 640117

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 639791

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	<0.0016		0.010	0.0016	mg/L		09/05/23 16:37	09/08/23 00:56	1
2,4,5-Trichlorophenol	<0.0037		0.010	0.0037	mg/L		09/05/23 16:37	09/08/23 00:56	1
2,4,6-Trichlorophenol	<0.0026		0.010	0.0026	mg/L		09/05/23 16:37	09/08/23 00:56	1
Pentachlorophenol	<0.0014		0.020	0.0014	mg/L		09/05/23 16:37	09/08/23 00:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		15 - 135	09/05/23 16:37	09/08/23 00:56	1
2-Fluorobiphenyl	83		32 - 109	09/05/23 16:37	09/08/23 00:56	1
2-Fluorophenol	63		10 - 104	09/05/23 16:37	09/08/23 00:56	1
Nitrobenzene-d5	73		31 - 111	09/05/23 16:37	09/08/23 00:56	1
Phenol-d5	47		10 - 110	09/05/23 16:37	09/08/23 00:56	1
Terphenyl-d14	87		30 - 129	09/05/23 16:37	09/08/23 00:56	1

Lab Sample ID: LCS 400-639791/2-A

Matrix: Water

Analysis Batch: 640117

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 639791

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,4,6-Tetrachlorophenol	0.120	0.101		mg/L		84	46 - 130
2,4,5-Trichlorophenol	0.120	0.0915		mg/L		76	55 - 140
2,4,6-Trichlorophenol	0.120	0.0854		mg/L		71	52 - 129
Pentachlorophenol	0.240	0.183		mg/L		76	38 - 152

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	93		15 - 135
2-Fluorobiphenyl	86		32 - 109
2-Fluorophenol	69		10 - 104
Nitrobenzene-d5	83		31 - 111
Phenol-d5	55		10 - 110
Terphenyl-d14	88		30 - 129

Method: 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS

Lab Sample ID: MB 320-706202/1-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 706202

Analyte	MB MB		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2,3,7,8-TCDD	<0.59		10	0.59	pg/L		09/14/23 14:31	09/20/23 21:27	1
2,3,7,8-TCDF	<0.44		10	0.44	pg/L		09/14/23 14:31	09/20/23 21:27	1
Isotope Dilution	MB MB		Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
13C-2,3,7,8-TCDD	66		31 - 137				09/14/23 14:31	09/20/23 21:27	1
13C-2,3,7,8-TCDF	63		29 - 140				09/14/23 14:31	09/20/23 21:27	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
37Cl4-2,3,7,8-TCDD	91		42 - 164				09/14/23 14:31	09/20/23 21:27	1

Lab Sample ID: LCS 320-706202/2-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 706202

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
2,3,7,8-TCDD	200	198		pg/L		99	73 - 146
2,3,7,8-TCDF	200	212		pg/L		106	80 - 147
Isotope Dilution	LCS LCS		Limits				
	%Recovery	Qualifier					
13C-2,3,7,8-TCDD	73		25 - 141				
13C-2,3,7,8-TCDF	70		26 - 126				
Surrogate	LCS LCS		Limits				
	%Recovery	Qualifier					
37Cl4-2,3,7,8-TCDD	89		37 - 158				

Lab Sample ID: LCSD 320-706202/3-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 706202

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
2,3,7,8-TCDD	200	195		pg/L		97	73 - 146	2	50
2,3,7,8-TCDF	200	202		pg/L		101	80 - 147	5	50
Isotope Dilution	LCSD LCSD		Limits						
	%Recovery	Qualifier							
13C-2,3,7,8-TCDD	72		25 - 141						
13C-2,3,7,8-TCDF	68		26 - 126						

Eurofins Pensacola

QC Sample Results

Client: International Paper Company

Project/Site: Riverdale Mill

Job ID: 400-242687-1

SDG: Form 2F Table B

Method: 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS (Continued)

Lab Sample ID: LCSD 320-706202/3-A

Matrix: Water

Analysis Batch: 707850

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 706202

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
37Cl4-2,3,7,8-TCDD	89		37 - 158

Method: 1650 Rev. C - Adsorbable Organic Halides (AOX)

Lab Sample ID: MB 680-797647/1-A

Matrix: Water

Analysis Batch: 797814

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 797647

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Halides	<0.0062		0.020	0.0062	mg/L		09/12/23 15:03	09/12/23 17:12	1

Lab Sample ID: LCS 680-797647/2-A

Matrix: Water

Analysis Batch: 797814

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 797647

	Spike	LCS	LCS					%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Adsorbable Organic Halides	0.100	0.0919		mg/L		92	78 - 116		

Client Information Client Contact: Carla Pearson Company: International Paper Company Address: 601 County Road 78 City: Selma State, Zip: AL, 36703 Phone: 334-418-5236 (Tel) Email: Carla.Pearson@ipaper.com Project Name: Form 2F Table B Site: RIVERDALE MILL		Samples: CARLA C. PEARSON Phone: 334-418-5236 PWSID:		Lab PM: Whitmire, Cheyenne R E-Mail: Cheyenne.Whitmire@et.eurofinsus.com 400-242687 COC		(s): Page: AL Page 1 of 1 Job #:					
		Due Date Requested: TAT Requested (days): ASAP! Compliance Project: ☐ Yes ☐ No PO #: 16969625 WO #:		Analysis Requested		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)					
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=biota, A=air)	Field Filtered Sample (Yes/No)		Total Number of Samples		Special Instructions/Note:	
DSN 004 STORM POND		8/29/23	2:40	G	Water	825.1 - Conventional & Non-Conventional 824.1 - Chloroform 1613B - 2,3,7,8-TCDD/TCDF 1650C - AOX		1		After month, dispose	
"		7	7	G	Water	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"		7	7	G	"	4		4		4	
"											

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242687-1

SDG Number: Form 2F Table B

Login Number: 242687

List Number: 1

Creator: Roberts, Alexis J

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242687-1

SDG Number: Form 2F Table B

Login Number: 242687

List Number: 3

Creator: Simmons, Jason C

List Source: Eurofins Sacramento

List Creation: 09/01/23 11:47 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2364666
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (VW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	FLGNV23001	01-08-26
USDA	US Federal Programs	P330-21-00056	05-17-24
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24

Eurofins Pensacola

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242687-1
SDG: Form 2F Table B

Laboratory: Eurofins Sacramento (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
Wyoming	State Program	8TMS-L	01-28-19 *

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-24
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	09-21-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table B

JOB NUMBER

400-242701-1

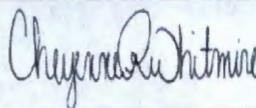
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Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Job ID: 400-242701-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-242701-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.5° C.

Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 12D5 exceeded this criteria: DSN005 STORM POND (400-242701-1), (CCV 320-707850/2), (LCS 320-706202/2-A), (LCSD 320-706202/3-A) and (MB 320-706202/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The ending resolution check indicated that the instrument was at slightly less than 10,000 resolution. The samples were evaluated for high mass fragmentation breakthrough and none was found. There is no adverse impact on the data. The following samples are impacted. DSN005 STORM POND (400-242701-1), (CCV 320-707850/2), (LCS 320-706202/2-A), (LCSD 320-706202/3-A), (MB 320-706202/1-A) and (WDM 320-707850/1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242701-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.0027		0.0010	0.00090	mg/L	1		624.1	Total/NA
Adsorbable Organic Halides	0.10		0.020	0.0062	mg/L	1		1650 Rev. C	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET PEN
625.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET PEN
1613B	Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS	EPA	EET SAC
1650 Rev. C	Adsorbable Organic Halides (AOX)	EPA	EET SAV
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC
625	Liquid-Liquid Extraction	EPA	EET PEN
Carbon Trap	Carbon Trap Preparation	EPA-17	EET SAV

Protocol References:

EPA = US Environmental Protection Agency

EPA-17 = "Method 1650, Revision A, Adsorbable Organic Halides By Adsorption And Colormetric Titration," EPA, February 1992

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242701-1	DSN005 STORM POND	Water	08/29/23 14:50	08/30/23 11:55

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242701-1

Date Collected: 08/29/23 14:50

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.0027		0.0010	0.00090	mg/L			09/08/23 11:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		78 - 118					09/08/23 11:25	1
Dibromofluoromethane	111		81 - 121					09/08/23 11:25	1
Toluene-d8 (Surr)	97		80 - 120					09/08/23 11:25	1

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	<0.0015		0.0093	0.0015	mg/L		09/05/23 16:37	09/08/23 02:43	1
2,4,5-Trichlorophenol	<0.0035		0.0093	0.0035	mg/L		09/05/23 16:37	09/08/23 02:43	1
2,4,6-Trichlorophenol	<0.0024		0.0093	0.0024	mg/L		09/05/23 16:37	09/08/23 02:43	1
Pentachlorophenol	<0.0013		0.019	0.0013	mg/L		09/05/23 16:37	09/08/23 02:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	78		15 - 135				09/05/23 16:37	09/08/23 02:43	1
2-Fluorobiphenyl	91		32 - 109				09/05/23 16:37	09/08/23 02:43	1
2-Fluorophenol	66		10 - 104				09/05/23 16:37	09/08/23 02:43	1
Nitrobenzene-d5	82		31 - 111				09/05/23 16:37	09/08/23 02:43	1
Phenol-d5	50		10 - 110				09/05/23 16:37	09/08/23 02:43	1
Terphenyl-d14	105		30 - 129				09/05/23 16:37	09/08/23 02:43	1

Method: EPA 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	<0.46		9.8	0.46	pg/L		09/14/23 14:31	09/21/23 03:49	1
2,3,7,8-TCDF	<0.28		9.8	0.28	pg/L		09/14/23 14:31	09/21/23 03:49	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	77		31 - 137				09/14/23 14:31	09/21/23 03:49	1
13C-2,3,7,8-TCDF	73		29 - 140				09/14/23 14:31	09/21/23 03:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	88		42 - 164				09/14/23 14:31	09/21/23 03:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Halides (EPA 1650 Rev. C)	0.10		0.020	0.0062	mg/L		09/13/23 16:34	09/13/23 19:11	1

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Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
SQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242701-1

Date Collected: 08/29/23 14:50

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	640185	09/08/23 11:25	WPD	EET PEN
Total/NA	Prep	625			267.4 mL	1 mL	639791	09/05/23 16:37	BKL	EET PEN
Total/NA	Analysis	625.1		1	0.4 mL	0.4 mL	640110	09/08/23 02:43	S1B	EET PEN
Total/NA	Prep	1613B			1022.1 mL	20.0 uL	706202	09/14/23 14:31	CGB	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	707850	09/21/23 03:49	DB	EET SAC
Total/NA	Prep	Carbon Trap			100 mL	100 mL	797827	09/13/23 16:34	JLD	EET SAV
Total/NA	Analysis	1650 Rev. C		1			798015	09/13/23 19:11	JLD	EET SAV

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

IC/MS VOA

Analysis Batch: 640185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242701-1	DSN005 STORM POND	Total/NA	Water	624.1	
MB 400-640185/5	Method Blank	Total/NA	Water	624.1	
LCS 400-640185/3	Lab Control Sample	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 639791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242701-1	DSN005 STORM POND	Total/NA	Water	625	
MB 400-639791/1-A	Method Blank	Total/NA	Water	625	
LCS 400-639791/2-A	Lab Control Sample	Total/NA	Water	625	

Analysis Batch: 640110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242701-1	DSN005 STORM POND	Total/NA	Water	625.1	639791

Analysis Batch: 640117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-639791/1-A	Method Blank	Total/NA	Water	625.1	639791
LCS 400-639791/2-A	Lab Control Sample	Total/NA	Water	625.1	639791

Specialty Organics

Prep Batch: 706202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242701-1	DSN005 STORM POND	Total/NA	Water	1613B	
MB 320-706202/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-706202/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-706202/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 707850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242701-1	DSN005 STORM POND	Total/NA	Water	1613B	706202
MB 320-706202/1-A	Method Blank	Total/NA	Water	1613B	706202
LCS 320-706202/2-A	Lab Control Sample	Total/NA	Water	1613B	706202
LCSD 320-706202/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	706202

General Chemistry

Prep Batch: 797827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242701-1	DSN005 STORM POND	Total/NA	Water	Carbon Trap	
MB 680-797827/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-797827/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	
400-242701-1 MS	DSN005 STORM POND	Total/NA	Water	Carbon Trap	
400-242701-1 MSD	DSN005 STORM POND	Total/NA	Water	Carbon Trap	

Analysis Batch: 798015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242701-1	DSN005 STORM POND	Total/NA	Water	1650 Rev. C	797827
MB 680-797827/1-A	Method Blank	Total/NA	Water	1650 Rev. C	797827
LCS 680-797827/2-A	Lab Control Sample	Total/NA	Water	1650 Rev. C	797827

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

General Chemistry (Continued)

Analysis Batch: 798015 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242701-1 MS	DSN005 STORM POND	Total/NA	Water	1650 Rev. C	797827
400-242701-1 MSD	DSN005 STORM POND	Total/NA	Water	1650 Rev. C	797827

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-640185/5
Matrix: Water
Analysis Batch: 640185

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.00090		0.0010	0.00090	mg/L			09/08/23 09:09	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	84		78 - 118					09/08/23 09:09	1
Dibromofluoromethane	105		81 - 121					09/08/23 09:09	1
Toluene-d8 (Surr)	96		80 - 120					09/08/23 09:09	1

Lab Sample ID: LCS 400-640185/3
Matrix: Water
Analysis Batch: 640185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	0.0500	0.0388		mg/L		78	70 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	90		78 - 118				
Dibromofluoromethane	95		81 - 121				
Toluene-d8 (Surr)	98		80 - 120				

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-639791/1-A
Matrix: Water
Analysis Batch: 640117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639791

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	<0.0016		0.010	0.0016	mg/L		09/05/23 16:37	09/08/23 00:56	1
2,4,5-Trichlorophenol	<0.0037		0.010	0.0037	mg/L		09/05/23 16:37	09/08/23 00:56	1
2,4,6-Trichlorophenol	<0.0026		0.010	0.0026	mg/L		09/05/23 16:37	09/08/23 00:56	1
Pentachlorophenol	<0.0014		0.020	0.0014	mg/L		09/05/23 16:37	09/08/23 00:56	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		15 - 135				09/05/23 16:37	09/08/23 00:56	1
2-Fluorobiphenyl	83		32 - 109				09/05/23 16:37	09/08/23 00:56	1
2-Fluorophenol	63		10 - 104				09/05/23 16:37	09/08/23 00:56	1
Nitrobenzene-d5	73		31 - 111				09/05/23 16:37	09/08/23 00:56	1
Phenol-d5	47		10 - 110				09/05/23 16:37	09/08/23 00:56	1
Terphenyl-d14	87		30 - 129				09/05/23 16:37	09/08/23 00:56	1

Lab Sample ID: LCS 400-639791/2-A
Matrix: Water
Analysis Batch: 640117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639791

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,4,6-Tetrachlorophenol	0.120	0.101		mg/L		84	46 - 130
2,4,5-Trichlorophenol	0.120	0.0915		mg/L		76	55 - 140
2,4,6-Trichlorophenol	0.120	0.0854		mg/L		71	52 - 129
Pentachlorophenol	0.240	0.183		mg/L		76	38 - 152

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	93		15 - 135
2-Fluorobiphenyl	86		32 - 109
2-Fluorophenol	69		10 - 104
Nitrobenzene-d5	83		31 - 111
Phenol-d5	55		10 - 110
Terphenyl-d14	88		30 - 129

Method: 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS

Lab Sample ID: MB 320-706202/1-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 706202

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	<0.59		10	0.59	pg/L		09/14/23 14:31	09/20/23 21:27	1
2,3,7,8-TCDF	<0.44		10	0.44	pg/L		09/14/23 14:31	09/20/23 21:27	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	66		31 - 137				09/14/23 14:31	09/20/23 21:27	1
13C-2,3,7,8-TCDF	63		29 - 140				09/14/23 14:31	09/20/23 21:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		42 - 164				09/14/23 14:31	09/20/23 21:27	1

Lab Sample ID: LCS 320-706202/2-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 706202

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	200	198		pg/L		99	73 - 146
2,3,7,8-TCDF	200	212		pg/L		106	80 - 147
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C-2,3,7,8-TCDD	73		25 - 141				
13C-2,3,7,8-TCDF	70		26 - 126				
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
37Cl4-2,3,7,8-TCDD	89		37 - 158				

Lab Sample ID: LCSD 320-706202/3-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 706202

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	195		pg/L		97	73 - 146	2	50
2,3,7,8-TCDF	200	202		pg/L		101	80 - 147	5	50
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits						
13C-2,3,7,8-TCDD	72		25 - 141						
13C-2,3,7,8-TCDF	68		26 - 126						

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

ethod: 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS (Continued)

Lab Sample ID: LCSD 320-706202/3-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 706202

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	89		37 - 158

Method: 1650 Rev. C - Adsorbable Organic Halides (AOX)

Lab Sample ID: MB 680-797827/1-A
Matrix: Water
Analysis Batch: 798015

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 797827

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Adsorbable Organic Halides	<0.0062		0.020	0.0062	mg/L		09/13/23 16:34	09/13/23 18:35	1

Lab Sample ID: LCS 680-797827/2-A
Matrix: Water
Analysis Batch: 798015

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 797827

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits		
		Result	Qualifier						
Adsorbable Organic Halides	0.100	0.0899		mg/L		90	78 - 116		

Lab Sample ID: 400-242701-1 MS
Matrix: Water
Analysis Batch: 798015

Client Sample ID: DSN005 STORM POND
Prep Type: Total/NA
Prep Batch: 797827

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits		
				Result	Qualifier						
Adsorbable Organic Halides	0.10		1.00	1.03		mg/L		92	78 - 116		

Lab Sample ID: 400-242701-1 MSD
Matrix: Water
Analysis Batch: 798015

Client Sample ID: DSN005 STORM POND
Prep Type: Total/NA
Prep Batch: 797827

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec Limits	RPD	Limit
				Result	Qualifier						
Adsorbable Organic Halides	0.10		1.00	1.03		mg/L		93	78 - 116	1	20

Eurofins Pensacola

3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record



Environment Testing

Client Information		Sampler: CARLA C. PEARSON		Lab PM: Whitmire, Cheyenne R		400-242701 COC		ig No(s)		COC No. 400-122359-41791.1						
Client Contact: Carla Pearson		Phone: 334-418-5236		E-Mail: Cheyenne.Whitmire@et.eurofinsus.com		Origin: AL				Page 1 of 1						
Company: International Paper Company		PWSID:		Analysis Requested												
Address: 601 County Road 78		Due Date Requested:		<table border="1"> <tr> <td>Field Filtered Sample (Vapour No)</td> <td>626.1 - Conventional & Non-Conventional</td> <td>624.1 - Chloroform</td> <td>1613B - 2,3,7,8-TCDD/TCDF</td> <td>1660C - AOX</td> </tr> </table>								Field Filtered Sample (Vapour No)	626.1 - Conventional & Non-Conventional	624.1 - Chloroform	1613B - 2,3,7,8-TCDD/TCDF	1660C - AOX
Field Filtered Sample (Vapour No)	626.1 - Conventional & Non-Conventional	624.1 - Chloroform	1613B - 2,3,7,8-TCDD/TCDF									1660C - AOX				
City: Selma		TAT Requested (days): ASAP														
State, Zip: AL, 36703		Compliance Project: ☐ Yes ☐ No														
Phone: 334-418-5236(Tel)		PO #: 16969625														
Email: Carla.Pearson@ipaper.com		WO #:		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 R - Na2S2O3 F - MeOH S - H2SO4 G - Amchlor T - TSP Dodecahydrate H - Ascorbic Acid U - Acetone I - Ice V - MCAA J - DI Water W - pH 4-5 K - EDTA Y - Trizma L - EDA Z - other (specify)												
Project Name: Form 2F Table B		Project #: 40016047														
Site: DAVERDALE MILL		SSOW#:		Other:												
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)	Special Instructions/Note:										
DSN 005 STORM POND		8/29/23	2:50	G	Water	pH - 7.3 Temp - 77.0										
"		"	"	G	Water											
"		"	"	G	"											
"		"	"	G	"											
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological																
Deliverable Requested: I, II, III, IV, Other (specify)						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☒ Archive For 1 Months										
Empty Kit Relinquished by:						Special Instructions/QC Requirements: After 1 month, dispose										
Relinquished by: [Signature]		Date/Time: 8/30/23 7:45		Company: IP-DAVERDALE		Relinquished by: [Signature]		Date/Time: 8/30/23 7:45		Company: SAVER CAD						
Relinquished by:		Date/Time:		Company:		Relinquished by: [Signature]		Date/Time: 8/30/23 4:55		Company:						
Relinquished by:		Date/Time:		Company:		Relinquished by:		Date/Time:		Company:						
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.: 2366371		Cooler Temperature(s) °C and Other Remarks: 5.5°C ER10												

[illegible]

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242701-1

SDG Number: Form 2F Table B

Login Number: 242701

List Number: 1

Creator: Roberts, Alexis J

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.5°C IR10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242701-1

SDG Number: Form 2F Table B

Login Number: 242701

List Number: 3

Creator: Simmons, Jason C

List Source: Eurofins Sacramento

List Creation: 09/01/23 11:47 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2364666
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ ($1/4''$).	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (VW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	FLGNV23001	01-08-26
USDA	US Federal Programs	P330-21-00056	05-17-24
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24

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Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242701-1
SDG: Form 2F Table B

laboratory: Eurofins Sacramento (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
Wyoming	State Program	8TMS-L	01-28-19 *

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-24
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	09-21-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

Generated 9/25/2023 3:34:19 PM

JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table B

JOB NUMBER

400-242688-1

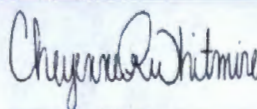
Eurofins Pensacola

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Cheyenne Whitmire, Project Manager II
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(850)471-6222

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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Job ID: 400-242688-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative
400-242688-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6° C.

Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 12D5 exceeded this criteria: DSN006 STORM POND (400-242688-1), (CCV 320-707850/2), (LCS 320-706202/2-A), (LCSD 320-706202/3-A) and (MB 320-706202/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The ending resolution check indicated that the instrument was at slightly less than 10,000 resolution. The samples were evaluated for high mass fragmentation breakthrough and none was found. There is no adverse impact on the data. The following samples are impacted. DSN006 STORM POND (400-242688-1), (CCV 320-707850/2), (LCS 320-706202/2-A), (LCSD 320-706202/3-A), (MB 320-706202/1-A) and (WDM 320-707850/1)

General Chemistry

Method 1650 Rev. C: Breakthrough exceeded 25% for the following sample: DSN006 STORM POND (400-242688-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242688-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Adsorbable Organic Halides	0.079		0.020	0.0062	mg/L	1		1650 Rev. C	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET PEN
625.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET PEN
1613B	Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS	EPA	EET SAC
1650 Rev. C	Adsorbable Organic Halides (AOX)	EPA	EET SAV
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC
625	Liquid-Liquid Extraction	EPA	EET PEN
Carbon Trap	Carbon Trap Preparation	EPA-17	EET SAV

Protocol References:

EPA = US Environmental Protection Agency

EPA-17 = "Method 1650, Revision A, Adsorbable Organic Halides By Adsorption And Colormetric Titration," EPA, February 1992

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242688-1	DSN006 STORM POND	Water	08/29/23 15:10	08/30/23 11:55

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242688-1

Date Collected: 08/29/23 15:10

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.00090		0.0010	0.00090	mg/L			09/08/23 11:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	84		78 - 118					09/08/23 11:05	1
Dibromofluoromethane	107		81 - 121					09/08/23 11:05	1
Toluene-d8 (Surr)	96		80 - 120					09/08/23 11:05	1

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	<0.0015		0.0094	0.0015	mg/L		09/05/23 16:37	09/08/23 02:22	1
2,4,5-Trichlorophenol	<0.0035		0.0094	0.0035	mg/L		09/05/23 16:37	09/08/23 02:22	1
2,4,6-Trichlorophenol	<0.0024		0.0094	0.0024	mg/L		09/05/23 16:37	09/08/23 02:22	1
Pentachlorophenol	<0.0013		0.019	0.0013	mg/L		09/05/23 16:37	09/08/23 02:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	77		15 - 135				09/05/23 16:37	09/08/23 02:22	1
2-Fluorobiphenyl	89		32 - 109				09/05/23 16:37	09/08/23 02:22	1
2-Fluorophenol	62		10 - 104				09/05/23 16:37	09/08/23 02:22	1
Nitrobenzene-d5	83		31 - 111				09/05/23 16:37	09/08/23 02:22	1
Phenol-d5	46		10 - 110				09/05/23 16:37	09/08/23 02:22	1
Terphenyl-d14	108		30 - 129				09/05/23 16:37	09/08/23 02:22	1

Method: EPA 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	<0.54		9.7	0.54	pg/L		09/14/23 14:31	09/21/23 03:01	1
2,3,7,8-TCDF	<0.26		9.7	0.26	pg/L		09/14/23 14:31	09/21/23 03:01	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	75		31 - 137				09/14/23 14:31	09/21/23 03:01	1
13C-2,3,7,8-TCDF	73		29 - 140				09/14/23 14:31	09/21/23 03:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	90		42 - 164				09/14/23 14:31	09/21/23 03:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Halides (EPA 1650 Rev. C)	0.079		0.020	0.0062	mg/L		09/13/23 16:34	09/13/23 21:16	1

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Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

lient Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242688-1

Date Collected: 08/29/23 15:10

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	5 mL	5 mL	640185	09/08/23 11:05	WPD	EET PEN
Total/NA	Prep	625			265.8 mL	1 mL	639791	09/05/23 16:37	BKL	EET PEN
Total/NA	Analysis	625.1		1	0.4 mL	0.4 mL	640110	09/08/23 02:22	S1B	EET PEN
Total/NA	Prep	1613B			1032.5 mL	20.0 uL	706202	09/14/23 14:31	CGB	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	707850	09/21/23 03:01	DB	EET SAC
Total/NA	Prep	Carbon Trap			100 mL	100 mL	797827	09/13/23 16:34	JLD	EET SAV
Total/NA	Analysis	1650 Rev. C		1			798015	09/13/23 21:16	JLD	EET SAV

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

C/MS VOA

Analysis Batch: 640185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242688-1	DSN006 STORM POND	Total/NA	Water	624.1	
MB 400-640185/5	Method Blank	Total/NA	Water	624.1	
LCS 400-640185/3	Lab Control Sample	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 639791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242688-1	DSN006 STORM POND	Total/NA	Water	625	
MB 400-639791/1-A	Method Blank	Total/NA	Water	625	
LCS 400-639791/2-A	Lab Control Sample	Total/NA	Water	625	

Analysis Batch: 640110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242688-1	DSN006 STORM POND	Total/NA	Water	625.1	639791

Analysis Batch: 640117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-639791/1-A	Method Blank	Total/NA	Water	625.1	639791
LCS 400-639791/2-A	Lab Control Sample	Total/NA	Water	625.1	639791

Specialty Organics

Prep Batch: 706202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242688-1	DSN006 STORM POND	Total/NA	Water	1613B	
MB 320-706202/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-706202/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-706202/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 707850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242688-1	DSN006 STORM POND	Total/NA	Water	1613B	706202
MB 320-706202/1-A	Method Blank	Total/NA	Water	1613B	706202
LCS 320-706202/2-A	Lab Control Sample	Total/NA	Water	1613B	706202
LCSD 320-706202/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	706202

General Chemistry

Prep Batch: 797827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242688-1	DSN006 STORM POND	Total/NA	Water	Carbon Trap	
MB 680-797827/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-797827/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	

Analysis Batch: 798015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242688-1	DSN006 STORM POND	Total/NA	Water	1650 Rev. C	797827
MB 680-797827/1-A	Method Blank	Total/NA	Water	1650 Rev. C	797827
LCS 680-797827/2-A	Lab Control Sample	Total/NA	Water	1650 Rev. C	797827

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-640185/5

Matrix: Water

Analysis Batch: 640185

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.00090		0.0010	0.00090	mg/L			09/08/23 09:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	84		78 - 118		09/08/23 09:09	1
Dibromofluoromethane	105		81 - 121		09/08/23 09:09	1
Toluene-d8 (Surr)	96		80 - 120		09/08/23 09:09	1

Lab Sample ID: LCS 400-640185/3

Matrix: Water

Analysis Batch: 640185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	0.0500	0.0388		mg/L		78	70 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	90		78 - 118
Dibromofluoromethane	95		81 - 121
Toluene-d8 (Surr)	98		80 - 120

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-639791/1-A

Matrix: Water

Analysis Batch: 640117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639791

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	<0.0016		0.010	0.0016	mg/L		09/05/23 16:37	09/08/23 00:56	1
2,4,5-Trichlorophenol	<0.0037		0.010	0.0037	mg/L		09/05/23 16:37	09/08/23 00:56	1
2,4,6-Trichlorophenol	<0.0026		0.010	0.0026	mg/L		09/05/23 16:37	09/08/23 00:56	1
Pentachlorophenol	<0.0014		0.020	0.0014	mg/L		09/05/23 16:37	09/08/23 00:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		15 - 135	09/05/23 16:37	09/08/23 00:56	1
2-Fluorobiphenyl	83		32 - 109	09/05/23 16:37	09/08/23 00:56	1
2-Fluorophenol	63		10 - 104	09/05/23 16:37	09/08/23 00:56	1
Nitrobenzene-d5	73		31 - 111	09/05/23 16:37	09/08/23 00:56	1
Phenol-d5	47		10 - 110	09/05/23 16:37	09/08/23 00:56	1
Terphenyl-d14	87		30 - 129	09/05/23 16:37	09/08/23 00:56	1

Lab Sample ID: LCS 400-639791/2-A

Matrix: Water

Analysis Batch: 640117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639791

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,4,6-Tetrachlorophenol	0.120	0.101		mg/L		84	46 - 130
2,4,5-Trichlorophenol	0.120	0.0915		mg/L		76	55 - 140
2,4,6-Trichlorophenol	0.120	0.0854		mg/L		71	52 - 129
Pentachlorophenol	0.240	0.183		mg/L		76	38 - 152

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	93		15 - 135
2-Fluorobiphenyl	86		32 - 109
2-Fluorophenol	69		10 - 104
Nitrobenzene-d5	83		31 - 111
Phenol-d5	55		10 - 110
Terphenyl-d14	88		30 - 129

Method: 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS

Lab Sample ID: MB 320-706202/1-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 706202

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	<0.59		10	0.59	pg/L		09/14/23 14:31	09/20/23 21:27	1
2,3,7,8-TCDF	<0.44		10	0.44	pg/L		09/14/23 14:31	09/20/23 21:27	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	66		31 - 137				09/14/23 14:31	09/20/23 21:27	1
13C-2,3,7,8-TCDF	63		29 - 140				09/14/23 14:31	09/20/23 21:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		42 - 164				09/14/23 14:31	09/20/23 21:27	1

Lab Sample ID: LCS 320-706202/2-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 706202

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	200	198		pg/L		99	73 - 146
2,3,7,8-TCDF	200	212		pg/L		106	80 - 147
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C-2,3,7,8-TCDD	73		25 - 141				
13C-2,3,7,8-TCDF	70		26 - 126				
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
37Cl4-2,3,7,8-TCDD	89		37 - 158				

Lab Sample ID: LCSD 320-706202/3-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 706202

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	195		pg/L		97	73 - 146	2	50
2,3,7,8-TCDF	200	202		pg/L		101	80 - 147	5	50
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits						
13C-2,3,7,8-TCDD	72		25 - 141						
13C-2,3,7,8-TCDF	68		26 - 126						

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Method: 1613B - Tetra Chlorinated Dioxins & Furans ID HRGC/HRMS (Continued)

Lab Sample ID: LCSD 320-706202/3-A
Matrix: Water
Analysis Batch: 707850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 706202

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
37Cl4-2,3,7,8-TCDD	89		37 - 158

Method: 1650 Rev. C - Adsorbable Organic Halides (AOX)

Lab Sample ID: MB 680-797827/1-A
Matrix: Water
Analysis Batch: 798015

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 797827

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Adsorbable Organic Halides	<0.0062		0.020	0.0062	mg/L		09/13/23 16:34	09/13/23 18:35	1

Lab Sample ID: LCS 680-797827/2-A
Matrix: Water
Analysis Batch: 798015

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 797827

	Spike	LCS	LCS						
Analyte	Added	Result	Qualifier	Unit	D	%Rec	%Rec	Limits	
Adsorbable Organic Halides	0.100	0.0899		mg/L		90		78 - 116	



Environment Testing

[illegible]

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242688-1

SDG Number: Form 2F Table B

Login Number: 242688

List Number: 1

Creator: Roberts, Alexis J

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC not relinquished.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242688-1

SDG Number: Form 2F Table B

Login Number: 242688

List Number: 3

Creator: Simmons, Jason C

List Source: Eurofins Sacramento

List Creation: 09/01/23 11:47 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2364666
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ ($1/4''$).	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	FLGNV23001	01-08-26
USDA	US Federal Programs	P330-21-00056	05-17-24
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-24
Florida	NELAP	E87570	06-30-24
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24

Eurofins Pensacola

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242688-1
SDG: Form 2F Table B

laboratory: Eurofins Sacramento (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399-19-13	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
Wyoming	State Program	8TMS-L	01-28-19 *

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-24
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	09-21-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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**APPENDIX C -
RECEIVING STREAM WATER QUALITY MONITORING DATA**

Table C-1
Summary of Receiving Stream Water Quality Monitoring Data
International Paper - Riverdale, AL Mill

Date	Monitoring Locations Alabama River Mile (ARM)							
	ARM 221.4	ARM 219	ARM 216	ARM 212	ARM 208	ARM 204	ARM 200	ARM 196
6/19/2018	8.6	8.4	8.4	8.6	8.7	8.9	8.8	8.9
6/20/2018	8	7.8	8.2	8.4	8.2	8.8	9.3	8.4
6/26/2018	8	8	8.2	9.5	8.6	10.1	7.1	8.6
6/27/2018	7.5	7.4	7.5	7.6	7.6	8	8	7.9
7/11/2018	8	8.1	8.2	6.8	8.2	8.5	8.3	8.1
7/12/2018	7.3	7.5	8.1	7.7	7	8.2	6.5	7.9
8/27/2018	8	7.1	6.9	7.4	7.7	12.2	8.7	6.7
8/30/2018	8	7.9	7	8.6	7.9	8.8	8.2	8.4
9/4/2018	7.1	7	7.4	7.7	8.2	8	*	*
9/6/2018	6.4	6.6	6.8	6.1	6.6	7.2	6.7	6.7
9/10/2018	6.3	6.2	6.1	6.3	6.9	6.9	7	6.5
9/11/2018	7	7.7	7.1	7.4	7.7	6.1	8.2	6.5
9/17/2018	*	*	*	*	*	*	*	*
9/18/2018	7.1	7.8	8.2	7.5	8	6.9	7.3	6.7
9/24/2018	*	*	*	6.6	7.8	7.7	*	*
9/25/2018	6.4	6	5.9	6.3	5.9	6.4	7	6.1
10/1/2018	6.1	6.1	6.4	6.4	6.4	6.5	6.6	6.6
10/2/2018	6.3	6.3	6.2	6.1	5.9	6.1	6.4	6.2
7/16/2019	6.9	6.8	6.1	6.9	7.3	7.6	7.9	6.4
7/17/2019	8.3	8.3	8.6	8.6	6.9	8	9.2	9
7/22/2019	6.6	6.7	6.9	7.3	7	7.4	6.8	6.8
7/29/2019	9.2	10.5	7.8	10.4	7.6	11.7	9.8	12.6
7/30/2019	8.8	9.1	8.5	9.2	7.2	9.1	7.2	11.2
8/5/2019	8.6	9.3	7.3	6.9	6.9	10	7.4	7.7
8/6/2019	6.8	7.3	8	8.3	8.6	7.7	7	6.7
8/12/2019	7.6	7.5	7.9	8.8	6.7	8.7	8.9	8.4
8/13/2019	7.5	7.4	8	10	9.1	7.8	9	8.6
8/20/2019	8.4	8.7	8.6	9.4	7.8	8.3	9.9	6.8
8/21/2019	6.9	8	7.1	11.7	10.1	10.8	7.5	9.8
8/27/2019	6.2	6	6.3	7	6.7	6.6	5.5	5.7
8/28/2019	6.3	6.4	6.7	6.2	6.2	6.8	7.1	6.3
9/3/2019	8.2	7.8	8.2	7.3	8.3	7.7	7.5	7.8
9/4/2019	7.8	8.1	7.6	6.8	8.8	6.1	8.3	7.1
9/9/2019	9.5	8.4	6.9	9.9	9	11.2	5.9	7.9
9/11/2019	8.1	8.1	8.2	6.5	7.5	6.4	8	6.4
9/16/2019	8.4	10.4	6.7	10	10.8	11	5.7	7.2
9/18/2019	8.7	8.4	7	7	9.1	7.4	6.7	6.7
9/23/2019	8.1	9.1	9.2	7.8	7.9	6.4	6	6.3
9/25/2019	9.9	10.4	7.4	9.8	9.2	6.8	8	6.9
9/30/2019	10.8	10.2	7	10.9	8.6	8.4	8.3	6.4
10/2/2019	7.9	9	8.9	8.8	10.6	7.1	7.7	7.9
10/7/2019	7.1	6.7	6.1	7.9	5.6	6.6	5.7	6.8
10/9/2019	8.8	9.8	8.7	9.3	7.9	5.7	8	5.3

Table C-1
Summary of Receiving Stream Water Quality Monitoring Data
International Paper - Riverdale, AL Mill

Date	Monitoring Locations Alabama River Mile (ARM)							
	ARM 221.4	ARM 219	ARM 216	ARM 212	ARM 208	ARM 204	ARM 200	ARM 196
10/14/2019	7	7.2	6	6.4	6.6	6.2	6	6.6
10/16/2019	6.7	6.8	6	6.2	6.2	6.2	5.6	6.3
10/22/2019	7.6	8.2	8.6	6.9	7	6	6.2	6.2
10/23/2019	8.1	7.7	6.2	8.1	9.4	6.6	6.5	5.0
10/28/2019	8.6	8.6	8.2	7.4	8.1	7.3	7.5	7.8
10/29/2019	8.3	8.4	8.4	8.4	8.5	8.5	7.2	6.8
7/27/2020	8.4	8.8	8.4	8.1	9.3	11.7	7.5	8.9
7/28/2020	7.4	7.5	8.1	9	9.2	9.5	8	9.4
8/10/2020	6.9	7.2	7.7	8.4	8.5	9.9	6.7	9.8
8/11/2020	6.8	6.9	7.2	7.1	7.2	7.7	9.8	9.2
8/17/2020	7.4	7.7	8.4	8.2	8.2	8.6	8.5	8.1
8/18/2020	7.7	7.6	7.6	8.3	7.4	8	7.4	7.6
9/15/2020	6.7	6.7	6.6	7.3	7.5	7.1	7.8	8.1
9/17/2020	8.1	8.2	8.1	8	7.8	7.6	7.5	7.7
6/28/2022	7.2	7.1	6.5	8.7	9.4	9.2	6.5	9.5
6/30/2022	6.6	6.3	6.8	6.5	6.5	7.1	7.4	6.7
7/12/2022	7.3	7.1	7.2	8.1	7.9	9	7.2	8.5
7/13/2022	6.8	6.9	6.4	7.2	6.3	6.5	7	7.6
7/26/2022	7.3	6.8	5.3	7.5	6.9	6.9	6.5	7.7
7/27/2022	7	7.2	5.9	9.7	5.4	6.4	6.4	7.3
8/31/2022	6.4	6.8	6.4	6.1	6.1	6.2	5.9	6.4
9/1/2022	7.5	7.5	8.3	8.8	6.9	6.8	10.1	7.1
9/6/2022	6	6.1	6.2	6.2	6.1	6	5.9	5.8
9/7/2022	6.8	6.8	6.6	6.5	6.3	6	5.7	5.3
9/13/2022	8	8.2	8.4	7.8	8.5	7.7	7.3	7.7
9/20/2022	10.3	10.4	9.1	9.3	7.4	7.2	9.8	7.7
9/21/2022	8.1	11.1	12.5	13.6	10.2	12.5	8.6	8.5
9/27/2022	7.1	7	6.9	9	8.6	9.5	7.9	7.9
9/28/2022	8.4	7.1	7.3	6.8	7.4	7.8	7.8	8.1
10/5/2022	9.2	10.3	8.8	8.2	9.6	12.1	8.4	10.7
10/6/2022	8.9	8.3	8.8	8.2	6.1	6	5.9	5.8
10/18/2022	8.6	8.8	8.5	9.4	8.5	7.7	7.4	8
10/19/2022	8.7	9.1	8.7	8.6	8.9	8.3	7.6	8.2
10/26/2022	8	8.4	8.2	8.5	8.2	7.9	8.2	8.1
10/27/2022	8.4	8.5	8.6	8.9	8.7	8.8	8.4	8.6
7/25/2023	6	5.9	5.9	6.2	5.6	6.2	6.1	6.2
7/26/2023	7.4	7	6.1	7.7	7.3	6	5.6	6.1

*Lightning/thunderstorms prevented monitoring.

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3D TRASAR™ 3DT230

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 3D TRASAR™ 3DT230

Other means of identification : Not applicable.

Recommended use : COOLING WATER INHIBITOR

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : Nalco Company
1601 W. Diehl Road
Naperville, Illinois 60563-1198
USA
TEL: (630) 305-1000

Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC

Issuing date : 01/17/2020

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion : Category 1A
Serious eye damage : Category 1

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Causes severe skin burns and eye damage.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection. Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 or doctor/ physician. Wash contaminated clothing before reuse.

Storage:

Store locked up.

Disposal:

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Dispose of contents/ container to an approved waste disposal plant.

Other hazards : Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Phosphoric Acid	7664-38-2	1 - 5
Sulfuric Acid	7664-93-9	1 - 5
Benzotriazole	95-14-7	1 - 5

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials: Carbon oxides
Oxides of phosphorus

Special protective equipment : Use personal protective equipment.

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for firefighters

Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling : Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation. Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Conditions for safe storage : Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.

Suitable material : The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

Unsuitable material : not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Phosphoric Acid	7664-38-2	TWA	1 mg/m3	ACGIH
		STEL	3 mg/m3	ACGIH
		TWA	1 mg/m3	NIOSH REL
		STEL	3 mg/m3	NIOSH REL
		TWA	1 mg/m3	OSHA Z1
Sulfuric Acid	7664-93-9	TWA (Thoracic fraction)	0.2 mg/m3	ACGIH
		TWA	1 mg/m3	NIOSH REL

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		TWA	1 mg/m3	OSHA Z1
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Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Colour : Clear to slightly hazy yellow to brown

Odour : Organic

Flash point : does not flash

pH : 0.8,(100 %)

Odour Threshold : no data available

Melting point/freezing point : Freezing Point: -3.6 °C, ASTM D-1177

Initial boiling point and boiling range : no data available

Evaporation rate : no data available

Flammability (solid, gas) : Not applicable.

Upper explosion limit : no data available

Lower explosion limit : no data available

Vapour pressure : 7.5 hPa, (0 °C), ASTM D-2879,
25.3 hPa, (20 °C),

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	64.0 hPa, (37.8 °C),
	240 hPa, (65.6 °C),
	706 hPa, (93.3 °C),
	1,010 hPa, (103.3 °C),
Relative vapour density	: no data available
Relative density	: 1.1, (15.5 °C),
Density	: 1.10 g/cm ³ , 9.2 lb/gal
Water solubility	: completely soluble
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: 4.23 mPa.s (20 °C)
Viscosity, kinematic	: no data available
Molecular weight	: no data available
VOC	: 0 %, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	: Extremes of temperature
Incompatible materials	: Strong bases
Hazardous decomposition products	: Decomposition products may include the following materials: Carbon oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	: Causes serious eye damage.
Skin	: Causes severe skin burns.
Ingestion	: Causes digestive tract burns.

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Inhalation : May cause nose, throat, and lung irritation.
Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Corrosion
Skin contact : Redness, Pain, Corrosion
Ingestion : Corrosion, Abdominal pain
Inhalation : Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity : Acute toxicity estimate: > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Acute dermal toxicity : no data available
Skin corrosion/irritation : no data available
Serious eye damage/eye irritation : no data available
Respiratory or skin sensitization : no data available
Carcinogenicity : no data available
Reproductive effects : no data available
Germ cell mutagenicity : no data available
Teratogenicity : no data available
STOT - single exposure : no data available
STOT - repeated exposure : no data available
Aspiration toxicity : no data available

Components

Acute dermal toxicity : Phosphoric Acid
LD50 rabbit: > 2,000 mg/kg
Benzotriazole
LD50 rabbit: > 10,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

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Product

Toxicity to fish : LC50 Pimephales promelas (fathead minnow): 3,415 mg/l
Exposure time: 96 h
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 2,500 mg/l
Exposure time: 96 h
Test substance: Product

LC50 Oncorhynchus mykiss (rainbow trout): 1,472 mg/l
Exposure time: 96 h
Test substance: Product

NOEC Oncorhynchus mykiss (rainbow trout): 1,200 mg/l
Exposure time: 96 h
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : NOEC Ceriodaphnia dubia: 1,250 mg/l
Exposure time: 48 h
Test substance: Product

LC50 Ceriodaphnia dubia: 1,768 mg/l
Exposure time: 48 h
Test substance: Product

Components

Toxicity to algae : Phosphoric Acid
EC50 Desmodesmus subspicatus (green algae): > 100 mg/l
Exposure time: 72 h

Benzotriazole
EC50 algae: 15.4 mg/l
Exposure time: 72 h

Components

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Benzotriazole
NOEC: 0.97 mg/l
Exposure time: 21 d

Persistence and degradability

The organic portion of this preparation is expected to be inherently biodegradable.

Total Organic Carbon (TOC) : 46,000 mg/l

Chemical Oxygen Demand (COD): 150,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period

Value

Test Descriptor

300 mg/l

Mobility

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The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.

If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	: <5%
Water	: 30 - 50%
Soil	: 50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Disposal methods	: Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	: 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

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

Proper shipping name	: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name(s)	: PHOSPHORIC ACID, SULFURIC ACID
UN/ID No.	: UN 3264
Transport hazard class(es)	: 8
Packing group	: III
Reportable Quantity (per package)	: 53,642 lbs
RQ Component	: SULFURIC ACID

Air transport (IATA)

Proper shipping name	: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
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Technical name(s) : PHOSPHORIC ACID, SULFURIC ACID
UN/ID No. : UN 3264
Transport hazard class(es) : 8
Packing group : III
Reportable Quantity (per package) : 53,642 lbs
RQ Component : SULFURIC ACID

Sea transport (IMDG/IMO)

Proper shipping name : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name(s) : PHOSPHORIC ACID, SULFURIC ACID
UN/ID No. : UN 3264
Transport hazard class(es) : 8
Packing group : III

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sulfuric Acid	7664-93-9	1000	53642

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sulfuric Acid	7664-93-9	1000	53642

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

Sulfuric Acid 7664-93-9

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Sulfuric Acid 7664-93-9 1.8642 %

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.

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INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On or in compliance with the active portion of the TSCA inventory

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Korea. Korean Existing Chemicals Inventory (KECI)

All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

Japan. ENCS - Existing and New Chemical Substances Inventory

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Australia. Industrial Chemical (Notification and Assessment) Act

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

China Inventory of Existing Chemical Substances

All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

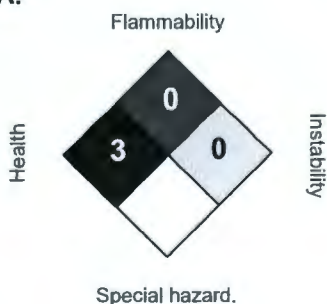
This product contains substance(s) which are not in compliance with the Republic Act 6969 (RA 6969) and may require additional review.

Taiwan Chemical Substance Inventory

All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 01/17/2020
Version Number : 1.9
Prepared By : Regulatory Affairs

SAFETY DATA SHEET

3D TRASAR™ 3DT230

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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. For additional copies of an SDS visit www.nalco.com and request access.

SAFETY DATA SHEET

NALCO® 7384

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NALCO® 7384

Other means of identification : Not applicable.

Recommended use : CORROSION INHIBITOR

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : Nalco Company
1601 W. Diehl Road
Naperville, Illinois 60563-1198
USA
TEL: (630) 305-1000

Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC

Issuing date : 02/06/2020

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary Statements : **Prevention:**
Do not eat, drink or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. 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 or doctor/ physician.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

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NALCO® 7384

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Zinc Chloride	7646-85-7	60 - 100

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Hydrogen chloride metal oxides

Special protective equipment for firefighters : Use personal protective equipment.

SAFETY DATA SHEET

NALCO® 7384

Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling : Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.

Conditions for safe storage : Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.

Suitable material : The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

Unsuitable material : The following compatibility data is suggested based on similar product data and/or industry experience: Metals

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Zinc Chloride	7646-85-7	TWA (Fumes)	1 mg/m3	OSHA Z1
		TWA (Fumes)	1 mg/m3	ACGIH
		STEL (Fumes)	2 mg/m3	ACGIH
		TWA (Fumes)	1 mg/m3	NIOSH REL
		STEL (Fumes)	2 mg/m3	NIOSH REL

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

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Personal protective equipment

- Eye protection : Safety goggles
Face-shield
- Hand protection : Wear protective gloves.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
- Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid
- Colour : colourless to light yellow
- Odour : None
- Flash point : Will not burn: inorganic or water-based product
- pH : 1 - 2, Neat
- Odour Threshold : no data available
- Melting point/freezing point : < -29 °C, ASTM D-1177
- Initial boiling point and boiling range : 135 °C, Method: ASTM D 86
- Evaporation rate : no data available
- Flammability (solid, gas) : Not applicable.
- Upper explosion limit : no data available
- Lower explosion limit : no data available
- Vapour pressure : no data available
- Relative vapour density : no data available
- Relative density : ≥ 1.785 , (15.6 °C),
- Density : 1.79 g/cm³ , 14.9 - 15 lb/gal
- Water solubility : completely soluble
- Solubility in other solvents : no data available

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Partition coefficient: n-octanol/water : no data available
Auto-ignition temperature : no data available
Thermal decomposition : no data available
Viscosity, dynamic : no data available
Viscosity, kinematic : no data available
Molecular weight : no data available
VOC : 0 %, 0 g/l, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Gives off hydrogen by reaction with metals.
Conditions to avoid : None known.
Incompatible materials : Strong bases
Hazardous decomposition products : In case of fire, hazardous decomposition products may be produced such as:
Hydrogen chloride
metal oxides

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes : Causes serious eye damage.
Skin : Causes severe skin burns.
Ingestion : Harmful if swallowed. Causes digestive tract burns.
Inhalation : May cause nose, throat, and lung irritation.
Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Corrosion
Skin contact : Redness, Pain, Corrosion
Ingestion : Corrosion, Abdominal pain

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Inhalation : Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity : Acute toxicity estimate: 1,184 mg/kg
Acute inhalation toxicity : no data available
Acute dermal toxicity : no data available
Skin corrosion/irritation : no data available
Serious eye damage/eye irritation : no data available
Respiratory or skin sensitization : no data available
Carcinogenicity : no data available
Reproductive effects : No toxicity to reproduction
Germ cell mutagenicity : Contains no ingredient listed as a mutagen
Teratogenicity : no data available
STOT - single exposure : no data available
STOT - repeated exposure : no data available
Aspiration toxicity : No aspiration toxicity classification

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : Very toxic to aquatic life with long lasting effects.

Product

Toxicity to fish : LC50 Rainbow Trout: 1.13 mg/l
Exposure time: 96 hrs
Test substance: Tested in Soft Water (40-48 mg/L as CaCO₃)
Test Type: Flow-through

LC50 Fathead Minnow: 1.83 mg/l
Exposure time: 96 hrs
Test substance: Tested in Soft Water (40-48 mg/L as CaCO₃)
Test Type: Flow-through

LC50 Rainbow Trout: 5.78 mg/l
Exposure time: 96 hrs
Test substance: Tested in Hard Water (160-180 mg/L as CaCO₃)
Test Type: Flow-through

LC50 Fathead Minnow: 24.96 mg/l
Exposure time: 96 hrs
Test substance: Tested in Hard Water (160-180 mg/L as

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CaCO₃)
Test Type: Flow-through

LC50 Bluegill Sunfish: 5 - 18.5 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Rainbow Trout: 0.8 - 1.8 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Menidia peninsulæ: 18.8 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna: 0.85 mg/l
Exposure time: 48 hrs
Test substance: Tested in Soft Water (40-48 mg/L as CaCO₃)
Test Type: Static

LC50 Daphnia magna: 2.43 mg/l
Exposure time: 48 hrs
Test substance: Tested in Hard Water (160-180 mg/L as CaCO₃)
Test Type: Flow-through

LC50 Daphnia magna: 0.15 - 0.9 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Mysid Shrimp (Mysidopsis bahia): 1.7 mg/l
Exposure time: 48 hrs
Test substance: Product

Persistence and degradability

The product does not contain any organic substances.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.

If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	: <5%
Water	: 30 - 50%
Soil	: 50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

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no data available

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

- Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
- Disposal considerations : 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

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

- Proper shipping name : ZINC CHLORIDE, SOLUTION
- Technical name(s) :
- UN/ID No. : UN 1840
- Transport hazard class(es) : 8
- Packing group : III
- Reportable Quantity (per package) : 1,600 lbs
- RQ Component : Zinc Chloride

Air transport (IATA)

- Proper shipping name : ZINC CHLORIDE, SOLUTION
- Technical name(s) :
- UN/ID No. : UN 1840
- Transport hazard class(es) : 8
- Packing group : III
- Reportable Quantity (per package) : 1,600 lbs
- RQ Component : Zinc Chloride

Sea transport (IMDG/IMO)

- Proper shipping name : ZINC CHLORIDE, SOLUTION
- Technical name(s) :
- UN/ID No. : UN 1840
- Transport hazard class(es) : 8

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Packing group : III

*Marine pollutant : Zinc Chloride

* Note: This product is regulated as a Marine Pollutant when shipped by Rail or Highway (in bulk quantities), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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	1600

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Zinc Chloride	7646-85-7	50 - 70 %
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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.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Australia. Industrial Chemical (Notification and Assessment) Act

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory

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All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Korea. Korean Existing Chemicals Inventory (KECI)

All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

China Inventory of Existing Chemical Substances

All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand

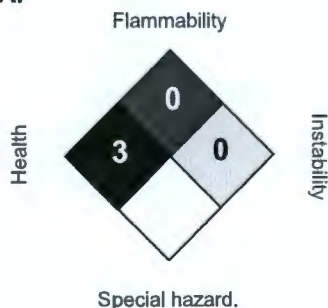
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996, and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Taiwan Chemical Substance Inventory

All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 02/06/2020
Version Number : 1.4
Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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. For additional copies of an SDS visit www.nalco.com and request access.

SAFETY DATA SHEET

CL-50

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CL-50

Other means of identification : Not applicable.

Recommended use : CORROSION INHIBITOR

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : Nalco Company
1601 W. Diehl Road
Naperville, Illinois 60563-1198
USA
TEL: (630) 305-1000

Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC

Issuing date : 01/27/2022

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

No hazardous ingredients

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse with plenty of water. Get medical attention if symptoms occur.

In case of skin contact : Wash off with soap and plenty of water. Get medical attention if symptoms occur.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Get medical attention if symptoms occur.

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- Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
- Notes to physician : Treat symptomatically.
- Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : None known.
- Specific hazards during firefighting : Not flammable or combustible.
- Hazardous combustion products : Decomposition products may include the following materials: Oxides of phosphorus
- Special protective equipment for firefighters : Use personal protective equipment.
- Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section: 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : No special environmental precautions required.
- Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

- Advice on safe handling : For personal protection see section 8. Wash hands after handling.
- Conditions for safe storage : Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.

SAFETY DATA SHEET

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Suitable material : The following compatibility data is suggested based on similar product data and/or industry experience: HDPE (high density polyethylene), Stainless Steel 304, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

Unsuitable material : not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : Safety glasses

Hand protection : Wear protective gloves.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Wear suitable protective clothing.

Respiratory protection : No personal respiratory protective equipment normally required.

Hygiene measures : Wash hands before breaks and immediately after handling the product.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Colour : colourless

Odour : odourless

Flash point : does not flash

pH : 6.0 - 7.0, (100 %), (25 °C)

Odour Threshold : no data available

Melting point/freezing point : no data available

Initial boiling point and boiling range : > 100 °C

Evaporation rate : similar to water

Flammability (solid, gas) : Not applicable.

Upper explosion limit : no data available

Lower explosion limit : no data available

SAFETY DATA SHEET

CL-50

Vapour pressure	: similar to water
Relative vapour density	: no data available
Relative density	: 1.37 - 1.42, (25 °C),
Density	: 11.4 - 11.8 lb/gal
Water solubility	: completely soluble
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: Not flammable
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available
Molecular weight	: no data available
VOC	: 0 %, 0 g/l, Calculation method

Section: 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: None known.
Incompatible materials	: None known
Hazardous decomposition products	: In case of fire, hazardous decomposition products may be produced such as: Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	: Health injuries are not known or expected under normal use.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

SAFETY DATA SHEET

CL-50

Experience with human exposure

Eye contact : No symptoms known or expected.
Skin contact : No symptoms known or expected.
Ingestion : No symptoms known or expected.
Inhalation : No symptoms known or expected.

Toxicity

Product

Acute oral toxicity : no data available
Acute inhalation toxicity : no data available
Acute dermal toxicity : no data available
Skin corrosion/irritation : Species: Rabbit
Result: 0.2
Method: Draize Test
Test substance: Product
Serious eye damage/eye irritation : Species: rabbit
Result: 0.0 - 4
Method: Draize Test
Test substance: Product
Respiratory or skin sensitization : no data available
Carcinogenicity : no data available
Reproductive effects : No reproductive toxic effects expected.
Germ cell mutagenicity : Based on available data, the classification criteria are not met.
Teratogenicity : no data available
STOT - single exposure : no data available
STOT - repeated exposure : no data available
Aspiration toxicity : no data available

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : LC50 Pimephales promelas (fathead minnow): 1,162 mg/l
Exposure time: 96 hrs
Test substance: Product
Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): > 1,000 mg/l
Exposure time: 48 hrs

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CL-50

Test substance: Product

EC50 Daphnia magna (Water flea): 910 mg/l

Exposure time: 48 hrs

Test substance: Product

NOEC Daphnia magna (Water flea): 400 mg/l

Exposure time: 48 hrs

Test substance: Product

EC50 Ceriodaphnia dubia: 884 mg/l

Exposure time: 48 hrs

Test substance: Product

LC50 Ceriodaphnia dubia: 915 mg/l

Exposure time: 48 hrs

Test substance: Product

NOEC Ceriodaphnia dubia: 625 mg/l

Exposure time: 48 hrs

Test substance: Product

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

Total Organic Carbon (TOC) : 12 mg/l

Chemical Oxygen Demand (COD): 32 mg/l

Mobility

High phosphate levels in surface water can cause eutrophication with subsequent algal blooms and oxygen depletion.

Air :
Water :
Soil :

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations
Dispose of wastes in an approved waste disposal facility.

SAFETY DATA SHEET

CL-50

Disposal considerations : 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

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

|| Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On or in compliance with the active portion of the TSCA inventory

SAFETY DATA SHEET

CL-50

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

China Inventory of Existing Chemical Substances

All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

Japan. ENCS - Existing and New Chemical Substances Inventory

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)

All substances in this product comply with the Australian Industrial Chemicals Introduction Scheme (AICIS)

Korea. Korean Existing Chemicals Inventory (KECI)

All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

Taiwan Chemical Substance Inventory

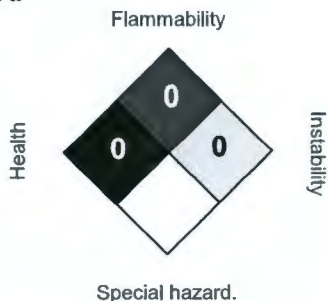
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand

All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996, and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 01/27/2022
Version Number : 2.0
Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

SAFETY DATA SHEET

CL-50

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. For additional copies of an SDS visit www.nalco.com and request access.

SAFETY DATA SHEET

TOWERBROM™ 991

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TOWERBROM™ 991

Other means of identification : Not applicable.

Recommended use : MICROBIOLOGICAL INDUSTRIAL CONTROL

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : Nalco Company
1601 W. Diehl Road
Naperville, Illinois 60563-1198
USA
TEL: (630)305-1000

Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC

Issuing date : 05/06/2019

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solids : Category 2

Acute toxicity (Oral) : Category 3

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Dermal) : Category 4

Skin corrosion : Category 1A

Serious eye damage : Category 1

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS Label element

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : May intensify fire; oxidiser.
Toxic if swallowed.
Harmful in contact with skin or if inhaled
Causes severe skin burns and eye damage.
May cause respiratory irritation.

Precautionary Statements : **Prevention:**
Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe dusts or mists. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

SAFETY DATA SHEET

TOWERBROM™ 991

Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 or doctor/ physician. Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Trichloro-S-Triazinetrione	87-90-1	92.9
Sodium Bromide	7647-15-6	6.9

Section: 4. FIRST AID MEASURES

In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
In case of skin contact	: Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
If swallowed	: Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
If inhaled	: Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
Protection of first-aiders	: In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	: Treat symptomatically.
Most important symptoms and effects, both acute and delayed	: See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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- Unsuitable extinguishing media : None known.
- Specific hazards during firefighting : Oxidizer. Contact with other material may cause fire.
- Hazardous combustion products : Carbon oxides
- Special protective equipment for firefighters : Use personal protective equipment.
- Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Do not allow contact with soil, surface or ground water.

Section: 7. HANDLING AND STORAGE

- Advice on safe handling : Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
- Conditions for safe storage : Keep in a cool, well-ventilated place. Keep away from reducing agents. Keep away from combustible material. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
- Suitable material : Keep in properly labelled containers.
- Unsuitable material : not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

This product does not contain any substances with occupational exposure limits (OELs), however the manufacturer recommended advisory (non-regulatory) exposure limit for the product is 0.5 mg/m³ 8 hour Time Weighted Average (TWA).

- Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

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Eye protection	: Safety goggles Face-shield
Hand protection	: Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	: Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
Respiratory protection	: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Tablet
Colour	: off-white
Odour	: Slight Pungent, Halogen
Flash point	: Not applicable.
pH	: 3.0 - 3.5,(1 %), (25 °C)
Odour Threshold	: no data available
Melting point/freezing point	: MELTING POINT: > 225 °C, Decomposes
Initial boiling point and boiling range	: > 225 °C, Decomposes on heating.
Evaporation rate	: no data available
Flammability (solid, gas)	: no data available
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: no data available
Relative density	: no data available
Density	: no data available
Water solubility	: 0.12 g/l (25 °C)
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available

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Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available
Molecular weight	: no data available
VOC	: 0 %

Section: 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: Do not allow water to enter container.
Incompatible materials	: Contact with strong alkalis (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors. : Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. : Do not bring in contact with organic materials and reducing agents. Acids Bases
Hazardous decomposition products	: Oxides of nitrogen (NO _x), disodium oxide, bromine, and traces of phosgene (under fire conditions); chlorine (released in presence of moisture) and other chlorine containing compounds; hypobromous acid, hypochlorous acid, and cyanuric acid (released when dissolved in water); nitrogen trichloride, an explosion hazard (generated slowly by the reaction of small quantities of water with high concentration of this product).

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Eye contact, Skin contact

Potential Health Effects

Eyes	: Causes serious eye damage.
Skin	: Causes severe skin burns. Harmful in contact with skin.
Ingestion	: Toxic if swallowed. Causes digestive tract burns.
Inhalation	: Harmful if inhaled. May cause respiratory tract irritation. May cause nose, throat, and lung irritation.
Chronic Exposure	: Health injuries are not known or expected under normal use.

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Experience with human exposure

Eye contact	: Redness, Pain, Corrosion
Skin contact	: Redness, Pain, Corrosion
Ingestion	: Corrosion, Abdominal pain
Inhalation	: Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	: LD50 rat: 840 mg/kg Test substance: Hazardous component LD50 rat: 200 mg/kg Test substance: Product
Acute inhalation toxicity	: LC50 rat: 15 mg/l Exposure time: 4 hrs Test atmosphere: vapour Test substance: Product
Acute dermal toxicity	: LD50 rabbit: 1,500 mg/kg
Skin corrosion/irritation	: Result: Corrosive
Serious eye damage/eye irritation	: Result: Corrosive
Respiratory or skin sensitization	: no data available
Carcinogenicity	: no data available
Reproductive effects	: no data available
Germ cell mutagenicity	: no data available
Teratogenicity	: no data available
STOT - single exposure	: no data available
STOT - repeated exposure	: no data available
Aspiration toxicity	: no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	: Very toxic to aquatic life with long lasting effects.
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Product

Toxicity to fish	: LC50 Inland Silverside: 1.0 mg/l Exposure time: 96 hrs Test substance: Product
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LC50 Pimephales promelas (fathead minnow): 0.26 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Mysid Shrimp (Mysidopsis bahia): 1.6 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Daphnia magna (Water flea): 0.93 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to algae : LC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 0.2 mg/l
Exposure time: 96 hrs
Test substance: Product

Persistence and degradability

The organic content of the product is biological degradable.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.

If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air : <5%
Water : 30 - 50%
Soil : 50 - 70%

Bioaccumulative potential

The product will not bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: : D001, D003

Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in

SAFETY DATA SHEET

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an approved waste disposal facility.

Disposal considerations : 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

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name : TRICHLOROISOCYANURIC ACID, DRY, MIXTURE
Technical name(s) : Trichloro-S-Triazinetrione
UN/ID No. : UN 2468
Transport hazard class(es) : 5.1
Packing group : II

Air transport (IATA)

Proper shipping name : TRICHLOROISOCYANURIC ACID, DRY, MIXTURE
Technical name(s) : Trichloro-S-Triazinetrione
UN/ID No. : UN 2468
Transport hazard class(es) : 5.1
Packing group : II

Sea transport (IMDG/IMO)

Proper shipping name : TRICHLOROISOCYANURIC ACID, DRY, MIXTURE
Technical name(s) : Trichloro-S-Triazinetrione
UN/ID No. : UN 2468
Transport hazard class(es) : 5.1
Packing group : II

*Marine pollutant : Trichloro-S-Triazinetrione

* Note: This product is regulated as a Marine Pollutant when shipped by Rail or Highway (in bulk quantities), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

EPA Reg. No. : 935-75-1706

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

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SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Oxidiser (liquid, solid or gas)
Specific target organ toxicity (single or repeated exposure)
Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Skin corrosion or irritation

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

Australia. Industrial Chemical (Notification and Assessment) Act

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

Canadian Domestic Substances List (DSL)

Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

Japan. ENCS - Existing and New Chemical Substances Inventory

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Korea. Korean Existing Chemicals Inventory (KECI)

All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

China Inventory of Existing Chemical Substances

All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

SAFETY DATA SHEET

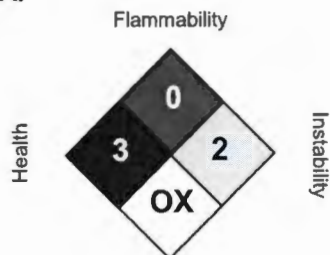
TOWERBROM™ 991

Taiwan Chemical Substance Inventory

All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	2

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 05/06/2019
Version Number : 1.3
Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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. For additional copies of an SDS visit www.nalco.com and request access.



RIVERDALE MILL
601 COUNTY ROAD 78
SELMA, AL 36703-8311
PHONE 334-872-3481

November 15, 2023

Alabama Department of Environmental Management (ADEM)

Post Office Box 301463

Montgomery, AL 36130-1463

ATTN: Scott Jackson, Water Division

**RE: International Paper – Riverdale Mill
National Pollution Discharge Elimination System Permit No. AL0003018
Addendum to Renewal Application**

Dear Mr. Jackson:

International Paper (IP) owns and operates a Kraft pulp and paper mill (Mill) in Selma, AL along the Alabama River. The Mill currently operates pursuant to National Pollution Discharge Elimination System (NPDES) Permit No. AL0003018, which expires on March 31, 2024. The renewal application was submitted 180 days prior to the expiration date on October 3, 2023.

The Mill was unable to submit a complete United States (U.S.) Environmental Protection Agency (EPA) Form 2F due to delayed sample results from the contract lab. Those results have been received and are included in the attached U.S. EPA Form 2F. The original contracted lab was unable to test for the following compounds:

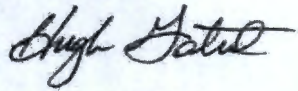
- 3,4,6-Trichloroguaiacol
- 3,4,6-Trichlorocatechol
- 3,4,5-Trichloroguaiacol
- 3,4,5-Trichlorocatechol
- Tetrachloroguaiacol
- Tetrachlorocatechol
- Trichlorosyringol
- 4,5,6-Trichloroguaiacol

The Mill had to re-sample the stormwater outfalls, which included waiting for a rain event to occur, and contract with another laboratory that could run the analyses. The sampling occurred on October 11, 2023, results have been received, and included in the attached U. S. EPA Form 2F. Attachment 2 contains all of the laboratory analytical data received after the October 3rd submittal as well as the re-sampling of the stormwater outfalls on October 11th.

Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

If you have any questions or require additional information, please contact me by phone at 334-418-5232 or by email at Hugh.Gatwood@ipaper.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Hugh Gatwood", with a stylized, cursive script.

Hugh Gatwood
Environmental Manager

cc: Carla Pearson – International Paper
Susie Bowden – ALL4 LLC

Attachments: Attachment 1 – U.S. EPA Form 2F
Attachment 2 – Laboratory Analytical Data

ATTACHMENT 1 – U.S. EPA FORM 2F

EPA Identification Number ALD000645457		NPDES Permit Number AL0003018		Facility Name International Paper - Riverdale		Form Approved 03/05/19 OMB No. 2040-0004	
Form 2F NPDES		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	
	DSN004	Untitled tributary - AL River	32°	25'	23"	86°	52' 31"
	DSN005	Untitled tributary - AL River	32°	25'	15"	86°	52' 26"
	DSN006	Untitled tributary - AL River	32°	25'	17"	86°	52' 15"
			°	'	"	°	' "
			°	'	"	°	' "
			°	'	"	°	' "
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						

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale
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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)																								
		DSN004	8 <i>specify units</i> Acres	13 <i>specify units</i> Acres																								
		DSN005	12 <i>specify units</i> Acres	18 <i>specify units</i> Acres																								
		DSN006	29 <i>specify units</i> Acres	55 <i>specify units</i> Acres																								
			<i>specify units</i>		<i>specify units</i>																							
			<i>specify units</i>		<i>specify units</i>																							
			<i>specify units</i>		<i>specify units</i>																							
	4.2	Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.) Any liquid or solid chemical storage, usage, loading and unloading area in DSN004 drainage area has secondary containment or drains to a process sewer that flows to the effluent treatment system and DSN002/003. There are no chemical storage, use, or unloading areas that drain to DSN005. However, a firewater storage tank in this area can drain clean mill firewater to this outfall if the tank leaks or overflows. A diesel fuel storage tank, located next to this tank, has secondary containment capable of holding 110% of its volume. The area where trucks are loaded with paper for offsite shipment drains to DSN005. Vehicular fuel and deinking chemicals in the liquid and solid form are stored, used, loaded and unloaded in the area that drains to DSN006. Vehicular fuel tank has containment with valve that discharges to wastewater treatment.																										
	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.) <table border="1"> <thead> <tr> <th colspan="3">Stormwater Treatment</th> </tr> <tr> <th>Outfall Number</th> <th>Control Measures and Treatment</th> <th>Codes from Exhibit 2F-1 (list)</th> </tr> </thead> <tbody> <tr> <td></td> <td>See Attachment</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Stormwater Treatment			Outfall Number	Control Measures and Treatment	Codes from Exhibit 2F-1 (list)		See Attachment															
Stormwater Treatment																												
Outfall Number	Control Measures and Treatment	Codes from Exhibit 2F-1 (list)																										
	See Attachment																											

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale
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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		
		Michael Closson	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
			See Attachment		

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. No significant leaks or spills of toxic or hazardous pollutants have occurred at the facility in 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

EPA Identification Number ALD000645457		NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Form Approved 03/05/19 OMB No. 2040-0004
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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	

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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?
				☐ Yes ☐ No
				☐ 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	Eurofins Pensacola	ALS Environmental	
	Laboratory address	3355 McLemore Drive Pensacola, FL 32514	1317 South 13th Avenue Kelso, WA 98626	
	Phone number	(850) 474-1001	(360) 577-7222	
Pollutant(s) analyzed	Form 2F Table A through Table C Section 1-5	Form 2F Table B (partial)		

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale
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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>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
		Name (print or type first and last name) Michael Closson	Official title Mill Manager
	Signature	Date signed	

EPA Identification Number ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number DSN004
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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	<1.8 mg/L		--		1	
2. Biochemical oxygen demand (BOD ₅)	9.7 mg/L	N/A	--	--	1	
3. Chemical oxygen demand (COD)	55 mg/L	N/A	--	--	1	
4. Total suspended solids (TSS)	10 mg/L	N/A	--	--	1	
5. Total phosphorus	0.10 mg/L	N/A	--	--	1	
6. Total Kjeldahl nitrogen (TKN)	1.7 mg/L	N/A	--	--	1	
7. Total nitrogen (as N)	1.7 mg/L	N/A	--	--	1	
8. pH (minimum)	7.9 S.U.		--		1	
	pH (maximum)		--		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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number DSN004
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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		
Adsorbable Organic Halogens (AOX)	0.28 mg/L	N/A	--	--	1	
2,4,5-Trichlorophenol	<0.0038 mg/L	N/A	--	--	1	
2,4,6-Trichlorophenol	<0.0027 mg/L	N/A	--	--	1	
Pentachlorophenol	<0.0014 mg/L	N/A	--	--	1	
Chloroform	<0.00090 mg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzofuran (TCDF)	<0.30 pg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD)	<0.38 pg/L	N/A	--	--	1	
3,4,6-Trichloroguaiacol	ND	N/A	--	--	1	
3,4,6-Trichlorocatechol	ND	N/A	--	--	1	
3,4,5-Trichloroguaiacol	ND	N/A	--	--	1	
3,4,5-Trichlorocatechol	ND	N/A	--	--	1	
Tetrachloroguaiacol	ND	N/A	--	--	1	
Tetrachlorocatechol	ND	N/A	--	--	1	
Trichlorosyringol	ND	N/A	--	--	1	
4,5,6-Trichloroguaiacol	ND	N/A	--	--	1	
2,3,4,6-Tetrachlorophenol	<0.0016 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number DSN004
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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		
Total Residual Chlorine	<0.057 mg/L	N/A	--	--	1	
Color, ADMI	64 Color Units	N/A	--	--	1	
Fecal Coliform	4200 CFU/100mL	N/A	--	--	1	
Total Organic Nitrogen (TON)	1.7 mg/L	N/A	--	--	1	
Ammonia as Nitrogen, NH3-N	0.037 mg/L	N/A	--	--	1	
Total Alpha	2.50 pCi/L	N/A	--	--	1	
Total Beta	2.52 pCi/L	N/A	--	--	1	
Total Radium	0.0426 pCi/L	N/A	--	--	1	
Total Radium 226	0.118 pCi/L	N/A	--	--	1	
Sulfate (as SO4)	17 mg/L	N/A	--	--	1	
Surfactants	0.11 mg/L	N/A	--	--	1	
Total Aluminum	0.17 mg/L	N/A	--	--	1	
Total Iron	0.36 mg/L	N/A	--	--	1	
Total Magnesium	7.1 mg/L	N/A	--	--	1	
Total Zinc	0.012 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility name International Paper - Riverdale	Outfall Number DSN004	Form Approved 03/05/19 OMB No. 2040-0004	
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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)
08/29/2023	0.75-1 hour	1/4 inch	N/A	N/A	N/A
10/11/2023	1 hour	1/10 inch	N/A	N/A	N/A

Provide a description of the method of flow measurement or estimate. Because the discharge at this outfall is a controlled release, and stormwater is collected and stored for a period greater than 24 hours prior to discharge, a composite sample was not required.
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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	<1.5 mg/L		--		1	
2.	Biochemical oxygen demand (BOD ₅)	3.4 mg/L	N/A	--	--	1	
3.	Chemical oxygen demand (COD)	25 mg/L	N/A	--	--	1	
4.	Total suspended solids (TSS)	19 mg/L	N/A	--	--	1	
5.	Total phosphorus	0.14 mg/L	N/A	--	--	1	
6.	Total Kjeldahl nitrogen (TKN)	0.96 mg/L	N/A	--	--	1	
7.	Total nitrogen (as N)	1.4 mg/L	N/A	--	--	1	
8.	pH (minimum)	7.4 S.U.		--		1	
	pH (maximum)	7.4 S.U.		--		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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number DSN005
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Form Approved 03/05/19
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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		
Adsorbable Organic Halogens (AOX)	0.10 mg/L	N/A	--	--	1	
2,4,5-Trichlorophenol	<0.0035 mg/L	N/A	--	--	1	
2,4,6-Trichlorophenol	<0.0024 mg/L	N/A	--	--	1	
Pentachlorophenol	<0.0013 mg/L	N/A	--	--	1	
Chloroform	0.0027 mg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzofuran (TCDF)	<0.28 pg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD)	<0.46 pg/L	N/A	--	--	1	
3,4,6-Trichloroguaiacol	ND	N/A	--	--	1	
3,4,6-Trichlorocatechol	ND	N/A	--	--	1	
3,4,5-Trichloroguaiacol	ND	N/A	--	--	1	
3,4,5-Trichlorocatechol	ND	N/A	--	--	1	
Tetrachloroguaiacol	ND	N/A	--	--	1	
Tetrachlorocatechol	ND	N/A	--	--	1	
Trichlorosyringol	ND	N/A	--	--	1	
4,5,6-Trichloroguaiacol	ND	N/A	--	--	1	
2,3,4,6-Tetrachlorophenol	<0.0015 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number DSN005
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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		
Total Residual Chlorine	<0.057 mg/L	N/A	--	--	1	
Color, ADMI	66 Color Units	N/A	--	--	1	
Fecal Coliform	38000 CFU/100mL	N/A	--	--	1	
Total Organic Nitrogen (TON)	0.93 mg/L	N/A	--	--	1	
Ammonia as Nitrogen, NH3-N	0.059 mg/L	N/A	--	--	1	
Total Alpha	0.560 pCi/L	N/A	--	--	1	
Total Beta	2.02 pCi/L	N/A	--	--	1	
Total Radium	0.222 pCi/L	N/A	--	--	1	
Total Radium 226	0.148 pCi/L	N/A	--	--	1	
Sulfate (as SO4)	22 mg/L	N/A	--	--	1	
Surfactants	0.14 mg/L	N/A	--	--	1	
Total Aluminum	0.16 mg/L	N/A	--	--	1	
Total Iron	0.17 mg/L	N/A	--	--	1	
Total Magnesium	3.2 mg/L	N/A	--	--	1	
Total Zinc	0.19 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility name International Paper - Riverdale	Outfall Number DSN005
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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)
08/29/2023	0.75-1 hour	1/4 inch	N/A	N/A	N/A
10/11/2023	1 hour	1/10 inch	N/A	N/A	N/A

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

Because the discharge at this outfall is a controlled release, and stormwater is collected and stored for a period greater than 24 hours prior to discharge, a composite sample was not required.

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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	<1.5 mg/L		--		1	
2. Biochemical oxygen demand (BOD ₅)	2.1 mg/L	N/A	--	--	1	
3. Chemical oxygen demand (COD)	29 mg/L	N/A	--	--	1	
4. Total suspended solids (TSS)	<5.0 mg/L	N/A	--	--	1	
5. Total phosphorus	0.28 mg/L	N/A	--	--	1	
6. Total Kjeldahl nitrogen (TKN)	0.75 mg/L	N/A	--	--	1	
7. Total nitrogen (as N)	0.75 mg/L	N/A	--	--	1	
8. pH (minimum)	7.7 S.U.		--		1	
	pH (maximum)		--		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 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		
Adsorbable Organic Halogens (AOX)	0.079 mg/L	N/A	--	--	1	
2,4,5-Trichlorophenol	<0.0035 mg/L	N/A	--	--	1	
2,4,6-Trichlorophenol	<0.0024 mg/L	N/A	--	--	1	
Pentachlorophenol	<0.0013 mg/L	N/A	--	--	1	
Chloroform	<0.00090 mg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzofuran (TCDF)	<0.26 pg/L	N/A	--	--	1	
2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD)	<0.54 pg/L	N/A	--	--	1	
3,4,6-Trichloroguaiacol	ND	N/A	--	--	1	
3,4,6-Trichlorocatechol	ND	N/A	--	--	1	
3,4,5-Trichloroguaiacol	ND	N/A	--	--	1	
3,4,5-Trichlorocatechol	ND	N/A	--	--	1	
Tetrachloroguaiacol	ND	N/A	--	--	1	
Tetrachlorocatechol	ND	N/A	--	--	1	
Trichlorosyringol	ND	N/A	--	--	1	
4,5,6-Trichloroguaiacol	ND	N/A	--	--	1	
2,3,4,6-Tetrachlorophenol	<0.0015 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility Name International Paper - Riverdale	Outfall Number DSN006
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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		
Total Residual Chlorine	0.060 mg/L	N/A	--	--	1	
Color, ADML	42 Color Units	N/A	--	--	1	
Fecal Coliform	4300 CFU/100mL	N/A	--	--	1	
Total Organic Nitrogen (TON)	0.49 mg/L	N/A	--	--	1	
Ammonia as Nitrogen, NH3-N	0.14 mg/L	N/A	--	--	1	
Total Alpha	1.32 pCi/L	N/A	--	--	1	
Total Beta	5.52 pCi/L	N/A	--	--	1	
Total Radium	0.123 pCi/L	N/A	--	--	1	
Total Radium 226	0.0368 pCi/L	N/A	--	--	1	
Sulfate (as SO4)	13 mg/L	N/A	--	--	1	
Surfactants	0.10 mg/L	N/A	--	--	1	
Total Aluminum	0.073 mg/L	N/A	--	--	1	
Total Iron	0.19 mg/L	N/A	--	--	1	
Total Magnesium	3.8 mg/L	N/A	--	--	1	
Total Zinc	<0.0088 mg/L	N/A	--	--	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 ALD000645457	NPDES Permit Number AL0003018	Facility name International Paper - Riverdale	Outfall Number DSN006
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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)
08/29/2023	0.75-1 hour	1/4 inch	N/A	N/A	N/A
10/11/12	1 hour	1/10 inch	N/A	N/A	N/A

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

Because the discharge at this outfall is a controlled release, and stormwater is collected and stored for a period greater than 24 hours prior to discharge, a composite sample was not required.

[Click to go back to the beginning of Form](#)

U.S. EPA Form 2F Item 4.3:

Structural control measures:

- Outfalls are equipped with valves that remain closed to collect stormwater from the Mill. The stormwater that is collected behind the valves is visually inspected for oil or other contamination prior to release. If contamination exists, the stormwater is not released until contamination is removed.
- The vehicular fuel area has secondary containment capable of containing 110% of the largest tank and stormwater from this area is routed to the effluent treatment system.
- The fire pump diesel fuel storage tank is contained in an enclosed, non-valved concrete containment capable of containing the total contents of the tank.

Non-structural control measures:

- Raw materials, manufactured products, waste materials, and by-products entering or exiting the Mill by truck are transported over Mill roads that pass through the area served by the outfall.
- All tank trucks carrying liquids onto the Mill roads are visually inspected for leaks prior to entering or exiting through the Mill gates.
- Stormwater is inspected and not released if potential contamination is observed.

U.S. EPA Form 2F, Section 5 Item 5.2
Testing Information
International Paper - Riverdale, AL Mill

Outfall Number	Description of Testing Method Used	Dates of Testing	Onsite Drainage Points Directly Observed During Test
DSN004	Stormwater collection basins 004, 005 and 006 were monitored on 12/26/2017 during dry weather for non-stormwater drainage and were dry. Ditches and swells leading to the unnamed tributary of the Alabama River where outfalls 004,005 and 006 drain were monitored during dry weather and were also found to be dry.	12/26/2017	Stormwater Collection Basins
DSN005			
DSN006			



Legend

- Approximate Property Boundary
- Drainage Areas
- Outfall Location
- Flow Arrows
- Well Location
- River Intake Structure
- Hazardous Waste Storage (temporary)

0 0.25 0.5 0.75 1 mi

U.S. EPA Form 2F - Figure 1
Drainage Area Locations

International Paper - Riverdale Mill
Selma, AL

PREPARED BY:

A.B.

CHECKED BY:

S.B.

DATE:

July 2023

PROJ NO.:

00302-0053.00

4
ALL

ATTACHMENT 2 – LABORATORY ANALYTICAL DATA



@KR Dmupm dms k
@KR F qit o TR@Bnq
0206 Rnt sg 02sg @idmt d
Jdk n+V @87515
T : * 0 25/ 466 6111
F : * 0 25/ 525 0/ 57
www.alsglobal.com

Nbsnadq16+1/ 12

Analytical Report for Service Request No: J 1200646

L r - B` d` Od` q nm
Hndqn snm kO` odq
5/ 0 Bnt mx Qn` c 67
Rdk ` +@K 256/ 2

RE: 1653A Grab Samples / Riverdale Cluster

Cd` qL r - Od` q nm

Dmknr dc ` qd sg d qrt k nesgd r` l old`r (r t al hsd c sn nt qk anq snq Nbsnadq02+1/ 12
Enqxnt qdqdnd+sgdr d` m krd r g` ud addm` r r fi mdc nt qrdqld qdpt dr snt l adqK2311757.

@n krd r v d q odqnd dc ` bbnqhrf sn nt qk anq snq MDK@,` oonudc pt ` kx ` rrt q nbd oqf q l -
Sgd sdrsqrt k l ddsqpt hpl dms nesgd bt qplmsMDK@ r s` mc` qpr+v gdq ` ookb` ald+` mc dwbdos` r
mndc hmsgd k anq snq b` r d m q sud oquidc- Enq` rodble k s neMDK@,` bbnqhrf ` m ksd r +
qdqsn sg bdnq snm r dsnm` sv v v -` k f kna` kbni - @kqrt k ` qd hsdmdc sn ad bnm hddpc hm
sgd hmsgd+` mc @KR F qit o TR@Bnq- ca` @KR Dmupm dms k` @KR(h r mnsqronm hald enq r d ne
kdr sg` msgd bni oldsd qonq Qdrt k ` ook nmk sn sg hsd r r t al hsd c sn sg d k anq snq enq` m krd r
` mc hnduct` ksd r` r` l oldr (` m kydc+` r ksd c hmsgd qonq

Old` r d bnm bsl d hext g` ud ` mx pt dr snm - L x dwdmr hnmr 2266- Xnt l ` x` k n bnm bsl d uh
dl ` lk` sRxcmdx-V nle` ` k f kna` kbni -

Qdrodbst k r t al hsd c+

ALS Group USA, Corp. dba ALS Environmental

Sydney A. Kelle
Rxcmdx @ V nle
OqidbsL` m f dq



© R Dmupm dms k
© R F qnt o TR@Bnq
0206 Rnt sg 02sg @dmt d
J dkn+V @87515
T : * 0 25/ 466 6111
F : * 0 25/ 525 0/ 57
www.alsglobal.com

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Acronyms

Qualifiers

State Certifications, Accreditations, And Licenses

Case Narrative

Chain of Custody

Chlorinated Phenolic Organic Compounds

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577- 7222 Fax (360)636- 1068
www.alsglobal.com



Client: International Paper
Project: 1653A Grab Samples
Sample Matrix: Water

Service Request: K2311757
Date Received: 10/13/2023

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 10/13/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by

A handwritten signature in black ink, appearing to read 'Sydney A. Hall'.

Date

10/27/2023



Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577- 7222 Fax (360)636- 1068
www.alsglobal.com



133766

CHAIN OF CUSTODY
133766

008

SR# _____
COC Set _____ of _____
COC# _____1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

Page 1 of 1

Project Name: 1635A Grab Samples		Project Number:	
Project Manager: Carla Pearson			
Company: International Paper, Riverdale			
Address: City, State: 601 County Road 75, Selma, AL 36703			
Phone #: 334-418-5356	Email: carla.pearson@ipaper.com		
Sampler Signature: <i>Andrew Phillips</i>	Sampler Printed Name: Andrew Phillips		
NUMBER OF CONTAINERS		300	
1653A / CHLOR, PHEN			
CLIENT SAMPLE ID		LABID	
SAMPLING Date Time State		Matrix	
1. DSI 004		6/11 4:10p, Grab W	
2. DSI 005		6/11 4:20p, Grab W	
3. DSI 006		6/11 3:45p, Grab W	
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Remarks			

K2311757

Report Requirements

- ☐ I. Routine Report: Method Blank, Surrogate, as required
- ☐ II. Report Dup., MS, MSD as required
- ☐ III. CLP Like Summary (no raw data)
- ☐ IV. Data Validation Report
- ☐ V. EDD

Invoice Information

P.O.#

Bill To:

Turnaround Requirements

- ☐ 24 hr. ☐ 48 hr.
- ☐ 5 Day
- ☐ Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Special Instructions/Comments:

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other (Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: <i>Andrew Phillips</i>	Signature: <i>Hannah Smith</i>	Signature:	Signature:	Signature:	Signature:
Printed Name: Andrew Phillips	Printed Name: Hannah Smith	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: IP Riverdale	Firm: ALS	Firm:	Firm:	Firm:	Firm:
Date/Time: 6/12/23 8:00am	Date/Time: 6/13/23 0900	Date/Time:	Date/Time:	Date/Time:	Date/Time:

PM SW

Cooler Receipt and Preservation Form

Client International paperService Request K2311757Received: 10/13/23Opened: 10/13/23By: HSUnloaded: 10/13/23By: HS

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 on front
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp Indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
<u>8.0</u>	<u>5.2</u>	<u>IR06</u>				<u>1Z42W844016592539</u>	

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column above:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

5. Were samples received within the method specified temperature ranges?

If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM.

- If applicable, tissue samples were received: Frozen Partially Thawed Thawed

6. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves

7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken)? NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
13. Were VOA vials received without headspace? Indicate in the table below NA Y N
14. Was C12/Res negative? NA Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM NA Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions:

G:\SMO\2022 Forms

SOP: SMO-GEN

Reviewed: 12/9/2022



Chlorinated Phenols

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577- 7222 Fax (360)636- 1068
www.alsglobal.com

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ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: International Paper
Project: 1653A Grab Samples/Riverdale Cluster
Sample Matrix: Water

Service Request: K2311757
Date Collected: 10/11/2023
Date Received: 10/13/2023

EPA Method 1653A
 Chlorinated Phenolic Organic Compounds

Sample Name: DSN004
Lab Code: K2311757-001
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
3,4,6-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
3,4,5-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
3,4,6-Trichlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
3,4,5-Trichlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
Trichlorosyringol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
4,5,6-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
Tetrachloroguaiacol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
Tetrachlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: International Paper
Project: 1653A Grab Samples/Riverdale Cluster
Sample Matrix: Water

Service Request: K2311757
Date Collected: 10/11/2023
Date Received: 10/13/2023

EPA Method 1653A
 Chlorinated Phenolic Organic Compounds

Sample Name: DSN005
Lab Code: K2311757-002
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
3,4,6-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
3,4,5-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
3,4,6-Trichlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
3,4,5-Trichlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
Trichlorosyringol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
4,5,6-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
Tetrachloroguaiacol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
Tetrachlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: International Paper
Project: 1653A Grab Samples/Riverdale Cluster
Sample Matrix: Water

Service Request: K2311757
Date Collected: 10/11/2023
Date Received: 10/13/2023

**EPA Method 1653A
Chlorinated Phenolic Organic Compounds**

Sample Name: DSN006
Lab Code: K2311757-003
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
3,4,6-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
3,4,5-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
3,4,6-Trichlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
3,4,5-Trichlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
Trichlorosyringol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
4,5,6-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
Tetrachloroguaiacol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
Tetrachlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: International Paper
Project: 1653A Grab Samples/Riverdale Cluster
Sample Matrix: Water

Service Request: K2311757
Date Collected: NA
Date Received: NA

**EPA Method 1653A
Chlorinated Phenolic Organic Compounds**

Sample Name: Method Blank
Lab Code: KQ2318522-01
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
3,4,6-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
3,4,5-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
3,4,6-Trichlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
3,4,5-Trichlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
Trichlorosyringol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
4,5,6-Trichloroguaiacol	METHOD	1653A	2.5	1	10/19/2023	10/25/2023	ND	
Tetrachloroguaiacol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	
Tetrachlorocatechol	METHOD	1653A	5.0	1	10/19/2023	10/25/2023	ND	

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: International Paper
Project: 1653A Grab Samples/Riverdale Cluster
Sample Matrix: Water

Service Request: K2311757
Date Collected: NA
Date Received: NA
Date Extracted: 10/19/2023

Labeled Compound and Internal Standard Recovery Summary
 Chlorinated Phenolic Organic Compounds
 1653A

Percent Recovery

Analyte	ALS Percent Recovery Acceptance Criteria	Sample Name:	DSN004	DSN005	DSN006
		Lab Code:	K2311757-001	K2311757-002	K2311757-003
		Date Analyzed:	10/25/2023	10/25/2023	10/25/2023
3,4,5-Trichlorophenol	36-131		99	90	89
4,5,6-Trichloroguaiacol-13c6	25-134		95	87	65
Pentachlorophenol-13c6	22-117		93	88	86
Tetrachloroguaiacol-13c6	18-129		92	87	81
Tetrachlorocatechol-13c6	D-121		39	13	12

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: International Paper
Project: 1653A Grab Samples/Riverdale Cluster
Sample Matrix: Water

Service Request: K2311757
Date Collected: NA
Date Received: NA
Date Extracted: 10/19/2023

Labeled Compound and Internal Standard Recovery Summary
Chlorinated Phenolic Organic Compounds
1653A

Percent Recovery

Analyte	ALS Percent Recovery Acceptance Criteria	Sample Name:	Method Blank
		Lab Code:	KQ2318522-01
		Date Analyzed:	10/25/2023
3,4,5-Trichlorophenol	36-131		77
4,5,6-Trichloroguaiacol-13c6	25-134		74
Pentachlorophenol-13c6	22-117		71
Tetrachloroguaiacol-13c6	18-129		71
Tetrachlorocatechol-13c6	D-121		60

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: International Paper
Project: 1653A Grab Samples/Riverdale Cluster
Sample Matrix: Water

Service Request: K2311757
Date Collected: NA
Date Received: NA
Date Extracted: 10/19/2023
Date Analyzed: 10/25/2023

Duplicate Summary
Chlorinated Phenolic Organic Compounds

Sample Name: Batch QC
Lab Code: KQ2318522-03
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
3,4,6-Trichloroguaiacol	METHOD	1653A	2.5	47.6	49.0	48.3	3	
3,4,5-Trichloroguaiacol	METHOD	1653A	2.5	47.2	48.1	47.7	2	
3,4,6-Trichlorocatechol	METHOD	1653A	5.0	94.2	95.0	94.6	1	
3,4,5-Trichlorocatechol	METHOD	1653A	5.0	97.1	96.4	96.8	1	
Trichlorosyringol	METHOD	1653A	2.5	46.2	46.1	46.2	0	
4,5,6-Trichloroguaiacol	METHOD	1653A	2.5	46.8	47.2	47.0	1	
Tetrachloroguaiacol	METHOD	1653A	5.0	94.8	96.4	95.6	2	
Tetrachlorocatechol	METHOD	1653A	5.0	98.1	97.5	97.8	1	

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: International Paper
Project: 1653A Grab Samples/Riverdale Cluster
LCS Matrix: Water

Service Request: K2311757
Date Collected: NA
Date Received: NA
Date Extracted: 10/19/2023
Date Analyzed: 10/25/2023

Ongoing Precision and Recovery Summary
Chlorinated Phenolic Organic Compounds

Sample Name: Lab Control Sample
Lab Code: KQ2318522-02
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS Percent Recovery	Result Notes
						Acceptance Limits	
3,4,6-Trichloroguaiacol	METHOD	1653A	50	47.6	95	74-140	
3,4,5-Trichloroguaiacol	METHOD	1653A	50	47.2	94	80-134	
3,4,6-Trichlorocatechol	METHOD	1653A	100	94.2	94	64-149	
3,4,5-Trichlorocatechol	METHOD	1653A	100	97.1	97	72-128	
Trichlorosyringol	METHOD	1653A	50	46.2	92	66-174	
4,5,6-Trichloroguaiacol	METHOD	1653A	50	46.8	94	88-116	
Tetrachloroguaiacol	METHOD	1653A	100	94.8	95	81-126	
Tetrachlorocatechol	METHOD	1653A	100	98.1	98	81-132	

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table C

JOB NUMBER

400-242682-1

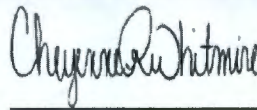
Eurofins Pensacola

Job Notes

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Authorization



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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Job ID: 400-242682-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-242682-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.3°C

Metals

Method 200.8_CWA: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-639708 and analytical batch 400-639911 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

General Chemistry

Method 351.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-639817 and analytical batch 400-640062 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 4500_CL_G: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: DSN004 STORM POND (400-242682-1).

Biology

Method 9222D: The following sample was received outside of holding time: DSN004 STORM POND (400-242682-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242682-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	17		1.0	0.39	mg/L	1		300.0	Total/NA
Aluminum	0.17		0.025	0.014	mg/L	5		200.8	Total/NA
Iron	0.36		0.13	0.079	mg/L	5		200.8	Total/NA
Magnesium	7.1		0.13	0.041	mg/L	5		200.8	Total/NA
Zinc	0.012	J	0.020	0.0088	mg/L	5		200.8	Total/NA
Color	64		5.0	5.0	Color Units	1		110.2	Total/NA
pH at time of analysis	8.2		0.010	0.010	SU	1		110.2	Total/NA
Ammonia	0.037	J	0.050	0.024	mg/L	1		350.1	Total/NA
Nitrogen, Kjeldahl	1.7		0.50	0.26	mg/L	1		351.2	Total/NA
Nitrogen, Total Organic	1.7		0.50	0.26	mg/L	1		Nitrogen,Org	Total/NA
MBAS - Surfactants	0.11		0.10	0.067	mg/l LAS MW 340	1		SM 5540C	Total/NA
Coliform, Fecal	4200	H H3	1.0	1.0	CFU/100mL	1		SM 9222D	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PEN
200.8	Metals (ICP/MS)	EPA	EET PEN
110.2	Color, Colorimetric	EPA	EET PEN
350.1	Nitrogen, Ammonia	EPA	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
Nitrogen,Org	Nitrogen, Organic	EPA	EET PEN
SM 4500 Cl G	Chlorine, Residual	SM	EET PEN
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET PEN
SM 9222D	Coliforms, Fecal (Membrane Filter)	SM	EET PEN
200.8	Preparation, Total Metals	EPA	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242682-1	DSN004 STORM POND	Water	08/29/23 14:40	08/30/23 11:55

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242682-1

Date Collected: 08/29/23 14:40

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	17		1.0	0.39	mg/L			08/31/23 20:55	1

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.17		0.025	0.014	mg/L		09/05/23 12:05	09/06/23 10:06	5
Iron	0.36		0.13	0.079	mg/L		09/05/23 12:05	09/06/23 10:06	5
Magnesium	7.1		0.13	0.041	mg/L		09/05/23 12:05	09/06/23 10:06	5
Zinc	0.012	J	0.020	0.0088	mg/L		09/05/23 12:05	09/06/23 10:06	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color (EPA 110.2)	64		5.0	5.0	Color Units			08/30/23 20:25	1
pH at time of analysis (EPA 110.2)	8.2		0.010	0.010	SU			08/30/23 20:25	1
Ammonia (EPA 350.1)	0.037	J	0.050	0.024	mg/L			09/07/23 15:42	1
Nitrogen, Kjeldahl (EPA 351.2)	1.7		0.50	0.26	mg/L		09/05/23 17:08	09/06/23 16:20	1
Nitrogen, Total Organic (EPA Nitrogen,Org)	1.7		0.50	0.26	mg/L			09/05/23 13:10	1
Chlorine, Total Residual (SM 4500 Cl G)	<0.057	H	0.10	0.057	mg/L			09/01/23 16:27	1
MBAS - Surfactants (SM 5540C)	0.11		0.10	0.067	mg/l LAS MW 340			08/31/23 08:30	1

Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	4200	H H3	1.0	1.0	CFU/100mL			08/30/23 13:54	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Biology

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
H3	Sample was received and analyzed past holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242682-1

Date Collected: 08/29/23 14:40

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	10 mL	10 mL	639431	08/31/23 20:55	LHB	EET PEN
Total/NA	Prep	200.8			50 mL	50 mL	639708	09/05/23 12:05	MS	EET PEN
Total/NA	Analysis	200.8		5			639911	09/06/23 10:06	NTH	EET PEN
Total/NA	Analysis	110.2		1			639240	08/30/23 20:25	DEK	EET PEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	640135	09/07/23 15:42	CAC	EET PEN
Total/NA	Prep	351.2			25 mL	25 mL	639817	09/05/23 17:08	VB	EET PEN
Total/NA	Analysis	351.2		1			640062	09/06/23 16:20	KWS	EET PEN
Total/NA	Analysis	Nitrogen,Org		1			639739	09/05/23 13:10	KWS	EET PEN
Total/NA	Analysis	SM 4500 Cl G		1	10 mL	10 mL	639534	09/01/23 16:27	CAC	EET PEN
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	639287	08/31/23 08:30	SF	EET PEN
Total/NA	Analysis	SM 9222D		1			639338	08/30/23 13:54	AT	EET PEN
Completed:								08/31/23 13:07	1	

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

HPLC/IC

Analysis Batch: 639431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	300.0	
MB 400-639431/5	Method Blank	Total/NA	Water	300.0	
LCS 400-639431/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-639431/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Metals

Prep Batch: 639708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	200.8	
MB 400-639708/1-A ^5	Method Blank	Total/NA	Water	200.8	
LCS 400-639708/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	

Analysis Batch: 639911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	200.8	639708
MB 400-639708/1-A ^5	Method Blank	Total/NA	Water	200.8	639708
LCS 400-639708/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	639708

General Chemistry

Analysis Batch: 639240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	110.2	
MB 400-639240/1	Method Blank	Total/NA	Water	110.2	
LCS 400-639240/3	Lab Control Sample	Total/NA	Water	110.2	
400-242682-1 DU	DSN004 STORM POND	Total/NA	Water	110.2	

Analysis Batch: 639287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	SM 5540C	
MB 400-639287/3	Method Blank	Total/NA	Water	SM 5540C	
LCS 400-639287/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MRL 400-639287/5	Lab Control Sample	Total/NA	Water	SM 5540C	

Analysis Batch: 639534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	SM 4500 CI G	
MB 400-639534/4	Method Blank	Total/NA	Water	SM 4500 CI G	
LCS 400-639534/5	Lab Control Sample	Total/NA	Water	SM 4500 CI G	
MRL 400-639534/3	Lab Control Sample	Total/NA	Water	SM 4500 CI G	
400-242682-1 DU	DSN004 STORM POND	Total/NA	Water	SM 4500 CI G	

Analysis Batch: 639739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	Nitrogen,Org	

Prep Batch: 639817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	351.2	
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

General Chemistry

Analysis Batch: 640062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	351.2	639817
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	639817
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	639817
MRL 400-640062/10	Lab Control Sample	Total/NA	Water	351.2	

Analysis Batch: 640135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	350.1	
MB 400-640135/24	Method Blank	Total/NA	Water	350.1	
LCS 400-640135/25	Lab Control Sample	Total/NA	Water	350.1	
MRL 400-640135/18	Lab Control Sample	Total/NA	Water	350.1	

Biology

Analysis Batch: 639338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	SM 9222D	
MB 400-639338/1	Method Blank	Total/NA	Water	SM 9222D	
LCS 400-639338/2	Lab Control Sample	Total/NA	Water	SM 9222D	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-639431/5

Matrix: Water

Analysis Batch: 639431

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<0.39		1.0	0.39	mg/L			08/31/23 18:36	1

Lab Sample ID: LCS 400-639431/6

Matrix: Water

Analysis Batch: 639431

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	9.20		mg/L		92	90 - 110

Lab Sample ID: LCSD 400-639431/7

Matrix: Water

Analysis Batch: 639431

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	10.0	9.60		mg/L		96	90 - 110	4	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 400-639708/1-A ^5

Matrix: Water

Analysis Batch: 639911

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 639708

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.014		0.025	0.014	mg/L		09/05/23 12:05	09/06/23 07:10	5
Iron	<0.079		0.13	0.079	mg/L		09/05/23 12:05	09/06/23 07:10	5
Magnesium	<0.041		0.13	0.041	mg/L		09/05/23 12:05	09/06/23 07:10	5
Zinc	<0.0088		0.020	0.0088	mg/L		09/05/23 12:05	09/06/23 07:10	5

Lab Sample ID: LCS 400-639708/2-A ^5

Matrix: Water

Analysis Batch: 639911

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 639708

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	0.500	0.445		mg/L		89	85 - 115
Iron	5.00	4.59		mg/L		92	85 - 115
Magnesium	5.00	4.48		mg/L		90	85 - 115
Zinc	0.0500	0.0483		mg/L		97	85 - 115

Method: 110.2 - Color, Colorimetric

Lab Sample ID: MB 400-639240/1

Matrix: Water

Analysis Batch: 639240

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	<5.0		5.0	5.0	Color Units			08/30/23 20:25	1
pH at time of analysis	5.97		0.010	0.010	SU			08/30/23 20:25	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Method: 110.2 - Color, Colorimetric (Continued)

Lab Sample ID: LCS 400-639240/3
Matrix: Water
Analysis Batch: 639240

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Color	35.0	34.0		Color Units		97	90 - 110

Lab Sample ID: 400-242682-1 DU
Matrix: Water
Analysis Batch: 639240

Client Sample ID: DSN004 STORM POND
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Color	64		65.0		Color Units		2	6
pH at time of analysis	8.2		8.24		SU		0	30

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 400-640135/24
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	<0.024		0.050	0.024	mg/L			09/07/23 15:08	1

Lab Sample ID: LCS 400-640135/25
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.00	2.98		mg/L		99	90 - 110

Lab Sample ID: MRL 400-640135/18
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.0500	0.0600		mg/L		120	50 - 150

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 400-639817/1-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	<0.26		0.50	0.26	mg/L		09/05/23 17:04	09/06/23 16:08	1

Lab Sample ID: LCS 400-639817/2-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	10.0	10.2		mg/L		102	90 - 110

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: MRL 400-640062/10				Client Sample ID: Lab Control Sample			
Matrix: Water				Prep Type: Total/NA			
Analysis Batch: 640062							
Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	0.500	0.420	J	mg/L		84	50 - 150

Method: SM 4500 Cl G - Chlorine, Residual

Lab Sample ID: MB 400-639534/4					Client Sample ID: Method Blank				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639534									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	<0.057		0.10	0.057	mg/L			09/01/23 16:27	1

Lab Sample ID: LCS 400-639534/5				Client Sample ID: Lab Control Sample			
Matrix: Water				Prep Type: Total/NA			
Analysis Batch: 639534							
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorine, Total Residual	1.17	1.20		mg/L		103	85 - 115

Lab Sample ID: MRL 400-639534/3				Client Sample ID: Lab Control Sample			
Matrix: Water				Prep Type: Total/NA			
Analysis Batch: 639534							
Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlorine, Total Residual	0.117	0.130		mg/L		111	50 - 150

Lab Sample ID: 400-242682-1 DU					Client Sample ID: DSN004 STORM POND				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639534									
	Sample	Sample		DU	DU				RPD
Analyte	Result	Qualifier		Result	Qualifier	Unit	D		Limit
Chlorine, Total Residual	<0.057	H		<0.057		mg/L		NC	10

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 400-639287/3						Client Sample ID: Method Blank			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 639287									
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS - Surfactants	<0.067		0.10	0.067	mg/l LAS MW 340			08/31/23 08:30	1

Lab Sample ID: LCS 400-639287/4				Client Sample ID: Lab Control Sample			
Matrix: Water				Prep Type: Total/NA			
Analysis Batch: 639287							
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS - Surfactants	0.500	0.533		mg/l LAS MW 340		107	90 - 110

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

Lab Sample ID: MRL 400-639287/5				Client Sample ID: Lab Control Sample			
Matrix: Water				Prep Type: Total/NA			
Analysis Batch: 639287							
Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
MBAS - Surfactants	0.100	0.123		mg/L		123	75 - 125

Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Lab Sample ID: MB 400-639338/1						Client Sample ID: Method Blank			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 639338									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	<1.0		1.0	1.0	CFU/100mL			08/30/23 13:12	1



Ver: 06/08/2021

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242682-1

SDG Number: Form 2F Table C

Login Number: 242682

List Source: Eurofins Pensacola

List Number: 1

Creator: Roberts, Alexis J

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-1
SDG: Form 2F Table C

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24



ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table C

JOB NUMBER

400-242682-2

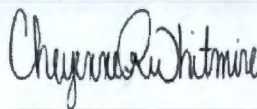
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Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Job ID: 400-242682-2

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-242682-2

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.3°C

Gas Flow Proportional Counter

Method 900.0: Gross Alpha and Gross Beta batch 626541. The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: (870-20321-C-1-A) and (870-20321-C-1-D DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha and Gross Beta batch 626541. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN004 STORM POND (400-242682-1), (LCS 160-626541/2-A), (LCSB 160-626541/3-A), (MB 160-626541/1-A), (870-20321-C-1-A), (870-20321-C-1-D DU), (870-20321-C-1-B MS) and (870-20321-C-1-C MSBT)

Method 903.0: Radium-226 Prep Batch 160-626832. The following sample was prepared at a reduced aliquot due to Matrix: DSN004 STORM POND (400-242682-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 903.0: Radium-226 batch 626832. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN004 STORM POND (400-242682-1), (LCS 160-626832/2-A), (LCSD 160-626832/3-A) and (MB 160-626832/1-A)

Method 903.0_TAR: Total Alpha Radium Prep Batch 160-626835. The following sample was prepared at a reduced aliquot due to Matrix: DSN004 STORM POND (400-242682-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 903.0_TAR: Total Alpha Radium batch 626835. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN004 STORM POND (400-242682-1), (LCS 160-626835/2-A), (LCSD 160-626835/3-A) and (MB 160-626835/1-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
903.0	Total Alpha Radium (GFPC)	EPA	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242682-1	DSN004 STORM POND	Water	08/29/23 14:40	08/30/23 11:55

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242682-1

Date Collected: 08/29/23 14:40

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	2.50	U	1.75	1.78	3.00	2.51	pCi/L	09/05/23 10:47	09/25/23 20:08	1
Gross Beta	2.52		0.816	0.854	4.00	1.03	pCi/L	09/05/23 10:47	09/25/23 20:08	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.118	U	0.0900	0.0906	1.00	0.124	pCi/L	09/06/23 10:34	09/28/23 20:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.9		30 - 110					09/06/23 10:34	09/28/23 20:33	1

Method: EPA 903.0 - Total Alpha Radium (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Alpha Radium	0.0426	U	0.107	0.107	1.00	0.194	pCi/L	09/06/23 10:37	09/22/23 14:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.9		30 - 110					09/06/23 10:37	09/22/23 14:56	1

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Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Qualifiers

Rad	
Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Client Sample ID: DSN004 STORM POND

Lab Sample ID: 400-242682-1

Date Collected: 08/29/23 14:40

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			178.00 mL	1.0 g	626541	09/05/23 10:47	ASG	EET SL
Total/NA	Analysis	900.0		1			629491	09/25/23 20:08	FLC	EET SL
Total/NA	Prep	PrecSep_0			738.92 mL	1.0 g	626835	09/06/23 10:37	KAC	EET SL
Total/NA	Analysis	903.0		1			629278	09/22/23 14:56	SCB	EET SL
Total/NA	Prep	PrecSep-21			738.92 mL	1.0 g	626832	09/06/23 10:34	KAC	EET SL
Total/NA	Analysis	903.0		1			629974	09/28/23 20:33	FLC	EET SL

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Rad

Prep Batch: 626541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	Evaporation	
MB 160-626541/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-626541/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-626541/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 626832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	PrecSep-21	
MB 160-626832/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-626832/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-626832/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 626835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242682-1	DSN004 STORM POND	Total/NA	Water	PrecSep_0	
MB 160-626835/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-626835/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-626835/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-626541/1-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 626541

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.3114	U	0.623	0.624	3.00	1.25	pCi/L	09/05/23 10:47	09/25/23 16:26	1
Gross Beta	-0.4878	U	0.497	0.499	4.00	0.970	pCi/L	09/05/23 10:47	09/25/23 16:26	1

Lab Sample ID: LCS 160-626541/2-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626541

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	49.6	43.66		6.72	3.00	1.87	pCi/L	88	75 - 125

Lab Sample ID: LCSB 160-626541/3-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626541

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	72.6	67.39		7.27	4.00	0.975	pCi/L	93	75 - 125

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-626832/1-A
Matrix: Water
Analysis Batch: 629974

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 626832

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01683	U	0.0628	0.0628	1.00	0.130	pCi/L	09/06/23 10:34	09/28/23 20:30	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		30 - 110					09/06/23 10:34	09/28/23 20:30	1

Lab Sample ID: LCS 160-626832/2-A
Matrix: Water
Analysis Batch: 629974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626832

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	11.21		1.15	1.00	0.105	pCi/L	99	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	83.6		30 - 110						

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-626832/3-A
Matrix: Water
Analysis Batch: 629974

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 626832

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	11.3	12.50		1.30	1.00	0.0972	pCi/L	110	75 - 125	0.53	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	85.9		30 - 110								

Method: 903.0 - Total Alpha Radium (GFPC)

Lab Sample ID: MB 160-626835/1-A
Matrix: Water
Analysis Batch: 629278

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 626835

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Alpha Radium	0.05128	U	0.0732	0.0734	1.00	0.124	pCi/L	09/06/23 10:37	09/22/23 14:55	1
Carrier	MB %Yield	MB Qualifier	Limits							
Ba Carrier	84.4		30 - 110							
								Prepared	Analyzed	Dil Fac
								09/06/23 10:37	09/22/23 14:55	1

Lab Sample ID: LCS 160-626835/2-A
Matrix: Water
Analysis Batch: 629278

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626835

					Total								
Analyte			Spike Added	LCS Result	LCS Qual	Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Total Alpha Radium			11.3	11.86		1.22	1.00	0.126	pCi/L	105	75 - 125		
Carrier	LCS %Yield	LCS Qualifier	Limits										
Ba Carrier	83.6		30 - 110										

Lab Sample ID: LCSD 160-626835/3-A
Matrix: Water
Analysis Batch: 629278

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 626835

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Total Alpha Radium	11.3	11.80		1.21	1.00	0.101	pCi/L	104	75 - 125	0.03	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	85.9		30 - 110								

Eurofins Pensacola

Eurofins Pensacola

3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record



Environment Testing

Client Information		Sampler: CARLA C. PEARSON		Lab PM: Whitmire, Cheyenne R		400-242682 COC		clung No(s)		COC No. 400-122360-41792.1																																																																																																																																																																																																																																																																																																																																								
Client Contact: Carla Pearson		Phone: 334-418-5236		E-Mail: Cheyenne.Whitmire@et.eurofinsus.com				origin: AL		Page: Page 1 of 1																																																																																																																																																																																																																																																																																																																																								
Company: International Paper Company		PWSID:		Analysis Requested																																																																																																																																																																																																																																																																																																																																														
Address: 601 County Road 78		Due Date Requested:		<table border="1"> <tr> <td>903.0, 903.0, TAR</td> <td>900.0 - Gross Alpha & Gross Beta</td> <td>350.1, 351.2, Nitrogen, Org</td> <td>110.2 - Color</td> <td>900.0, 900.0, 280 - Sulfate</td> <td>200.8, CWA - AL, FE, MG & ZN</td> <td>5540C - Surfactants</td> <td>9222D - Coliforms, Fecal</td> <td>SM4590 Chlor. B - Chlorine, Total Residual</td> </tr> </table>								903.0, 903.0, TAR	900.0 - Gross Alpha & Gross Beta	350.1, 351.2, Nitrogen, Org	110.2 - Color	900.0, 900.0, 280 - Sulfate	200.8, CWA - AL, FE, MG & ZN	5540C - Surfactants	9222D - Coliforms, Fecal	SM4590 Chlor. B - Chlorine, Total Residual																																																																																																																																																																																																																																																																																																																														
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City: Selma		TAT Requested (days): ASAP!																																																																																																																																																																																																																																																																																																																																																
State, Zip: AL, 36703		Compliance Project: ☐ Yes ☐ No																																																																																																																																																																																																																																																																																																																																																
Phone: 334-418-5236(Tel)		PO #: 16969625																																																																																																																																																																																																																																																																																																																																																
Email: Carla.Pearson@ipaper.com		WO #:																																																																																																																																																																																																																																																																																																																																																
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Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242682-2

SDG Number: Form 2F Table C

Login Number: 242682

List Number: 1

Creator: Roberts, Alexis J

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ ($1/4"$).	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242682-2

SDG Number: Form 2F Table C

Login Number: 242682

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 09/01/23 03:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242682-2
SDG: Form 2F Table C

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	10-01-23
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23 *
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
West Virginia DEP	State	381	10-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pensacola

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ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table C

JOB NUMBER

400-242702-1

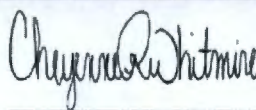
Eurofins Pensacola

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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9/11/2023 4:52:10 PM

Authorized for release by
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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Job ID: 400-242702-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-242702-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.5°C

Metals

Method 200.8_CWA: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-639708 and analytical batch 400-639911 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

General Chemistry

Method 351.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-639817 and analytical batch 400-640062 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 4500_CL_G: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: DSN005 STORM POND (400-242702-1).

Biology

Method 9222D: The following sample was received outside of holding time: DSN005 STORM POND (400-242702-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242702-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Sulfate	22		1.0	0.39	mg/L	1			300.0	Total/NA
Aluminum	0.16		0.025	0.014	mg/L	5			200.8	Total/NA
Iron	0.17		0.13	0.079	mg/L	5			200.8	Total/NA
Magnesium	3.1		0.13	0.041	mg/L	5			200.8	Total/NA
Zinc	0.19		0.020	0.0088	mg/L	5			200.8	Total/NA
Color	66		5.0	5.0	Color Units	1			110.2	Total/NA
pH at time of analysis	7.4		0.010	0.010	SU	1			110.2	Total/NA
Ammonia	0.059		0.050	0.024	mg/L	1			350.1	Total/NA
Nitrogen, Kjeldahl	0.99		0.50	0.26	mg/L	1			351.2	Total/NA
Nitrogen, Total Organic	0.93		0.50	0.26	mg/L	1			Nitrogen,Org	Total/NA
MBAS - Surfactants	0.14		0.10	0.067	mg/l LAS MW 340	1			SM 5540C	Total/NA
Coliform, Fecal	38000	J H H3	1.0	1.0	CFU/100mL	1			SM 9222D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PEN
200.8	Metals (ICP/MS)	EPA	EET PEN
110.2	Color, Colorimetric	EPA	EET PEN
350.1	Nitrogen, Ammonia	EPA	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
Nitrogen,Org	Nitrogen, Organic	EPA	EET PEN
SM 4500 Cl G	Chlorine, Residual	SM	EET PEN
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET PEN
SM 9222D	Coliforms, Fecal (Membrane Filter)	SM	EET PEN
200.8	Preparation, Total Metals	EPA	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242702-1	DSN005 STORM POND	Water	08/29/23 14:50	08/30/23 11:55

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242702-1

Date Collected: 08/29/23 14:50

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	22		1.0	0.39	mg/L			09/01/23 01:14	1

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.16		0.025	0.014	mg/L		09/05/23 12:05	09/06/23 10:13	5
Iron	0.17		0.13	0.079	mg/L		09/05/23 12:05	09/06/23 10:13	5
Magnesium	3.1		0.13	0.041	mg/L		09/05/23 12:05	09/06/23 10:13	5
Zinc	0.19		0.020	0.0088	mg/L		09/05/23 12:05	09/06/23 10:13	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color (EPA 110.2)	66		5.0	5.0	Color Units			08/30/23 20:25	1
pH at time of analysis (EPA 110.2)	7.4		0.010	0.010	SU			08/30/23 20:25	1
Ammonia (EPA 350.1)	0.059		0.050	0.024	mg/L			09/07/23 15:42	1
Nitrogen, Kjeldahl (EPA 351.2)	0.99		0.50	0.26	mg/L		09/05/23 17:08	09/06/23 16:26	1
Nitrogen, Total Organic (EPA Nitrogen,Org)	0.93		0.50	0.26	mg/L			09/05/23 13:10	1
Chlorine, Total Residual (SM 4500 Cl G)	<0.057	H	0.10	0.057	mg/L			09/01/23 16:27	1
MBAS - Surfactants (SM 5540C)	0.14		0.10	0.067	mg/l LAS MW 340			08/31/23 08:30	1

Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	38000	J H H3	1.0	1.0	CFU/100mL			08/30/23 13:12	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Qualifiers

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Biology

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
H3	Sample was received and analyzed past holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242702-1

Date Collected: 08/29/23 14:50

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	10 mL	10 mL	639431	09/01/23 01:14	LHB	EET PEN
Total/NA	Prep	200.8			50 mL	50 mL	639708	09/05/23 12:05	MS	EET PEN
Total/NA	Analysis	200.8		5			639911	09/06/23 10:13	NTH	EET PEN
Total/NA	Analysis	110.2		1			639240	08/30/23 20:25	DEK	EET PEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	640135	09/07/23 15:42	CAC	EET PEN
Total/NA	Prep	351.2			25 mL	25 mL	639817	09/05/23 17:08	VB	EET PEN
Total/NA	Analysis	351.2		1			640062	09/06/23 16:26	KWS	EET PEN
Total/NA	Analysis	Nitrogen,Org		1			639739	09/05/23 13:10	KWS	EET PEN
Total/NA	Analysis	SM 4500 Cl G		1	10 mL	10 mL	639534	09/01/23 16:27	CAC	EET PEN
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	639287	08/31/23 08:30	SF	EET PEN
Total/NA	Analysis	SM 9222D		1			639338	08/30/23 13:12	AT	EET PEN
Completed:								08/31/23 13:07	1	

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

HPLC/IC

Analysis Batch: 639431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	300.0	
MB 400-639431/5	Method Blank	Total/NA	Water	300.0	
LCS 400-639431/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-639431/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Metals

Prep Batch: 639708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	200.8	
MB 400-639708/1-A ^5	Method Blank	Total/NA	Water	200.8	
LCS 400-639708/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	

Analysis Batch: 639911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	200.8	639708
MB 400-639708/1-A ^5	Method Blank	Total/NA	Water	200.8	639708
LCS 400-639708/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	639708

General Chemistry

Analysis Batch: 639240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	110.2	
MB 400-639240/1	Method Blank	Total/NA	Water	110.2	
LCS 400-639240/3	Lab Control Sample	Total/NA	Water	110.2	

Analysis Batch: 639287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	SM 5540C	
MB 400-639287/3	Method Blank	Total/NA	Water	SM 5540C	
LCS 400-639287/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MRL 400-639287/5	Lab Control Sample	Total/NA	Water	SM 5540C	

Analysis Batch: 639534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	SM 4500 CI G	
MB 400-639534/4	Method Blank	Total/NA	Water	SM 4500 CI G	
LCS 400-639534/5	Lab Control Sample	Total/NA	Water	SM 4500 CI G	
MRL 400-639534/3	Lab Control Sample	Total/NA	Water	SM 4500 CI G	

Analysis Batch: 639739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	Nitrogen,Org	

Prep Batch: 639817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	351.2	
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

General Chemistry

Analysis Batch: 640062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	351.2	639817
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	639817
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	639817
MRL 400-640062/10	Lab Control Sample	Total/NA	Water	351.2	

Analysis Batch: 640135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	350.1	
MB 400-640135/24	Method Blank	Total/NA	Water	350.1	
LCS 400-640135/25	Lab Control Sample	Total/NA	Water	350.1	
MRL 400-640135/18	Lab Control Sample	Total/NA	Water	350.1	

Biology

Analysis Batch: 639338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	SM 9222D	
MB 400-639338/1	Method Blank	Total/NA	Water	SM 9222D	
LCS 400-639338/2	Lab Control Sample	Total/NA	Water	SM 9222D	
400-242702-1 DU	DSN005 STORM POND	Total/NA	Water	SM 9222D	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-639431/5
Matrix: Water
Analysis Batch: 639431

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<0.39		1.0	0.39	mg/L			08/31/23 18:36	1

Lab Sample ID: LCS 400-639431/6
Matrix: Water
Analysis Batch: 639431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	9.20		mg/L		92	90 - 110

Lab Sample ID: LCSD 400-639431/7
Matrix: Water
Analysis Batch: 639431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	10.0	9.60		mg/L		96	90 - 110	4	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 400-639708/1-A ^5
Matrix: Water
Analysis Batch: 639911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639708

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.014		0.025	0.014	mg/L		09/05/23 12:05	09/06/23 07:10	5
Iron	<0.079		0.13	0.079	mg/L		09/05/23 12:05	09/06/23 07:10	5
Magnesium	<0.041		0.13	0.041	mg/L		09/05/23 12:05	09/06/23 07:10	5
Zinc	<0.0088		0.020	0.0088	mg/L		09/05/23 12:05	09/06/23 07:10	5

Lab Sample ID: LCS 400-639708/2-A ^5
Matrix: Water
Analysis Batch: 639911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639708

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	0.500	0.445		mg/L		89	85 - 115
Iron	5.00	4.59		mg/L		92	85 - 115
Magnesium	5.00	4.48		mg/L		90	85 - 115
Zinc	0.0500	0.0483		mg/L		97	85 - 115

Method: 110.2 - Color, Colorimetric

Lab Sample ID: MB 400-639240/1
Matrix: Water
Analysis Batch: 639240

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	<5.0		5.0	5.0	Color Units			08/30/23 20:25	1
pH at time of analysis	5.97		0.010	0.010	SU			08/30/23 20:25	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Method: 110.2 - Color, Colorimetric (Continued)

Lab Sample ID: LCS 400-639240/3
Matrix: Water
Analysis Batch: 639240

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Color	35.0	34.0		Color Units		97	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 400-640135/24
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	<0.024		0.050	0.024	mg/L			09/07/23 15:08	1

Lab Sample ID: LCS 400-640135/25
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.00	2.98		mg/L		99	90 - 110

Lab Sample ID: MRL 400-640135/18
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.0500	0.0600		mg/L		120	50 - 150

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 400-639817/1-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	<0.26		0.50	0.26	mg/L		09/05/23 17:04	09/06/23 16:08	1

Lab Sample ID: LCS 400-639817/2-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	10.0	10.2		mg/L		102	90 - 110

Lab Sample ID: MRL 400-640062/10
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	0.500	0.420	J	mg/L		84	50 - 150

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Method: SM 4500 Cl G - Chlorine, Residual

Lab Sample ID: MB 400-639534/4
Matrix: Water
Analysis Batch: 639534

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	<0.057		0.10	0.057	mg/L			09/01/23 16:27	1

Lab Sample ID: LCS 400-639534/5
Matrix: Water
Analysis Batch: 639534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorine, Total Residual	1.17	1.20		mg/L		103	85 - 115

Lab Sample ID: MRL 400-639534/3
Matrix: Water
Analysis Batch: 639534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlorine, Total Residual	0.117	0.130		mg/L		111	50 - 150

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 400-639287/3
Matrix: Water
Analysis Batch: 639287

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS - Surfactants	<0.067		0.10	0.067	mg/l LAS MW 340			08/31/23 08:30	1

Lab Sample ID: LCS 400-639287/4
Matrix: Water
Analysis Batch: 639287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS - Surfactants	0.500	0.533		mg/l LAS MW 340		107	90 - 110

Lab Sample ID: MRL 400-639287/5
Matrix: Water
Analysis Batch: 639287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
MBAS - Surfactants	0.100	0.123		mg/L		123	75 - 125

Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Lab Sample ID: MB 400-639338/1
Matrix: Water
Analysis Batch: 639338

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	<1.0		1.0	1.0	CFU/100mL			08/30/23 13:12	1

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Method: SM 9222D - Coliforms, Fecal (Membrane Filter) (Continued)

Lab Sample ID: 400-242702-1 DU

Client Sample ID: DSN005 STORM POND

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 639338

Analyte	Sample		DU		Unit	D	RPD	
	Result	Qualifier	Result	Qualifier			RPD	Limit
Coliform, Fecal	38000	J H H3	34800	J	CFU/100mL		8	50

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[illegible]

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242702-1

SDG Number: Form 2F Table C

Login Number: 242702

List Number: 1

Creator: Roberts, Alexis J

List Source: Eurofins Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.5°C IR10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-1
SDG: Form 2F Table C

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table C

JOB NUMBER

400-242702-2

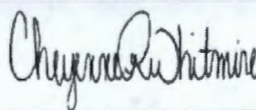
Eurofins Pensacola

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
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(850)471-6222

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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Job ID: 400-242702-2

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-242702-2

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.5°C

Gas Flow Proportional Counter

Method 900.0: Gross Alpha and Gross Beta batch 626541. The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: (870-20321-C-1-A) and (870-20321-C-1-D DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha and Gross Beta batch 626541. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN005 STORM POND (400-242702-1), (LCS 160-626541/2-A), (LCSB 160-626541/3-A), (MB 160-626541/1-A), (870-20321-C-1-A), (870-20321-C-1-D DU), (870-20321-C-1-B MS) and (870-20321-C-1-C MSBT)

Method 903.0: Radium-226 Prep Batch 160-626832. The following sample was prepared at a reduced aliquot due to Matrix: DSN005 STORM POND (400-242702-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 903.0: Radium-226 batch 626832. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN005 STORM POND (400-242702-1), (LCS 160-626832/2-A), (LCSD 160-626832/3-A) and (MB 160-626832/1-A)

Method 903.0_TAR: Total Alpha Radium Prep Batch 160-626835. The following sample was prepared at a reduced aliquot due to Matrix: DSN005 STORM POND (400-242702-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 903.0_TAR: Total Alpha Radium batch 626835. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DSN005 STORM POND (400-242702-1), (LCS 160-626835/2-A), (LCSD 160-626835/3-A) and (MB 160-626835/1-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
903.0	Total Alpha Radium (GFPC)	EPA	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242702-1	DSN005 STORM POND	Water	08/29/23 14:50	08/30/23 11:55

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Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242702-1

Date Collected: 08/29/23 14:50

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.560	U	1.04	1.05	3.00	1.83	pCi/L	09/05/23 10:47	09/25/23 20:08	1
Gross Beta	2.02		0.671	0.701	4.00	0.869	pCi/L	09/05/23 10:47	09/25/23 20:08	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.148	U	0.107	0.108	1.00	0.154	pCi/L	09/06/23 10:34	09/28/23 20:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.9		30 - 110					09/06/23 10:34	09/28/23 20:35	1

Method: EPA 903.0 - Total Alpha Radium (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Alpha Radium	0.222		0.123	0.124	1.00	0.157	pCi/L	09/06/23 10:37	09/22/23 14:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.9		30 - 110					09/06/23 10:37	09/22/23 14:56	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Qualifiers

Rad Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Client Sample ID: DSN005 STORM POND

Lab Sample ID: 400-242702-1

Date Collected: 08/29/23 14:50

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.01 mL	1.0 g	626541	09/05/23 10:47	ASG	EET SL
Total/NA	Analysis	900.0		1			629491	09/25/23 20:08	FLC	EET SL
Total/NA	Prep	PrecSep_0			748.60 mL	1.0 g	626835	09/06/23 10:37	KAC	EET SL
Total/NA	Analysis	903.0		1			629278	09/22/23 14:56	SCB	EET SL
Total/NA	Prep	PrecSep-21			748.60 mL	1.0 g	626832	09/06/23 10:34	KAC	EET SL
Total/NA	Analysis	903.0		1			629977	09/28/23 20:35	FLC	EET SL

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Rad

Prep Batch: 626541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	Evaporation	
MB 160-626541/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-626541/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSE 160-626541/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 626832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	PrecSep-21	
MB 160-626832/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-626832/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-626832/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 626835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242702-1	DSN005 STORM POND	Total/NA	Water	PrecSep_0	
MB 160-626835/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-626835/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-626835/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-626541/1-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 626541

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.3114	U	0.623	0.624	3.00	1.25	pCi/L	09/05/23 10:47	09/25/23 16:26	1
Gross Beta	-0.4878	U	0.497	0.499	4.00	0.970	pCi/L	09/05/23 10:47	09/25/23 16:26	1

Lab Sample ID: LCS 160-626541/2-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626541

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	49.6	43.66		6.72	3.00	1.87	pCi/L	88	75 - 125

Lab Sample ID: LCSB 160-626541/3-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626541

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	72.6	67.39		7.27	4.00	0.975	pCi/L	93	75 - 125

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-626832/1-A
Matrix: Water
Analysis Batch: 629974

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 626832

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01683	U	0.0628	0.0628	1.00	0.130	pCi/L	09/06/23 10:34	09/28/23 20:30	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		30 - 110					09/06/23 10:34	09/28/23 20:30	1

Lab Sample ID: LCS 160-626832/2-A
Matrix: Water
Analysis Batch: 629974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626832

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	11.21		1.15	1.00	0.105	pCi/L	99	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	83.6		30 - 110						

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-626832/3-A						Client Sample ID: Lab Control Sample Dup							
Matrix: Water						Prep Type: Total/NA							
Analysis Batch: 629974						Prep Batch: 626832							
			Spike	LCSD	LCSD	Total				%Rec	RER		
Analyte			Added	Result	Qual	Uncert.	RL	MDC	Unit	%Rec	Limits	RER	Limit
Radium-226			11.3	12.50		1.30	1.00	0.0972	pCi/L	110	75 - 125	0.53	1
Carrier	LCSD	LCSD											
	%Yield	Qualifier	Limits										
Ba Carrier	85.9		30 - 110										

Method: 903.0 - Total Alpha Radium (GFPC)

Lab Sample ID: MB 160-626835/1-A						Client Sample ID: Method Blank					
Matrix: Water						Prep Type: Total/NA					
Analysis Batch: 629278						Prep Batch: 626835					
Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac	
Total Alpha Radium	0.05128	U	0.0732	0.0734	1.00	0.124	pCi/L	09/06/23 10:37	09/22/23 14:55	1	
Carrier	MB %Yield	MB Qualifier	Limits								
Ba Carrier	84.4		30 - 110	Prepared	Analyzed	Dil Fac					
				09/06/23 10:37	09/22/23 14:55	1					

Lab Sample ID: LCS 160-626835/2-A						Client Sample ID: Lab Control Sample						
Matrix: Water						Prep Type: Total/NA						
Analysis Batch: 629278						Prep Batch: 626835						
		Spike	LCS	LCS	Total					%Rec		
Analyte		Added	Result	Qual	Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Limits		
Total Alpha Radium		11.3	11.86		1.22	1.00	0.126	pCi/L	105	75 - 125		
Carrier		LCS %Yield	LCS Qualifier	Limits								
Ba Carrier		83.6		30 - 110								

Lab Sample ID: LCSD 160-626835/3-A						Client Sample ID: Lab Control Sample Dup						
Matrix: Water						Prep Type: Total/NA						
Analysis Batch: 629278						Prep Batch: 626835						
		Spike	LCSD	LCSD	Total					%Rec	RER	
Analyte		Added	Result	Qual	Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Limits	RER	Limit
Total Alpha Radium		11.3	11.80		1.21	1.00	0.101	pCi/L	104	75 - 125	0.03	1
		LCSD	LCSD									
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	85.9		30 - 110									

Eurofins Pensacola

[illegible]

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10/3/2023

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242702-2

SDG Number: Form 2F Table C

Login Number: 242702

List Source: Eurofins Pensacola

List Number: 1

Creator: Roberts, Alexis J

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.5°C IR10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242702-2

SDG Number: Form 2F Table C

Login Number: 242702

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 09/01/23 03:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ ($1/4''$).	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242702-2
SDG: Form 2F Table C

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (VW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	10-01-23
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23 *
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
West Virginia DEP	State	381	10-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table C

JOB NUMBER

400-242684-1

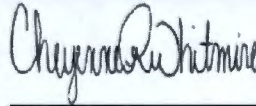
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Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Job ID: 400-242684-1

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-242684-1

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.6°C

Metals

Method 200.8_CWA: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-639708 and analytical batch 400-639911 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

General Chemistry

Method 350.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 400-640135 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 351.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-639817 and analytical batch 400-640062 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 4500_CL_G: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: DSN006 STORM POND (400-242684-1).

Biology

Method 9222D: The following sample was received outside of holding time: DSN006 STORM POND (400-242684-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242684-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Sulfate	13		1.0	0.39	mg/L	1			300.0	Total/NA
Aluminum	0.073		0.025	0.014	mg/L	5			200.8	Total/NA
Iron	0.19		0.13	0.079	mg/L	5			200.8	Total/NA
Magnesium	3.8		0.13	0.041	mg/L	5			200.8	Total/NA
Color	42		5.0	5.0	Color Units	1			110.2	Total/NA
pH at time of analysis	8.2		0.010	0.010	SU	1			110.2	Total/NA
Ammonia	0.14		0.050	0.024	mg/L	1			350.1	Total/NA
Nitrogen, Kjeldahl	0.63		0.50	0.26	mg/L	1			351.2	Total/NA
Nitrogen, Total Organic	0.49	J	0.50	0.26	mg/L	1			Nitrogen,Org	Total/NA
Chlorine, Total Residual	0.060	J H	0.10	0.057	mg/L	1			SM 4500 Cl G	Total/NA
MBAS - Surfactants	0.10		0.10	0.067	mg/l LAS MW 340	1			SM 5540C	Total/NA
Coliform, Fecal	4300	H H3	1.0	1.0	CFU/100mL	1			SM 9222D	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PEN
200.8	Metals (ICP/MS)	EPA	EET PEN
110.2	Color, Colorimetric	EPA	EET PEN
350.1	Nitrogen, Ammonia	EPA	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN
Nitrogen,Org	Nitrogen, Organic	EPA	EET PEN
SM 4500 Cl G	Chlorine, Residual	SM	EET PEN
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET PEN
SM 9222D	Coliforms, Fecal (Membrane Filter)	SM	EET PEN
200.8	Preparation, Total Metals	EPA	EET PEN
351.2	Nitrogen, Total Kjeldahl	EPA	EET PEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLeMore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242684-1	DSN006 STORM POND	Water	08/29/23 15:10	08/30/23 11:55

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242684-1

Date Collected: 08/29/23 15:10

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 300.0 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	13		1.0	0.39	mg/L			08/31/23 20:35	1

Method: EPA 200.8 - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.073		0.025	0.014	mg/L		09/05/23 12:05	09/06/23 10:10	5
Iron	0.19		0.13	0.079	mg/L		09/05/23 12:05	09/06/23 10:10	5
Magnesium	3.8		0.13	0.041	mg/L		09/05/23 12:05	09/06/23 10:10	5
Zinc	<0.0088		0.020	0.0088	mg/L		09/05/23 12:05	09/06/23 10:10	5

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color (EPA 110.2)	42		5.0	5.0	Color Units			08/30/23 20:25	1
pH at time of analysis (EPA 110.2)	8.2		0.010	0.010	SU			08/30/23 20:25	1
Ammonia (EPA 350.1)	0.14		0.050	0.024	mg/L			09/07/23 15:14	1
Nitrogen, Kjeldahl (EPA 351.2)	0.63		0.50	0.26	mg/L		09/05/23 17:08	09/06/23 16:25	1
Nitrogen, Total Organic (EPA Nitrogen,Org)	0.49	J	0.50	0.26	mg/L			09/05/23 13:10	1
Chlorine, Total Residual (SM 4500 Cl G)	0.060	J H	0.10	0.057	mg/L			09/01/23 16:27	1
MBAS - Surfactants (SM 5540C)	0.10		0.10	0.067	mg/l LAS MW 340			08/31/23 08:30	1

Method: SM 9222D - Coliforms, Fecal (Membrane Filter)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	4300	H H3	1.0	1.0	CFU/100mL			08/30/23 13:54	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Qualifiers

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Biology

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
H3	Sample was received and analyzed past holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242684-1

Date Collected: 08/29/23 15:10

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	10 mL	10 mL	639431	08/31/23 20:35	LHB	EET PEN
Total/NA	Prep	200.8			50 mL	50 mL	639708	09/05/23 12:05	MS	EET PEN
Total/NA	Analysis	200.8		5			639911	09/06/23 10:10	NTH	EET PEN
Total/NA	Analysis	110.2		1			639240	08/30/23 20:25	DEK	EET PEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	640135	09/07/23 15:14	CAC	EET PEN
Total/NA	Prep	351.2			25 mL	25 mL	639817	09/05/23 17:08	VB	EET PEN
Total/NA	Analysis	351.2		1			640062	09/06/23 16:25	KWS	EET PEN
Total/NA	Analysis	Nitrogen,Org		1			639739	09/05/23 13:10	KWS	EET PEN
Total/NA	Analysis	SM 4500 Cl G		1	10 mL	10 mL	639534	09/01/23 16:27	CAC	EET PEN
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	639287	08/31/23 08:30	SF	EET PEN
Total/NA	Analysis	SM 9222D		1			639338	08/30/23 13:54	AT	EET PEN
Completed:								08/31/23 13:07		

* This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

HPLC/IC

Analysis Batch: 639431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	300.0	
MB 400-639431/5	Method Blank	Total/NA	Water	300.0	
LCS 400-639431/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-639431/7	Lab Control Sample Dup	Total/NA	Water	300.0	

Metals

Prep Batch: 639708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	200.8	
MB 400-639708/1-A ^5	Method Blank	Total/NA	Water	200.8	
LCS 400-639708/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	

Analysis Batch: 639911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	200.8	639708
MB 400-639708/1-A ^5	Method Blank	Total/NA	Water	200.8	639708
LCS 400-639708/2-A ^5	Lab Control Sample	Total/NA	Water	200.8	639708

General Chemistry

Analysis Batch: 639240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	110.2	
MB 400-639240/1	Method Blank	Total/NA	Water	110.2	
LCS 400-639240/3	Lab Control Sample	Total/NA	Water	110.2	

Analysis Batch: 639287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	SM 5540C	
MB 400-639287/3	Method Blank	Total/NA	Water	SM 5540C	
LCS 400-639287/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MRL 400-639287/5	Lab Control Sample	Total/NA	Water	SM 5540C	
400-242684-1 MS	DSN006 STORM POND	Total/NA	Water	SM 5540C	
400-242684-1 MSD	DSN006 STORM POND	Total/NA	Water	SM 5540C	

Analysis Batch: 639534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	SM 4500 CI G	
MB 400-639534/4	Method Blank	Total/NA	Water	SM 4500 CI G	
LCS 400-639534/5	Lab Control Sample	Total/NA	Water	SM 4500 CI G	
MRL 400-639534/3	Lab Control Sample	Total/NA	Water	SM 4500 CI G	

Analysis Batch: 639739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	Nitrogen,Org	

Prep Batch: 639817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	351.2	
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	

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QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

General Chemistry

Analysis Batch: 640062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	351.2	639817
MB 400-639817/1-A	Method Blank	Total/NA	Water	351.2	639817
LCS 400-639817/2-A	Lab Control Sample	Total/NA	Water	351.2	639817
MRL 400-640062/10	Lab Control Sample	Total/NA	Water	351.2	

Analysis Batch: 640135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	350.1	
MB 400-640135/24	Method Blank	Total/NA	Water	350.1	
LCS 400-640135/25	Lab Control Sample	Total/NA	Water	350.1	
MRL 400-640135/18	Lab Control Sample	Total/NA	Water	350.1	

Biology

Analysis Batch: 639338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	SM 9222D	
MB 400-639338/1	Method Blank	Total/NA	Water	SM 9222D	
LCS 400-639338/2	Lab Control Sample	Total/NA	Water	SM 9222D	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-639431/5
Matrix: Water
Analysis Batch: 639431

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<0.39		1.0	0.39	mg/L			08/31/23 18:36	1

Lab Sample ID: LCS 400-639431/6
Matrix: Water
Analysis Batch: 639431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	10.0	9.20		mg/L		92	90 - 110

Lab Sample ID: LCSD 400-639431/7
Matrix: Water
Analysis Batch: 639431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	10.0	9.60		mg/L		96	90 - 110	4	15

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 400-639708/1-A ^5
Matrix: Water
Analysis Batch: 639911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639708

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.014		0.025	0.014	mg/L		09/05/23 12:05	09/06/23 07:10	5
Iron	<0.079		0.13	0.079	mg/L		09/05/23 12:05	09/06/23 07:10	5
Magnesium	<0.041		0.13	0.041	mg/L		09/05/23 12:05	09/06/23 07:10	5
Zinc	<0.0088		0.020	0.0088	mg/L		09/05/23 12:05	09/06/23 07:10	5

Lab Sample ID: LCS 400-639708/2-A ^5
Matrix: Water
Analysis Batch: 639911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639708

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	0.500	0.445		mg/L		89	85 - 115
Iron	5.00	4.59		mg/L		92	85 - 115
Magnesium	5.00	4.48		mg/L		90	85 - 115
Zinc	0.0500	0.0483		mg/L		97	85 - 115

Method: 110.2 - Color, Colorimetric

Lab Sample ID: MB 400-639240/1
Matrix: Water
Analysis Batch: 639240

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	<5.0		5.0	5.0	Color Units			08/30/23 20:25	1
pH at time of analysis	5.97		0.010	0.010	SU			08/30/23 20:25	1

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Method: 110.2 - Color, Colorimetric (Continued)

Lab Sample ID: LCS 400-639240/3
Matrix: Water
Analysis Batch: 639240

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Color	35.0	34.0		Color Units		97	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 400-640135/24
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	<0.024		0.050	0.024	mg/L			09/07/23 15:08	1

Lab Sample ID: LCS 400-640135/25
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.00	2.98		mg/L		99	90 - 110

Lab Sample ID: MRL 400-640135/18
Matrix: Water
Analysis Batch: 640135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.0500	0.0600		mg/L		120	50 - 150

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 400-639817/1-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 639817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	<0.26		0.50	0.26	mg/L		09/05/23 17:04	09/06/23 16:08	1

Lab Sample ID: LCS 400-639817/2-A
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 639817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	10.0	10.2		mg/L		102	90 - 110

Lab Sample ID: MRL 400-640062/10
Matrix: Water
Analysis Batch: 640062

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrogen, Kjeldahl	0.500	0.420	J	mg/L		84	50 - 150

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Method: SM 4500 Cl G - Chlorine, Residual

Lab Sample ID: MB 400-639534/4					Client Sample ID: Method Blank				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639534									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	<0.057		0.10	0.057	mg/L			09/01/23 16:27	1

Lab Sample ID: LCS 400-639534/5					Client Sample ID: Lab Control Sample				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639534									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorine, Total Residual	1.17	1.20		mg/L		103	85 - 115		

Lab Sample ID: MRL 400-639534/3					Client Sample ID: Lab Control Sample				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639534									
Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorine, Total Residual	0.117	0.130		mg/L		111	50 - 150		

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 400-639287/3					Client Sample ID: Method Blank				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639287									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS - Surfactants	<0.067		0.10	0.067	mg/l LAS MW 340			08/31/23 08:30	1

Lab Sample ID: LCS 400-639287/4					Client Sample ID: Lab Control Sample				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639287									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS - Surfactants	0.500	0.533		mg/l LAS MW 340		107	90 - 110		

Lab Sample ID: MRL 400-639287/5					Client Sample ID: Lab Control Sample				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639287									
Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
MBAS - Surfactants	0.100	0.123		mg/L		123	75 - 125		

Lab Sample ID: 400-242684-1 MS					Client Sample ID: DSN006 STORM POND				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 639287									
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS - Surfactants	0.10		0.500	0.499		mg/l LAS MW 340		79	70 - 130

Eurofins Pensacola

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

Lab Sample ID: 400-242684-1 MSD

Client Sample ID: DSN006 STORM POND

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 639287

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS - Surfactants	0.10		0.500	0.518		mg/l LAS MW 340		83	70 - 130	4	30

Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Lab Sample ID: MB 400-639338/1

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 639338

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	<1.0		1.0	1.0	CFU/100mL			08/30/23 13:12	1

Environment Testing

Client Information Client Contact: Carla Pearson Company: International Paper Company Address: 601 County Road 78 City: Selma State, Zip: AL, 36703 Phone: 334-418-5236(Tel) Email: Carla.Pearson@ipaper.com Project Name: Form 2F Table C Site: RIVERDALE MILL		Sampler: CARLA C. PEARSON Phone: 334-418-5236 Lab PM: Whitmire, Cheyenne R E-Mail: Cheyenne.Whitmire@et.eurofinsus.com PWSID:		400-242684 COC (s) AL COC: 400-121859-41792.1 Page: 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): ASAP Compliance Project: ☐ Yes ☐ No PO #: 16969625 WO #:		Analysis Requested 903.0, 903.0_TAR 900.0 - Gross Alpha & Gross Beta 350.1, 351.2, Nitrogen, Org 110.2 - Color 300_ORGFM_28D - Sulfate 200.8_CWA - AL, FE, MG & ZN 5540C - Surfactants 9222D - Coliforms, Fecal SM4500_Chlor_B - Chlorine, Total Residual		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDTA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:	
Sample Identification Sample Date: 8/29/23 Sample Time: 3:10 Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air): Water		Special Instructions/Note:		Total Number of Samples: 10	
DSN006 STORM POND " " " " " " " " " " " " " " " "		" " " " " " " " " " " " " " " "		" " " " " " " " " " " " " " " "	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☒ Archive For 1 Months		Special Instructions/QC Requirements: After 1 month, dispose	
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by: [Signature] Date: 8/30/23 7:45 Company: IP-RIVERDALE		Relinquished by: [Signature] Date/Time: 8/30/23 7:45 Company: Custody Seal & Sign	
Relinquished by: [Signature] Date/Time: 8/30/23 11:55 Company:		Relinquished by: [Signature] Date/Time: 8/30/23 11:55 Company:		Relinquished by: [Signature] Date/Time: 8/30/23 11:55 Company:	
Custody Seals Intact: ☒ Yes ☐ No Custody Seal No.: 2336408		Cooler Temperature(s) °C and Other Remarks: 0.6 IP8			

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242684-1

SDG Number: Form 2F Table C

Login Number: 242684

List Source: Eurofins Pensacola

List Number: 1

Creator: Roberts, Alexis J

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC not relinquished.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-1
SDG: Form 2F Table C

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-23
Maryland	State	233	09-30-23
North Carolina (WW/SW)	State	314	12-31-23
Oklahoma	NELAP	9810	12-31-23
Pennsylvania	NELAP	68-00467	01-31-24
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

ANALYTICAL REPORT

PREPARED FOR

Attn: Carla Pearson
International Paper Company
601 County Road 78
Selma, Alabama 36703

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JOB DESCRIPTION

Riverdale Mill
SDG NUMBER Form 2F Table C

JOB NUMBER

400-242684-2

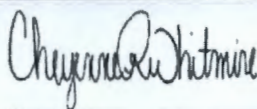
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Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Case Narrative

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Job ID: 400-242684-2

Laboratory: Eurofins Pensacola

Narrative

Job Narrative 400-242684-2

Receipt

The sample was received on 8/30/2023 11:55 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.6°C

Gas Flow Proportional Counter

Method 900.0: Gross Alpha and Gross Beta batch 626541. The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: (870-20321-C-1-A) and (870-20321-C-1-D DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha and Gross Beta batch 626541. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.DSN006 STORM POND (400-242684-1), (LCS 160-626541/2-A), (LCSB 160-626541/3-A), (MB 160-626541/1-A), (870-20321-C-1-A), (870-20321-C-1-D DU), (870-20321-C-1-B MS) and (870-20321-C-1-C MSBT)

Method 903.0: Radium-226 Prep Batch 160-626832. The following sample was prepared at a reduced aliquot due to Matrix: DSN006 STORM POND (400-242684-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 903.0: Radium-226 batch 626832. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.DSN006 STORM POND (400-242684-1), (LCS 160-626832/2-A), (LCSD 160-626832/3-A) and (MB 160-626832/1-A)

Method 903.0_TAR: Total Alpha Radium Prep Batch 160-626835. The following sample was prepared at a reduced aliquot due to Matrix: DSN006 STORM POND (400-242684-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method 903.0_TAR: Total Alpha Radium batch 626835. Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.DSN006 STORM POND (400-242684-1), (LCS 160-626835/2-A), (LCSD 160-626835/3-A) and (MB 160-626835/1-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
903.0	Total Alpha Radium (GFPC)	EPA	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
None = None

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-242684-1	DSN006 STORM POND	Water	08/29/23 15:10	08/30/23 11:55

1

2

3

4

5

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7

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9

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11

12

13

Client Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242684-1

Date Collected: 08/29/23 15:10

Matrix: Water

Date Received: 08/30/23 11:55

Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.32	U	1.66	1.67	3.00	2.76	pCi/L	09/05/23 10:47	09/25/23 20:08	1
Gross Beta	5.52		1.05	1.19	4.00	1.14	pCi/L	09/05/23 10:47	09/25/23 20:08	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0368	U	0.0663	0.0663	1.00	0.119	pCi/L	09/06/23 10:34	09/28/23 20:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.1		30 - 110					09/06/23 10:34	09/28/23 20:33	1

Method: EPA 903.0 - Total Alpha Radium (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Alpha Radium	0.123	U	0.106	0.106	1.00	0.159	pCi/L	09/06/23 10:37	09/22/23 14:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.1		30 - 110					09/06/23 10:37	09/22/23 14:56	1

Definitions/Glossary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Qualifiers

Rad	
Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Lab Chronicle

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Client Sample ID: DSN006 STORM POND

Lab Sample ID: 400-242684-1

Date Collected: 08/29/23 15:10

Matrix: Water

Date Received: 08/30/23 11:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			171.97 mL	1.0 g	626541	09/05/23 10:47	ASG	EET SL
Total/NA	Analysis	900.0		1			629491	09/25/23 20:08	FLC	EET SL
Total/NA	Prep	PrecSep_0			746.48 mL	1.0 g	626835	09/06/23 10:37	KAC	EET SL
Total/NA	Analysis	903.0		1			629278	09/22/23 14:56	SCB	EET SL
Total/NA	Prep	PrecSep-21			746.48 mL	1.0 g	626832	09/06/23 10:34	KAC	EET SL
Total/NA	Analysis	903.0		1			629974	09/28/23 20:33	FLC	EET SL

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Association Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Rad

Prep Batch: 626541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	Evaporation	
MB 160-626541/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-626541/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-626541/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

Prep Batch: 626832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	PrecSep-21	
MB 160-626832/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-626832/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-626832/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 626835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-242684-1	DSN006 STORM POND	Total/NA	Water	PrecSep_0	
MB 160-626835/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-626835/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-626835/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-626541/1-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 626541

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.3114	U	0.623	0.624	3.00	1.25	pCi/L	09/05/23 10:47	09/25/23 16:26	1
Gross Beta	-0.4878	U	0.497	0.499	4.00	0.970	pCi/L	09/05/23 10:47	09/25/23 16:26	1

Lab Sample ID: LCS 160-626541/2-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626541

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Alpha	49.6	43.66		6.72	3.00	1.87	pCi/L	88	75 - 125

Lab Sample ID: LCSB 160-626541/3-A
Matrix: Water
Analysis Batch: 629491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626541

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Gross Beta	72.6	67.39		7.27	4.00	0.975	pCi/L	93	75 - 125

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-626832/1-A
Matrix: Water
Analysis Batch: 629974

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 626832

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01683	U	0.0628	0.0628	1.00	0.130	pCi/L	09/06/23 10:34	09/28/23 20:30	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		30 - 110					09/06/23 10:34	09/28/23 20:30	1

Lab Sample ID: LCS 160-626832/2-A
Matrix: Water
Analysis Batch: 629974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 626832

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	11.21		1.15	1.00	0.105	pCi/L	99	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	83.6		30 - 110						

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QC Sample Results

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-626832/3-A					Client Sample ID: Lab Control Sample Dup							
Matrix: Water					Prep Type: Total/NA							
Analysis Batch: 629974					Prep Batch: 626832							
Analyte		Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226		11.3	12.50		1.30	1.00	0.0972	pCi/L	110	75 - 125	0.53	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits									
Ba Carrier	85.9		30 - 110									

Method: 903.0 - Total Alpha Radium (GFPC)

Lab Sample ID: MB 160-626835/1-A								Client Sample ID: Method Blank			
Matrix: Water								Prep Type: Total/NA			
Analysis Batch: 629278								Prep Batch: 626835			
Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac	
	Result	Qualifier	Uncert.	Uncert.							
Total Alpha Radium	0.05128	U	(2σ+/-) 0.0732	(2σ+/-) 0.0734	1.00	0.124	pCi/L	09/06/23 10:37	09/22/23 14:55	1	
Carrier	MB	MB						Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier	Limits								
Ba Carrier	84.4		30 - 110					09/06/23 10:37	09/22/23 14:55	1	

Lab Sample ID: LCS 160-626835/2-A						Client Sample ID: Lab Control Sample						
Matrix: Water						Prep Type: Total/NA						
Analysis Batch: 629278						Prep Batch: 626835						
		Spike	LCS	LCS	Total					%Rec		
Analyte		Added	Result	Qual	Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	Limits		
Total Alpha Radium		11.3	11.86		1.22	1.00	0.126	pCi/L	105	75 - 125		

Lab Sample ID: LCSD 160-626835/3-A					Client Sample ID: Lab Control Sample Dup							
Matrix: Water					Prep Type: Total/NA							
Analysis Batch: 629278					Prep Batch: 626835							
Analyte		Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Total Alpha Radium		11.3	11.80		1.21	1.00	0.101	pCi/L	104	75 - 125	0.03	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits									
Ba Carrier	85.9		30 - 110									

Eurofins Pensacola

3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Environment Testing

[illegible]

Ver: 06/08/2021

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10/3/2023

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242684-2

SDG Number: Form 2F Table C

Login Number: 242684

List Source: Eurofins Pensacola

List Number: 1

Creator: Roberts, Alexis J

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC not relinquished.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: International Paper Company

Job Number: 400-242684-2

SDG Number: Form 2F Table C

Login Number: 242684

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 09/01/23 03:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ ($1/4''$).	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: International Paper Company
Project/Site: Riverdale Mill

Job ID: 400-242684-2
SDG: Form 2F Table C

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (VWV)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	10-01-23
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23 *
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
West Virginia DEP	State	381	10-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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