LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

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

NOVEMBER 29, 2023

MR FRED PEARSON III
DIRECTOR - ENVIRONMENTAL & SUSTAINABILITY
CONSTELLIUM MUSCLE SHOALS, LLC
4805 SECOND STREET
MUSCLE SHOALS ALABAMA 35661

RE: DRAFT PERMIT
NPDES PERMIT NUMBER AL0000035

Dear Mr. Pearson:

Transmitted herein is a draft of the referenced permit.

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

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

Our records indicate that 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 Theo Pinson by e-mail at **tpinson@adem.alabama.gov** or by phone at **(334) 274-4202.**

Sincerely,

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

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

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

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

Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: CONSTELLIUM MUSCLE SHOALS, LLC

FACILITY LOCATION: CONSTELLIUM MUSCLE SHOALS, LLC
4805 SECOND STREET
MUSCLE SHOALS, ALABAMA 35661
COLBERT COUNTY

PERMIT NUMBER: AL0000035

RECEIVING WATERS: DSN 001: POND CREEK
DSN 004: POND CREEK
DSN 006: POND CREEK
DSN 007: POND CREEK

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

ISSUANCE DATE:

EFFECTIVE DATE:

EXPIRATION DATE:

DRAFT

Alabama Department of Environmental Management

Table of Contents

Table of Contents (continued)

PART I: DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

DSN 001Q: Alloys Plant pump station #1 overflow, which contains non-contact cooling water, stormwater runoff and groundwater infiltration 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
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 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	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Quarterly	Grab	All Months
Arsenic, Total Recoverable (00978) 6/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Totalizer	All Months
Cyanide, Free Available (51173) 5/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Mercury Total Recoverable (71901) 6/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months

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

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

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

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

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

5/ For the purpose of demonstration of compliance with this parameter, "Total" and "Total Recoverable" shall be considered equivalent.

6/ Available cyanide is defined as free and weakly-complexed cyanide

DSN 0041: Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff) 3/

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

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Temperature, Water Deg. Fahrenheit (00011) Effluent Gross Value	*****	*****	*****	*****	*****	90.0 Maximum Daily	deg F	Monthly	Grab	Jan, Feb, Mar, Apr, May, Oct, Nov, Dec
Temperature, Water Deg. Fahrenheit (00011) Effluent Gross Value	*****	*****	*****	*****	*****	90.0 Maximum Daily	deg F	Week Days	Grab	Jun, Jul, Aug, Sep
Oxygen, Dissolved (DO) (00300) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	*****	mg/l	Weekly	Grab	All Months
pH (00400) 4/ Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Continuous	Recorder	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	30.0 Monthly Average	45.0 Maximum Daily	mg/l	Weekly	Composite	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Weekly	Grab	All Months
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	1.1 Monthly Average	1.65 Maximum Daily	mg/l	Weekly	Composite	Jan, Feb, Mar, Apr, Dec
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	1.4 Monthly Average	2.1 Maximum Daily	mg/l	Weekly	Composite	May, Jun, Jul, Aug, Sep, Oct, Nov
Nitrogen, Nitrate Total (As N) (00620) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	Apr, May, Jun, Jul, Aug, Sep

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/ Where the pH of the wastewater is measured continuously, the total time during which the pH is outside the required range of 6.0 to 8.5 standard units (S.U.) shall not exceed 7 hours 26 minutes in any calendar month, and no individual excursion outside the required range shall exceed 60 minutes in duration.

DSN 0041 (Continued): Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff) 3/ 4/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and deseribed 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
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	Apr, May, Jun, Jul, Aug, Sep
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	Apr, May, Jun, Jul, Aug, Sep
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Continuous	Totalizer	All Months
Chlorine, Total Residual (50060) 5/ Effluent Gross Value	*****	*****	*****	*****	*****	0.019 Maximum Daily	mg/l	Monthly	Grab	All Months
Cyanide, Free Available (51173) 6/ Effluent Gross Value	*****	*****	*****	*****	*****	0.022 Maximum Daily	mg/l	Monthly	Grab	All Months
Flow, Augmented Water (78932) 7/ Effluent Gross Value	*****	*****	*****	1.5 Minimum Daily	*****	*****	MGD	Continuous	Totalizer	Jan, Feb, Mar, Apr, Dec
Flow, Augmented Water (78932) 7/ Effluent Gross Value	*****	*****	*****	2.0 Minimum Daily	*****	*****	MGD	Continuous	Totalizer	May, Jun, Jul, Aug, Sep, Oct, Nov

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 colleeted 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/ Where the pH of the wastewater is measured continuously, the total time during which the pH is outside the required range of 6.0 to 8.5 standard units (S.U.) shall not exceed 7 hours 26 minutes in any calendar month, and no individual excursion outside the required range shall exceed 60 minutes in duration.

5/ A measurement of Total Residual Chlorine below 0.05 mg/L will be considered in compliance with the permit limitations above and should be reported as NODI=B or *B on the discharge monitoring reports.

6/ Available cyanide is defined as free and weakly-complexed cyanide

7/ The flow augmentation system shall be operated to continuously discharge at a rate sufficient to meet the minimum daily discharge requirements at all times when effluent is discharged from the facility.

DSN 0041 (Continued): Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff) 3/

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

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	6.0 Monthly Average	9.0 Maximum Daily	mg/l	Weekly	Composite	May, Jun, Jul, Aug, Sep, Oct, Nov
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	9.0 Monthly Average	13.5 Maximum Daily	mg/l	Weekly	Composite	Jan, Feb, Mar, Apr, Dec
pH Range Excursions, > 60 Minutes (82581) 4/ Effluent Gross Value	*****	0.0 Maximum Monthly	occur/month	*****	*****	*****	*****	Monthly	Calculated	All Months
pH Range Excursions, Monthly Total Accumulation (82582) 4/ Effluent Gross Value	*****	446.0 Maximum Monthly	min	*****	*****	*****	*****	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/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

4/ Where the pH of the wastewater is measured continuously, the total time during which the pH is outside the required range of 6.0 to 8.5 standard units (S.U.) shall not exceed 7 hours 26 minutes in any calendar month, and no individual excursion outside the required range shall exceed 60 minutes in duration.

DSN 004Q: Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff) 3/

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

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Arsenic, Total Recoverable (00978) 4/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Mercury Total Recoverable (71901) 4/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months

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

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

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

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

4/ For the purpose of demonstration of compliance with this parameter, "Total" and "Total Recoverable" shall be considered equivalent.

DSN 004T: Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff) 3/ 4/

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

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Toxicity, Ceriodaphnia Acute (61425) Effluent Gross Value	0 Monthly Average	*****	pass=0;fail=1	*****	*****	*****	*****	Quarterly	Composite	All Months
Toxicity, Pimephales Acute (61427) Effluent Gross Value	0 Monthly Average	*****	pass=0;fail=1	*****	*****	*****	*****	Quarterly	Composite	All Months

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

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

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

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

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

DSN 04A1: Internal outfall to DSN 04F for discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System 3/

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

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Chromium, Hexavalent (As Cr) (01032) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	5X Weekly	Totalizer	All Months

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

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

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

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

DSN 04E1: Internal outfall to DSN 004 and/or DSN 007 for compliance with 40 CFR Part 421 effluent guideline limitations for wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff 3/

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

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	5X Weekly	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	29.44 Monthly Average	66.98 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Lead, Total (As Pb) (01051) Effluent Gross Value	0.065 Monthly Average	0.14 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Zinc, Total (As Zn) (01092) Effluent Gross Value	0.21 Monthly Average	0.51 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Aluminum, Total (As Al) (01105) Effluent Gross Value	1.36 Monthly Average	3.07 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Continuous	Totalizer	All Months

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

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

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

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

DSN 04F1: Internal outfall to DSN 004 and/or DSN 007 for compliance with 40 CFR Parts 465 & 467 effluent guideline limitations for wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, stormwater runoff, and discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System (DSN04A) 3/

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

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	5X Weekly	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	273.88 Monthly Average	569.32 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months
Oil & Grease (00556) Effluent Gross Value	166.52 Monthly Average	277.67 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Cyanide, Total (As CN) (00720) Effluent Gross Value	0.85 Monthly Average	2.06 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Chromium, Total (As Cr) (01034) Effluent Gross Value	1.27 Monthly Average	3.11 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months
Zinc, Total (As Zn) (01092) Effluent Gross Value	4.28 Monthly Average	10.24 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months
Aluminum, Total (As Al) (01105) Effluent Gross Value	20.90 Monthly Average	43.50 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Continuous	Totalizer	All Months
E. Coli (51040) Effluent Gross Value	*****	*****	*****	*****	700 Monthly Average	3200 Maximum Daily	col/100mL	Monthly	Grab	All Months

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

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

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

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

DSN 006Q: Stormwater runoff associated with the northwest portion of the Alabama Reclamation Plant site 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
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	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Quarterly	Grab	All Months
Arsenic, Total Recoverable (00978) 5/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Calculated	All Months
Cyanide, Free Available (51173) 6/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Mercury Total Recoverable (71901) 5/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Chemical Oxygen Demand (COD) (81017) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months

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

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

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

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

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

5/ For the purpose of demonstration of compliance with this parameter, "Total" and "Total Recoverable" shall be considered equivalent.

6/ Available cyanide is defined as free and weakly-complexed cyanide.

DSN 0071: Outfall DSN 004 bypass including treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff) 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
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Weekly	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Weekly	Grab	All Months
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months
Copper Total Recoverable (01119) 5/ Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Totalizer	All Months
Cyanide, Free Available (51173) 6/ Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	0.022 Maximum Daily	mg/l	Weekly	Grab	All Months
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months

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

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

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

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

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

5/ For the purpose of demonstration of compliance with this parameter, "Total" and "Total Recoverable" shall be considered equivalent.

6/ Available cyanide is defined as free and weakly-complexed cyanide.

7/ For Outfall 007, "Weekly" sample frequency means monitoring is required for one bypass event per calendar week if a bypass occurs on weekdays between 8 AM and 4 PM. The sample may be collected at the surface inside the bypass weir if necessary to obtain a representative sample of the discharge.

DSN 007Q: Outfall DSN 004 bypass including treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff)

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: 3/ 4/ 6/

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Arsenic, Total Recoverable (00978) 5/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Mercury Total Recoverable (71901) 5/ Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months

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

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

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

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

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

5/ For the purpose of demonstration of compliance with this parameter, "Total" and "Total Recoverable" shall be considered equivalent.

6/ The sample may be collected at the surface inside the bypass weir if necessary to obtain a representative sample of the discharge.

B. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Representative Sampling

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

2. Test Procedures

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

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

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

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

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

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

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

3. Recording of Results

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

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

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

c. The dates and times the analyses were performed;

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

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

f. The results of all required analyses.

4. Records Retention and Production

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

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

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

5. Monitoring Equipment and Instrumentation

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

C. DISCHARGE REPORTING REQUIREMENTS

1. Reporting of Monitoring Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Certified and Registered Mail shall be addressed to:

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

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

2. Noncompliance Notification

a. 24-Hour Noncompliance Reporting

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

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

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

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

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

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

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

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

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

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

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

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

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

D. Other Reporting and Notification Requirements

1. Anticipated Noncompliance

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

2. Termination of Discharge

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

3. Updating Information

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

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

4. Duty to Provide Information

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

5. Cooling Water and Boiler Water Additives

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

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

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

(3) quantities to be used;

(4) frequencies of use;

(5) proposed discharge concentrations; and

(6) EPA registration number, if applicable.

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

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

6. Permit Issued Based on Estimated Characteristics

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

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

E. SCHEDULE OF COMPLIANCE

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

COMPLIANCE SHALL BE ATTAINED ON THE EFFECTIVE DATE OF THIS PERMIT

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

PART II: OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Maintenance

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

2. Best Management Practices

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

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

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

3. Spill Prevention, Control, and Management

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

B. OTHER RESPONSIBILITIES

1. Duty to Mitigate Adverse Impacts

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

2. Right of Entry and Inspection

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

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

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

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

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

C. BYPASS AND UPSET

1. Bypass

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

b. A bypass is not prohibited if:

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

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

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

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

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

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

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

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

2. Upset

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

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

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

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

D. Duty to Comply with Permit, Rules, and Statutes

1. Duty to Comply

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

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

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

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

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

2. Removed Substances

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

3. Loss or Failure of Treatment Facilities

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

4. Compliance with Statutes and Rules

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

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

E. Permit Transfer, Modification, Suspension, Revocation, and Reissuance

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

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

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

2. Change in Discharge

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

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

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

(i) one hundred micrograms per liter;

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

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

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

(i) five hundred micrograms per liter;

(ii) one milligram per liter for antimony;

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

3. Transfer of Permit

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

4. Permit Modification and Revocation

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5. Permit Termination

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

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

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

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

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

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

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

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

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

6. Permit Suspension

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

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

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

F. Compliance with Toxic Pollutant Standard or Prohibition

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

G. Discharge of Wastewater Generated by Others

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

PART III: OTHER PERMIT CONDITIONS

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

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

2. False Statements

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

3. Permit Enforcement

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

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

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

(2) An action for damages;

(3) An action for injunctive relief; or

(4) An action for penalties.

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

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

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

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

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

4. Relief from Liability

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

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

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

C. PROPERTY AND OTHER RIGHTS

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

D. AVAILABILITY OF REPORTS

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

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES

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

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

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

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

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

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

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

F. COMPLIANCE WITH WATER QUALITY STANDARDS

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

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

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

G. GROUNDWATER

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

H. DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

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

13. Director - means the Director of the Department.

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

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

16. DO – means dissolved oxygen.

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

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

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

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

19. FC – means the pollutant parameter fecal coliform.

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

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

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

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

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

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

26. MGD – means million gallons per day.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

41. TRC – means Total Residual Chlorine.

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

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

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

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

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

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

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

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

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

I. SEVERABILITY

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

PART IV: ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS

1. BMP Plan

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

2. Plan Content

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

a. Establish specific objectives for the control of pollutants:

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

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

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

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

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

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

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

g. Provide for routine inspections, on days during which the facility is manned, of any structures that function to prevent stormwater pollution or to remove pollutants from stormwater and of the facility in general to ensure that the BMP is continually implemented and effective;

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

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

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

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

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

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

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

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

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

p. Bear the signature of the plant manager.

3. Compliance Schedule

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

4. Department Review

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

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

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

5. Administrative Procedures

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

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

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

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

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

B. STORMWATER FLOW MEASUREMENT AND SAMPLING REQUIREMENTS

1. Stormwater Flow Measurement

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

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

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

2. Stormwater Sampling

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

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

C. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS

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

a. Test Requirements:

(1) The tests shall be performed using undiluted effluent.

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

b. General Test Requirements:

(1) A 24-hour composite sample shall be obtained for use in above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the permittee and approved by the Department.

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

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

c. Reporting Requirements:

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

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

d. Additional Testing Requirements:

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

(2) After evaluation of the results of the follow-up tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/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 Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

2. Effluent toxicity testing reports

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

a. Introduction

(1) Facility Name, location and county

(2) Permit number

(3) Toxicity testing requirements of permit

(4) Name of receiving water body

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

(i) Name of firm

(ii) Telephone number

(iii) Address

(6) Objective of test

b. Plant Operations

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

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

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

c. Source of Effluent and Dilution Water

(1) Effluent samples

(i) Sampling point

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

(iii) Sample collection method

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

(v) Sample temperature when received at the laboratory

(vi) Lapsed time from sample collection to delivery

(vii)Lapsed time from sample collection to test initiation

(2) Dilution Water Samples

(i) Source

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

(iii) Pretreatment

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

d. Test Conditions

(1) Toxicity test method utilized

(2) End point(s) of test

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

(4) Date and time test started

(5) Date and time test terminated

(6) Type and volume of test chambers

(7) Volume of solution per chamber

(8) Number of organisms per test chamber

(9) Number of replicate test chambers per treatment

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

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

(12) Light intensity (mean)

e. Test Organisms

(1) Scientific name

(2) Life stage and age

(3) Source

(4) Disease treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source

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

(3) Dilution water utilized in reference toxicant test

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

(5) Physical and chemical methods utilized

g. Results

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

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

(3) Indicate statistical methods used to calculate endpoints

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

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

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Action to be taken

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

D. COOLING WATER INTAKE STRUCTURE (CWIS) REQUIREMENTS

1. The CWIS used by the Permittee has been evaluated using available information. At this time, the Department has determined that the CWIS represents the interim best technology available (40 CFR 125.98(b)(6)) 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 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. 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.

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

    a. The design intake flow and the actual intake flow of the CWIS;

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

    c. Through screen design and actual intake flow velocity;

    d. 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

    e. 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.

ADEM PERMIT RATIONALE

PREPARED DATE: November 8, 2023
PREPARED BY: Theo Pinson

Permittee Name: Constellium Muscle Shoals, LLC

Facility Name: Constellium Muscle Shoals, LLC

Permit Number: AL0000035

PERMIT IS A REISSUANCE DUE TO EXPIRATION

DISCHARGE SERIAL NUMBERS (DSN) & DESCRIPTIONS:

001	Alloys Plant pump station #1 overflow, which contains non-contact cooling water, stormwater runoff and groundwater infiltration
004	Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff)
04A	Internal outfall to DSN 04F for discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System
04E	Internal outfall to DSN 004 and/or DSN 007 for compliance with 40 CFR Part 421 effluent guideline limitations for wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff
04F	Internal outfall to DSN 004 and/or DSN 007 for compliance with 40 CFR Parts 465 & 467 effluent guideline limitations for wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, stormwater runoff, and discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System (DSN04A)
006	Stormwater runoff associated with the northwest portion of the Alabama Reclamation Plant site
007	Outfall DSN 004 bypass including treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff)

INDUSTRIAL CATEGORY: 40 CFR Part 421-Nonferrous Metals Manufacturing Point Source Category
40 CFR Part 465-Coil Coating Point Source Category
40 CFR Part 467-Aluminum Forming Point Source Category

MAJOR: Yes

STREAM INFORMATION:

Receiving Stream:	Pond Creek
Classification:	Agricultural and Industrial Water Supply (A&I)
River Basin:	Tennessee
7Q10:	0 cfs
7Q2:	0 cfs
1Q10:	0 cfs
Annual Average Flow:	21 cfs
303(d) List:	Yes
Impairment:	Organic Enrichment (CBOD, NBOD) and Metals (Arsenic, Cyanide, Mercury)
TMDL:	No

DISCUSSION:
Constellium Muscle Shoals, LLC is a major aluminum sheet supplier for the packaging and automotive markets. The facility produces aluminum sheet for use in beverage cans, finished aluminum coils, and aluminum automotive coils. Operations at the plant include casting, hot rolling, cold rolling, coating, slitting, finishing, packaging, and shipping. The Permittee also operates an aluminum recycling center at the facility.

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 neither for a new or expanded discharge nor to a Tier II water body; therefore, the anti-degradation requirements are not applicable.

DSN 001Q: Alloys Plant pump station #1 overflow, which contains non-contact cooling water, stormwater runoff and groundwater infiltration

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Quarterly	Grab	All Months	WQBEL/ BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Arsenic, Total Recoverable (00978) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Totalizer	All Months	BPJ
Cyanide, Free Available (51173) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
Mercury Total Recoverable (71901) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)

DSN 004Q: Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff)

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Arsenic, Total Recoverable (00978) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
Mercury Total Recoverable (71901) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)

DSN 004T: Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff)

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Toxicity, Ceriodaphnia Acute (61425) Effluent Gross Value	0 Monthly Average	*****	pass=0;fail=1	*****	*****	*****	*****	Quarterly	Composite	All Months	BPJ
Toxicity, Pimephales Acute (61427) Effluent Gross Value	0 Monthly Average	*****	pass=0;fail=1	*****	*****	*****	*****	Quarterly	Composite	All Months	BPJ

DSN 0041: Treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff)

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Temperature, Water Deg. Fahrenheit (00011) Effluent Gross Value	*****	*****	*****	*****	*****	90.0 Maximum Daily	deg F	Monthly	Grab	Jan, Feb, Mar, Apr, May, Oct, Nov, Dec	WQBEL
Temperature, Water Deg. Fahrenheit (00011) Effluent Gross Value	*****	*****	*****	*****	*****	90.0 Maximum Daily	deg F	Week Days	Grab	Jun, Jul, Aug, Sep	WQBEL
Oxygen, Dissolved (DO) (00300) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	*****	mg/l	Weekly	Grab	All Months	WQBEL
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Continuous	Recorder	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	30.0 Monthly Average	45.0 Maximum Daily	mg/l	Weekly	Composite	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Weekly	Grab	All Months	BPJ
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	1.1 Monthly Average	1.65 Maximum Daily	mg/l	Weekly	Composite	Jan, Feb, Mar, Apr, Dec	WQBEL
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	1.4 Monthly Average	2.1 Maximum Daily	mg/l	Weekly	Composite	May, Jun, Jul, Aug, Sep, Oct, Nov	WQBEL
Nitrogen, Nitrate Total (As N) (00620) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	Apr, May, Jun, Jul, Aug, Sep	BPJ
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	Apr, May, Jun, Jul, Aug, Sep	BPJ
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	Apr, May, Jun, Jul, Aug, Sep	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Continuous	Totalizer	All Months	BPJ
Chlorine, Total Residual (50060) Effluent Gross Value	*****	*****	*****	*****	*****	0.019 Maximum Daily	mg/l	Monthly	Grab	All Months	BPJ
Cyanide, Free Available (51173) Effluent Gross Value	*****	*****	*****	*****	*****	0.022 Maximum Daily	mg/l	Monthly	Grab	All Months	WQBEL
Flow, Augmented Water (78932) Effluent Gross Value	*****	*****	*****	1.5 Minimum Daily	*****	*****	MGD	Continuous	Totalizer	Jan, Feb, Mar, Apr, Dec	BPJ
Flow, Augmented Water (78932) Effluent Gross Value	*****	*****	*****	2.0 Minimum Daily	*****	*****	MGD	Continuous	Totalizer	May, Jun, Jul, Aug, Sep, Oct, Nov	BPJ
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	6.0 Monthly Average	9.0 Maximum Daily	mg/l	Weekly	Composite	May, Jun, Jul, Aug, Sep, Oct, Nov	WQBEL
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	9.0 Monthly Average	13.5 Maximum Daily	mg/l	Weekly	Composite	Jan, Feb, Mar, Apr, Dec	WQBEL
pH Range Excursions, > 60 Minutes (82581) Effluent Gross Value	*****	0.0 Maximum Monthly	occur/month	*****	*****	*****	*****	Monthly	Calculated	All Months	BPJ
pH Range Excursions, Monthly Total Accumulation (82582) Effluent Gross Value	*****	446.0 Maximum Monthly	min	*****	*****	*****	*****	Monthly	Calculated	All Months	BPJ

DSN 04A1: Internal outfall to DSN 04F for discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Chromium, Hexavalent (As Cr) (01032) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	5X Weekly	Totalizer	All Months	BPJ

DSN 04E1: Internal outfall to DSN 004 and/or DSN 007 for compliance with 40 CFR Part 421 effluent guideline limitations for wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	5X Weekly	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months	BPJ
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	29.44 Monthly Average	66.98 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months	EGL
Lead, Total (As Pb) (01051) Effluent Gross Value	0.065 Monthly Average	0.14 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months	EGL
Zinc, Total (As Zn) (01092) Effluent Gross Value	0.21 Monthly Average	0.51 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months	EGL
Aluminum, Total (As Al) (01105) Effluent Gross Value	1.36 Monthly Average	3.07 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months	EGL
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Continuous	Totalizer	All Months	BPJ

DSN 04F1: Internal outfall to DSN 004 and/or DSN 007 for compliance with 40 CFR Parts 465 & 467 effluent guideline limitations for wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, stormwater runoff, and discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System (DSN04A)

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	5X Weekly	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	273.88 Monthly Average	569.32 Maximum Daily	lbs/day	*****	30.0 Monthly Average	45.0 Maximum Daily	*****	Weekly	Composite	All Months	EGL
Oil & Grease (00556) Effluent Gross Value	166.52 Monthly Average	277.67 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months	EGL
Cyanide, Total (As CN) (00720) Effluent Gross Value	0.85 Monthly Average	2.06 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months	EGL
Chromium, Total (As Cr) (01034) Effluent Gross Value	1.27 Monthly Average	3.11 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months	EGL
Zinc, Total (As Zn) (01092) Effluent Gross Value	4.28 Monthly Average	10.24 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months	EGL
Aluminum, Total (As Al) (01105) Effluent Gross Value	20.90 Monthly Average	43.50 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months	EGL
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Continuous	Totalizer	All Months	BPJ
E. Coli (51040) Effluent Gross Value	*****	*****	*****	*****	700 Monthly Average	3200 Maximum Daily	col/100mL	Weekly	Grab	All Months	WQBEL
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	25.0 Monthly Average	37.5 Maximum Daily	mg/l	Weekly	Grab	All Months	EGL

DSN 006Q: Stormwater runoff associated with the northwest portion of the Alabama Reclamation Plant site

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
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	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Arsenic, Total Recoverable (00978) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Calculated	All Months	BPJ
Cyanide, Free Available (51173) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
Mercury Total Recoverable (71901) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
Chemical Oxygen Demand (COD) (81017) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ

DSN 0071: Outfall DSN 004 bypass including treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff)

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Weekly	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Weekly	Grab	All Months	BPJ
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months	BPJ
Copper Total Recoverable (01119) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Weekly	Grab	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
Cyanide, Free Available (51173) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	0.022 Maximum Daily	mg/l	Weekly	Grab	All Months	303(d)/ WQBEL
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Weekly	Grab	All Months	303(d)

For Outfall 007, "Weekly" sample frequency means monitoring is required for one bypass event per calendar week if a bypass occurs on weekdays between 8 AM and 4 PM. The sample may be collected at the surface inside the bypass weir if necessary to obtain a representative sample of the discharge.

DSN 007Q: Outfall DSN 004 bypass including treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation including internal Outfall 04A (discharges of treated coil coating wastewaters from the Alloys Plant Chromium Treatment System), internal Outfall 04E (wastewaters associated with black dross washing and direct chill casting operations including cooling waters, and stormwater runoff), and internal Outfall 04F (wastewaters associated with hot rolling, cold rolling, electromagnetic casting, coil coating, and cleaning or etching rinse including sanitary wastewaters, cooling waters, wash waters, discharges from Oily Waste Treatment Plants #1 and #2, and stormwater runoff)

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Arsenic, Total Recoverable (00978) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
Mercury Total Recoverable (71901) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)

*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

Best Professional Judgment (BPJ)
The parameters of concern for this facility are based on the parameters of concern listed in the permit application, applicable effluent guideline limitations, 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. The proposed frequencies are based on a review of site-specific conditions and an evaluation of similar facilities.

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

Outfall DSN001
During precipitation events, the Alloys Plant Pump Station #1 can become inundated and overflow. Outfall 001 is the overflow discharge which contain non-contact cooling water, stormwater runoff and groundwater infiltration. Discharges from Outfall 001 are not expected to occur during non-rain events. The Permittee should ensure BMPs are in place to monitor the lift station so that discharges do not occur due to non-operational sump pumps.

Oil & Grease
The daily maximum limit for Oil and Grease should prevent the occurrence of a visible sheen in the stream and has been shown to be achievable through the use of proper BMPs.

pH
ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(7)(c)2 – Specific Water Quality for Agricultural and Industrial water supply 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." Based on the precipitation driven nature of the discharge, pH limitations of 6.0 s.u. daily minimum and 9.0 s.u. daily maximum are proposed to be continued.

Monitor Only Parameters
Monitoring has been proposed for several indicator parameters to evaluate the effectiveness of the facility BMP Plan. Monitoring for Carbonaceous Biochemical Oxygen Demand (CBOD) has been proposed in lieu of monitoring for BOD.

Chlorine, Temperature
Temperature and chlorine are not expected to be parameters of concern at Outfall 001 since the discharges are stormwater driven.

Outfall DSN004
Outfall 004 is the primary outfall for wastewater discharges from the facility. The discharge includes treated process wastewaters and storm water runoff associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, the Water Treatment Plant, and flow augmentation.

Water Quality Based Effluent Limits (WQBEL)

The Department's Water Quality Branch completed a two season wasteload allocation (WLA) to model the discharge from Outfall 004. The proposed limitations for CBOD, ammonia, minimum DO, and flow augmentation are based on the WLA. The facility is required to operate the flow augmentation system to provide a continuous flow of water mixed with the effluent discharge. For the purposes of the WLA, the flow augmentation is represented as a "headwater flow." The flow augmentation system should be operated to continuously discharge at a rate sufficient to always meet the minimum daily discharge requirements when effluent is discharged from the facility to provide the headwater flow evaluated in the WLA. The required flow augmentation has been included as upstream flow in the Reasonable Potential Analysis (RPA).

pH

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(7)(c)2 – Specific Water Quality for Agricultural and Industrial water supply 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." Based on the provisions at 40 CFR 401.17 for continuous pH monitoring, the total time during which the pH is outside the required range of 6.0 to 8.5 standard units (S.U.) shall not exceed 7 hours 26 minutes in any calendar month, and no individual excursion outside the required range shall exceed 60 minutes in duration.

Temperature

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(7)(c)3 – Specific Water Quality for Agricultural and Industrial water supply classified streams states: "the maximum temperature rise above natural temperatures due to the addition of artificial heat shall not exceed 5 °F in streams, lakes, and reservoirs, nor shall the maximum water temperature exceed 90 °F."

Cyanide

The Department completed a reasonable potential analysis (RPA) of the discharge based on laboratory data provided in the Permittee's application and historical Discharge Monitoring Reports. The RPA indicates whether pollutants in treated effluent have the potential to contribute to excursions of Alabama's in-stream water quality standards. Based on the analytical data available to the Department a reasonable potential exists to cause an in-stream water quality exceedance for cyanide. As a result of the RPA and the receiving stream impairment, the Department has proposed a daily maximum cyanide limitation based on the water quality criteria.

E. Coli

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(7)(c)6 – Specific Water Quality for Agricultural and Industrial water supply classified streams states: "In non-coastal waters, bacteria of the E. coli group shall not exceed a geometric mean of 700 colonies/100 ml; nor exceed a maximum of 3,200 colonies/100 ml in any sample." Monitoring for E. coli is proposed at Outfall 04F since Outfall 004 includes stormwater run-on from areas not owned or under the direct control of the facility. Monitoring for E. coli at Outfall 04F provides a better representation of E. coli in wastewater generated at the facility.

Best Professional Judgment (BPJ)

Nutrients

The Department's Water Quality Section has requested monitoring for total phosphorus, total kjeldahl nitrogen, and nitrate plus nitrite-nitrogen to determine the nutrient loading on the receiving stream and to assist in the future development of water quality standards. Monitoring has been proposed during the growing season which is considered April through September in the Tennessee River Basin.

***Oil* & Grease**

The daily maximum limit for Oil and Grease should prevent the occurrence of a visible sheen in the stream and has been shown to be achievable through the use of proper BMPs.

Acute Toxicity Biomonitoring

The ADEM General Guidance for writing water quality based toxicity permit limits was used to develop bio-monitoring requirements for the discharger. Based on this guidance, 24 hour acute bio-monitoring using 100% effluent with no dilution will be imposed.

Total Residual Chlorine (TRC)

The TRC limits are based on the United States Environmental Protection Agency's (EPA) recommended water quality standard. Based on the classification of the receiving stream, only the acute toxicity-based limitation has been proposed. In accordance with a letter dated August 11, 1998 from EPA Headquarters and a 1991 memorandum from EPA Region 4's Environmental Services Division (ESD), due to testing and method detection limitations, a Total Residual Chlorine measurement below 0.05 mg/L shall be considered below detection for compliance purposes.

Internal Outfall 04A

Outfall DSN04A consists of treated coil coating wastewater associated with the Alloys Plant Chromium Treatment System. DSN04A discharges to internal Outfall DSN04F before final discharge through final Outfall DSN004. The discharge is regulated under 40 CFR Part 465 Subpart C – Aluminum Basis Material Subcategory. The guideline limitations will be applied at DSN04F. Hexavalent chromium has historically been monitored at this internal outfall to evaluate the performance of the chromium treatment system. The effluent guideline calculations are attached to the end of the rationale.

Internal Outfall 04E

Outfall DSN04E consists of process wastewater from black dross washing and direct chill casting operations, cooling waters, and stormwater runoff. DSN04E discharges to final Outfall DSN004 and/of DSN007. The discharge is regulated under 40 CFR Part 421.30, Subpart C-Secondary Aluminum Smelting Subcategory, specifically 40 CFR Part 421.30(f)-Direct Chill Casting Contact Cooling. To avoid backsliding, the more stringent of the calculated guideline limits versus the existing permit limitations have been proposed. The effluent guideline calculations are attached to the end of the rationale.

Internal Outfall 04F

Outfall DSN04F consists of discharges from internal Outfall DSN04A, Oily Waste Treatment Plants 1 & 2, sanitary wastewater, Alloys Plant D.C. Casting contact cooling water and other miscellaneous wastewater, groundwater and stormwater from the process areas. The discharge is regulated under 40 CFR Part 465 Subpart C – Aluminum Basis Material Subcategory, 40 CFR Part 467 Aluminum Forming Point Source Category Subpart A - Rolling with Neat Oils Subcategory-467.13 for Core with an Annealing Furnace Scrubber, Subpart B-Rolling with Emulsions Subcategory, 467.23 for Core Operations, Subpart A-Rolling with Neat Oils Subcategory-467.12 & 467.13 for Cleaning and Etching Rinse and Cleaning and Etching Bath. Monitoring for E. coli is proposed at Outfall 04F since Outfall 004 includes stormwater run-on from areas not owned or under the direct control of the facility. Monitoring for E. coli at Outfall 04F provides a better representation of E. coli in sanitary wastewater discharges from the facility.

Effluent Guideline Limitations

For the guideline limitations associated with internal Outfalls DSN04A and DSN04F, the proposed limitations were derived from the summation of the individual mass limitations for each waste stream subject to a different regulation. To avoid backsliding, the more stringent of the calculated guideline limits versus the existing permit limitations have been proposed. The effluent guideline calculations are attached to the end of the rationale.

Outfall 006

Outfall 006 covers stormwater discharges from the northwest portion of the Alabama Reclamation Plant site. Monitoring for the parameters of concern is proposed to evaluate BMP effectiveness. The proposed oil and grease limitation is based on BPJ and should prevent the occurrence of a visible sheen in the receiving stream. The limitation has been shown to be achievable through the use of proper BMPs.

Outfall 007

Outfall 007 is the bypass of the Outfall 004 final treatment pond which occurs in response to precipitation events. Wastewaters at the facility are pretreated in various locations and discharged into a ditch that flows through the property to the final treatment pond (Outfall 004). During precipitation events, there may be more water in the facility ditch than capacity to flow through the final treatment pond. Outfall 007 is this bypass of the final treatment pond. For Outfall 007, "Weekly" sample frequency means monitoring is required for one bypass event per calendar week if a bypass occurs on weekdays between 8 AM and 4 PM. All sample types for Outfall 007 have been proposed as grab based on the difficulties in obtaining composite samples due to the variable nature of the discharge. The sample may be collected at the surface inside the bypass weir if necessary to obtain a representative sample of the discharge. Outfall 007 includes stormwater runoff and treated process wastewaters associated with the Alloys Plant, Alabama Reclamation Plant, former Reduction Plant, and the Water Treatment Plant.

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

Pond Creek is listed on the 303(d) List of Impaired Waters for Organic Enrichment (CBOD, NBOD) and Metals (Arsenic, Cyanide, Mercury). Based on the 303(d) listing, monitoring is proposed for arsenic, cyanide, and mercury at each final outfall. Carbonaceous Biochemical Oxygen Demand (CBOD) monitoring will be imposed to determine the impact from each final outfall on the organic enrichment impairment of the receiving stream.

Secondary Treatment Standards

The Department determined that secondary treatment standards are most appropriately applied at final Outfall 004 based on the configuration of the treatment system and comingling of wastewater for treatment. The sanitary wastewaters are initially pretreated in a separate treatment system prior to comingling with the internal Outfall 04F plant process wastewaters for further treatment which includes but is not limited to aeration and clarification. The proposed final Outfall 004 TSS limitations are consistent with the secondary treatment standards and the proposed CBOD limitations are more stringent than secondary treatment standards.

Cooling Water Intake Structure (CWIS) Requirements

The CWIS used by the Permittee has been evaluated using available information. At this time, the Department has determined that the CWIS represents the interim best technology available (40 CFR 125.98(b)(6)) to minimize adverse environmental impact in accordance with Section 316(b) of the Federal Clean Water Act (33 U.S.C. section 1326). The CWIS is not subject to the phase II requirements for existing facilities because less than 25 percent of the water withdrawn is utilized for cooling purposes. The regulations require all CWIS not subject to the regulations to meet requirements under section 316(b) of the CWA established by the Department on a case-by-case, best professional judgment (BPJ) basis.

The Permittee indicated the maximum intake volume is 3.4 MGD, the average intake volume is 2.1 MGD, and approximately 7.1% of the water withdrawn is used for cooling purposes. The intake has a design through screen velocity of 0.04 ft/sec and an actual through-screen velocity of 0.02 ft/sec.

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.

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.

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

a. The design intake flow and the actual intake flow of the CWIS;

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

c. Through screen design and actual intake flow velocity;

d. 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

e. 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.

FACT SHEET

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

Date: November 8, 2023 **Prepared By:** Theo Pinson

NPDES Permit No. AL0000035

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

   Constellium Muscle Shoals, LLC
   4805 East Second Street
   Muscle Shoals, Alabama 35661

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

   Constellium Muscle Shoals, LLC
   4805 East Second Street
   Muscle Shoals, Alabama 35661

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

   Major Industrial Discharger, Aluminum Manufacturing

4. **Applicant's Receiving Waters**

Outfall	Receiving Water	Classification
001	Pond Creek	Agricultural and Industrial Water Supply (A&I)
004	Pond Creek	Agricultural and Industrial Water Supply (A&I)
006	Pond Creek	Agricultural and Industrial Water Supply (A&I)
007	Pond Creek	Agricultural and Industrial Water Supply (A&I)

*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:

Jeffery W. Kitchens, 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:

Jeffery W. Kitchens, 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.

40 CFR PART 421 - NONFERROUS METALS MANUFACTURING POINT SOURCE CATEGORY

40 CFR Part 421 Subpart C - Secondary Aluminum Smelting Subcategory
40 CFR 421.33(f) - Direct Chill Casting Contact Cooling

Limitations were calculated using the most stringent of BAT and BPT effluent limitations

Outfall DSN04E

Direct Chill Casting Production/Month = 18.75 ***Estimated production expected to begin in 2025
Direct Chill Casting Production/Year = 225
Days of Operation/Year = 340
Production Used = 0.6617647

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	Daily Maximum Allocation	Monthly Average Allocation	Existing Daily Maximum	Existing Monthly Average
	lbs./million lbs. of aluminum cast		lbs/day	lbs/day	lbs/day	lbs/day
Lead	0.372	0.173	0.2462	0.1145	0.14	0.065
Zinc	1.356	0.558	0.8974	0.3693	0.51	0.021
Aluminum	8.12	3.602	5.3735	2.3837	3.07	1.36
Ammonia as Nitrogen	177.2	77.88	117.2647	51.5382	66.98	29.44

*The existing daily maximum and monthly average limitations have been proposed to be continued.

40 CFR PART 467 - ALUMINUM FORMING POINT SOURCE CATEGORY

40 CFR Part 467 Subpart A-Rolling With Neat Oils Subcategory
Limitations were calculated using the most stringent of BAT and BPT effluent limitations

DSN004F
Core With an Annealing Furnace Scrubber (467.12 & 467.13)

Cold Rolling Production/Month = 97.42 Million off lbs/month
Cold Rolling Production/Year = 1169.04 Million off lbs/year
Days of Operation/Year = 340 Days
Production Used = 3.438352941 Million off lbs/day

Pollutant or pollutant property	Maximum Daily	Monthly Average	Daily Maximum Allocation	Monthly Average Allocation
	lbs./million off-lbs. of aluminum rolled with neat oils		lbs/day	lbs/day
Chromium (BPT limitation)	0.036	0.0147	0.1238	0.0505
Cyanide (BPT limitation)	0.0237	0.0098	0.0815	0.0337
Zinc (BPT limitation)	0.119	0.0498	0.4092	0.1712
Aluminum (BPT limitation)	0.525	0.257	1.8051	0.8837
Oil & Grease (BPT limitation)	1.634	0.98	5.6183	3.3696
Total Suspended Solids (BPT limitation)	3.348	1.593	11.5116	5.4773

40 CFR Part 467 Subpart B-Rolling With Emulsions Subcategory
Limitations were calculated using the most stringent of BAT and BPT effluent limitations

DSN004F
Core (467.22 & 467.23)

Hot Rolling Production/Month = 105.5 Million off lbs/month
Hot Rolling Production/Year = 1266 Million off lbs/year
Days of Operation/Year = 212 Days
Production Used = 5.971698113 Million off lbs/day

Pollutant or pollutant property	Maximum Daily	Monthly Average	Daily Maximum Allocation	Monthly Average Allocation
	lbs./million off-lbs. of aluminum rolled with emulsions		lbs/day	lbs/day
Chromium (BAT limitation)	0.057	0.024	0.3404	0.1433
Cyanide (BAT limitation)	0.038	0.016	0.2269	0.0955
Zinc (BAT limitation)	0.19	0.079	1.1346	0.4718
Aluminum (BPT limitation)	0.84	0.416	5.0162	2.4842
Oil & Grease (BPT limitation)	2.6	1.56	15.5264	9.3158
Total Suspended Solids (BPT limitation)	5.33	2.53	31.8292	15.1084

40 CFR Part 467 Subpart A-Rolling With Neat Oils Subcategory
Limitations were calculated using the most stringent of BAT and BPT effluent limitations

DSN004F
Cleaning or Etching Rinse (467.12 & 467.13)

Cleaning or Etching Rinse Production/Month = 16.92 Million off lbs/month
Cleaning or Etching Rinse Production/Year = 203.04 Million off lbs/year
Days of Operation/Year = 267 Days
Production Used = 0.760449438 Million off lbs/day

Pollutant or pollutant property	Maximum Daily	Monthly Average	Daily Maximum Allocation	Monthly Average Allocation
	lbs./million off-lbs. of aluminum cleaned or etched		lbs/day	lbs/day
Chromium (BAT limitation)	0.612	0.251	0.4654	0.1909
Cyanide (BAT limitation)	0.404	0.167	0.3072	0.1270
Zinc (BAT limitation)	2.031	0.849	1.5445	0.6456
Aluminum (BAT limitation)	8.944	4.45	6.8015	3.3840
Oil & Grease (BPT limitation)	278.24	166.95	211.5875	126.9570
Total Suspended Solids (BPT limitation)	570.39	271.29	433.7528	206.3023

40 CFR Part 467 Subpart B-Rolling With Emulsions Subcategory
Limitations were calculated using the most stringent of BAT and BPT effluent limitations

DSN004F
EMC Casting Contact Cooling Water (467.22 & 467.23)

EMC Casting Contact Cooling Water Production/Month = 105.5 Million off lbs/month
EMC Casting Contact Cooling Water Production/Year = 1266 Million off lbs/year
Days of Operation/Year = 350 Days
Production Used = 3.617142857 Million off lbs/day

Pollutant or pollutant property	Maximum Daily	Monthly Average	Daily Maximum Allocation	Monthly Average Allocation
	lbs./million off-lbs. of aluminum quenched		lbs/day	lbs/day
Chromium (BAT limitation)	0.59	0.24	2.1341	0.8681
Cyanide (BAT limitation)	0.39	0.16	1.4107	0.5787
Zinc (BAT limitation)	1.94	0.81	7.0173	2.9299
Aluminum (BAT limitation)	8.55	4.26	30.9266	15.4090
Oil & Grease (BPT limitation)	26.58	15.95	96.1437	57.6934
Total Suspended Solids (BPT limitation)	54.49	25.92	197.0981	93.7563

40 CFR PART 465 - COIL COATING POINT SOURCE CATEGORY

Coil Coating 465.31 & 465.32

Coil Coating Production/Month = 14.1 million ft2 of area processed

Coil Coating Production/Year = 169.2 million ft2 of area processed

Days of Operation/Year = 267 Days

Production Used = 0.633707865 million ft2 of area processed

Pollutant or pollutant property	Maximum Daily	Monthly Average	Daily Maximum Allocation	Monthly Average Allocation
	pounds per 1 million ft2 of area processed		lbs/day	lbs/day
Chromium (465.32)	0.085	0.034	0.053865169	0.021546067
Cyanide (465.32)	0.059	0.024	0.037388764	0.015208989
Zinc (465.32)	0.27	0.12	0.171101124	0.076044944
Aluminum (465.32)	0.92	0.38	0.583011236	0.240808989
Oil & grease (BPT limitation 465.31)	13.8	8.27	8.745168539	5.240764045
Total Suspended Solids (BPT limitation 465.31)	28.3	13.8	17.93393258	8.745168539

Proposed Outfall DSN004F Limitations Based on Effluent Guidelines Calculations and Existing Permit Limitations

Pollutant or pollutant property	Calculated Daily Maximum Allocation	Calculated Monthly Average Allocation	Existing Permit Daily Maximum	Existing Permit Monthly Average	Proposed Daily Maximum	Proposed Monthly Average
	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day
Chromium	3.12	1.27	3.11	1.27	3.11	1.27
Cyanide	2.06	0.85	2.06	0.85	2.06	0.85
Zinc	10.28	4.29	10.24	4.28	10.24	4.28
Aluminum	45.13	22.40	43.5	20.9	43.50	20.90
Oil & Grease	337.62	202.58	277.67	166.52	277.67	166.52
Total Suspended Solids	692.13	329.39	569.32	273.88	569.32	273.88

SUPPLEMENTARY PERMIT APPLICATION ADEM FORM 187 DESCRIPTION OF PRODUCTION			
Products Manufactured	Average Production per Month (past 4 yrs)	Days Per Year	Affected Outfalls
Alloys Plant			
Hot Rolling	105.5 MM lbs/month	212	004, 004F
Cold Rolling	97.42 MM lbs/month	340	004, 004F
EMC Casting	105.5 MM lbs/month (water)	350	004, 004F
Coil Coating	14.1 MM lbs/month	267	004, 004F, 004A
Cleaning or Etching Rinse	16.92 MM lbs/month	267	004, 004F
Alabama Reclamation Plant (E13)			
Direct Chill Casting *Forecast beginning 2025	18.75 MM lbs/month	340	004F, 004
Notes: Alloys Casting is Electromagnetic Casting (EMC). Used a ratio on days per year to increase the numbers as this was based on up time hours, which might include partial days. Production based on average of past 4 years.			

Waste Load Allocation Summary

REQUEST INFORMATION

Request Number: 3922

From:	Theo Pinson	In Branch/Section	Industrial		
Date Submitted	11/30/2022	Date Required	12/30/2022	FUND Code	605
Date Permit application received by NPDES program	1/17/2019				
Receiving Waterbody	Pond Creek				
Previous Stream Name					
Facility Name	Constellium Muscle Shoals, LLC	(Name of Discharger-WQ will use to file)			
		Previous Discharger Name			
River Basin	Tennessee	Outfall Latitude	34.757874	(decimal degrees)	
*County	Colbert	Outfall Longitude	-87.601003	(decimal degrees)	
Permit Number	AL0000035	Permit Type	Permit Reissuance		
		Permit Status	Active		
		Type of Discharger	INDUSTRIAL		

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

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

Existing Discharge Design Flow	3.99	MGD	Note: The flow rates given should be those requested for modeling.
Proposed Discharge Design Flow	3.11	MGD	

Comments included: ☑ Yes ☐ No

Information Verified By: JJM

Year File Was Created: 1985

Response ID Number: 1940

Lat/Long Method: GPS

12 Digit HUC Code	060300050802		
Use Classification	A&I		
Site Visit Completed?	☑ Yes ☐ No	Date of Site Visit	4/11/2019
Waterbody Impaired?	☑ Yes ☐ No	Date of WLA Response	12/5/2022
Antidegradation	☐ Yes ☑ No	Approved TMDL?	☐ Yes ☑ No
Waterbody Tier Level	Tier I		
Use Support Category	5	Approval Date of TMDL	

Waste Load Allocation Information

Modeled Reach Length	2.74	Miles	Date of Allocation	12/5/2022	
Name of Model Used	SWQM		Allocation Type	2 Seasons	
Model Completed by	James Mooney		Type of Model Used	Data-based	
Allocation Developed by	Water Quality Branch				

Waste Load Allocation Summary

Annual Effluent Limits		Conventional Parameters		Other Parameters	
		Qw 3.11 MGD	Qw 3.11 MGD	Qw MGD	Qw MGD
Qw MGD		Season Summer	Season Winter	Season	Season
CBOD5		From May	From Dec	From	From
NH3-N		Through Nov	Through Apr	Through	Through
TKN		CBOD5 6 mg/L	CBOD5 9 mg/L	TP	TP
D.O.		NH3-N 1.4 mg/L	NH3-N 1.1 mg/L	TN	TN
		TKN	TKN	TSS	TSS
		D.O. 6 mg/L	D.O. 6 mg/L		

"Monitor Only" Parameters for Effluent:

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

Water Quality Characteristics Immediately Upstream of Discharge

Parameter	Summer		Winter	
CBODu	2	mg/l	2	mg/l
NH3-N	0.11	mg/l	0.11	mg/l
Temperature	28	°C	18	°C
pH	7	su	7	su

Hydrology at Discharge Location

Drainage Area Qualifier			Method Used to Calculate
Exact	Drainage Area 17.7	sq mi	
	Stream 7Q10 0	cfs	Observation
	Stream 1Q10 0	cfs	Observation
	Stream 7Q2 0	cfs	Observation
	Annual Average 21	cfs	ADEM Estimate w/USGS Gage Data

Comments and/or Notations

Constellium now plans to operate with the following flow augmentation flowrates: summer - 2 MGD & winter - 1.5 MGD. The flow augmentation rate is represented in both the summer and winter seasonal SWQMs as a headwater flow. The effluent limitations above require a continuous flow augmentation rate of 2.0 MGD in the summer and 1.5 MGD in the winter from the facility during times of discharge.

NH3N limits are not based on toxicity.

Facility Name: **Constellium Muscle Shoals, LLC**
Outfall DSN004 Summer Season
NPDES No.: **AL0000035**

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

ID	Pollutant	Carcinogen "yes"	Type	Background from upstream source (C_{d2}) Daily Max ug/l	Background from upstream source (C_{d2}) Monthly Ave ug/l	Background Instream (C_s) Daily Max ug/l	Background Instream (C_s) Monthly Ave ug/l	Enter Max Daily Discharge as reported by Applicant (C_d) Max ug/l	Enter Avg Daily Discharge as reported by Applicant (C_d) Ave ug/l	Partition Coefficient (Stream / Lake)
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	0	0	0	0	0.574
3	Beryllium		Metals	0	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0	0.236
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	
7	Copper**		Metals	0	0	0	0	0	0	0.388
8	Lead**		Metals	0	0	0	0	0	0	0.208
9	Mercury**		Metals	0	0	0	0	0	0	0.302
10	Nickel**		Metals	0	0	0	0	6.4	6.4	0.505
11	Selenium		Metals	0	0	0	0	0	0	-
12	Silver		Metals	0	0	0	0	0	0	-
13	Thallium		Metals	0	0	0	0	0	0	-
14	Zinc**		Metals	0	0	0	0	0	0	0.330
15	Cyanide		Metals	0	0	0	0	13	6.538	-
16	Total Phenolic Compounds		Metals	0	0	0	0	6.7	6.7	-
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	-
1.96	**Bromoform***	YES	VOC	0	0	0	0	1.96	1.96	-
23	**Carbon Tetrachloride***	YES	VOC	0	0	0	0	0	0	-
24	**Chlordane**	YES	VOC	0	0	0	0	0	0	-
25	Clorobenzene		VOC	0	0	0	0	0	0	-
26	**Chlorodibromo-Methane***	YES	VOC	0	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		VOC	0	0	0	0	0	0	-
29	**ChloroForm***	YES	VOC	0	0	0	0	0	0	-
30	**4,4'-DDD**	YES	VOC	0	0	0	0	0	0	-
31	**4,4'-DDE**	YES	VOC	0	0	0	0	0	0	-
32	**4,4'-DDT**	YES	VOC	0	0	0	0	0	0	-
33	**Dichlorobromo-Methane***	YES	VOC	0	0	0	0	0	0	-
34	1, 1-Dichloroethane		VOC	0	0	0	0	0	0	-
35	**1, 2-Dichloroethane***	YES	VOC	0	0	0	0	0	0	-
36	Trans-1, 2-Dichloro-Ethylene		VOC	0	0	0	0	0	0	-
37	**1, 1-Dichloroethylene***	YES	VOC	0	0	0	0	0	0	-
38	1, 2-Dichloropropane		VOC	0	0	0	0	0	0	-
39	1, 3-Dichloro-Propylene		VOC	0	0	0	0	0	0	-
40	**Dieldrin**	YES	VOC	0	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	0	-
44	**Methylene Chloride***	YES	VOC	0	0	0	0	0	0	-
45	**1, 1, 2, 2-Tetrachloro-Ethane***	YES	VOC	0	0	0	0	0	0	-
46	**Tetrachloro-Ethylene***	YES	VOC	0	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	0	-
48	**Toxaphene**	YES	VOC	0	0	0	0	0	0	-
49	**Tributyltine (TBT)**	YES	VOC	0	0	0	0	0	0	-
50	1, 1, 1-Trichloroethane		VOC	0	0	0	0	0	0	-
51	**1, 1, 2-Trichloroethane***	YES	VOC	0	0	0	0	0	0	-
52	**Trichlorethylene***	YES	VOC	0	0	0	0	0	0	-
53	**Vinyl Chloride***	YES	VOC	0	0	0	0	0	0	-
54	P-Chloro-M-Cresol		Acids	0	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	0	-
56	2, 4-Dichlorophenol		Acids	0	0	0	0	0	0	-
57	2, 4-Dimethylphenol		Acids	0	0	0	0	0	0	-
58	4, 6-Dinitro-O-Cresol		Acids	0	0	0	0	0	0	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	0	0	-
60	**4,6-Dinitro-2-methylophenol**	YES	Acids	0	0	0	0	0	0	-
61	**Dioxin (2,3,7,8-TCDD)**	YES	Acids	0	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	0	0	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	0	0	-
65	Phenol		Acids	0	0	0	0	0	0	-
66	**2, 4, 6-Trichlorophenol***	YES	Acids	0	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	0	-
70	Benzidine		Bases	0	0	0	0	0	0	-
71	**Benzo(A)Anthracene***	YES	Bases	0	0	0	0	0	0	-
72	**Benzo(A)Pyrene***	YES	Bases	0	0	0	0	0	0	-
73	3, 4 Benzo-Fluoranthene		Bases	0	0	0	0	0	0	-
74	Benzo(GHI)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	0	-
77	**Bis (2-Chloroethyl)-Ether***	YES	Bases	0	0	0	0	0	0	-
78	Bis (2-Chloroiso-Propyl) Ether		Bases	0	0	0	0	0	0	-
79	**Bis (2-Ethylhexyl) Phthalate***	YES	Bases	0	0	0	0	0	0	-
80	4-Bromophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
81	Butyl Benzyl Phthalate		Base	0	0	0	0	0	0	-
82	2-Chloronaphthalene		Base	0	0	0	0	0	0	-
83	4-Chlorophenyl Phenyl Ether		Base	0	0	0	0	0	0	-
84	**Chrysene***	YES	Base	0	0	0	0	0	0	-
85	Di-N-Butyl Phthalate		Base	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Base	0	0	0	0	0	0	-
87	**Dibenzo(A,H)Anthracene***	YES	Base	0	0	0	0	0	0	-
88	1, 2-Dichlorobenzene		Base	0	0	0	0	0	0	-
89	1, 3-Dichlorobenzene		Base	0	0	0	0	0	0	-
90	1, 4-Dichlorobenzene		Base	0	0	0	0	0	0	-
91	**3, 3-Dichlorobenzidine***	YES	Base	0	0	0	0	0	0	-
92	Diethyl Phthalate		Base	0	0	0	0	0	0	-
93	Dimethyl Phthalate		Base	0	0	0	0	0	0	-
94	**2, 4-Dinitrotoluene***	YES	Base	0	0	0	0	0	0	-
95	2, 6-Dinitrotoluene		Base	0	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		Base	0	0	0	0	0	0	-
97	**Endosulfan (alpha)**	YES	Base	0	0	0	0	0	0	-
98	**Endosulfan (beta)**	YES	Base	0	0	0	0	0	0	-
99	**Endosulfan sulfate**	YES	Base	0	0	0	0	0	0	-
100	**Endrin**	YES	Base	0	0	0	0	0	0	-
101	**Endrin Aldeyhide**	YES	Base	0	0	0	0	0	0	-
102	Fluoranthene		Base	0	0	0	0	0	0	-
103	Fluorene		Base	0	0	0	0	0	0	-
104	Heptochlor	YES	Base	0	0	0	0	0	0	-
105	Heptachlor Epoxide	YES	Base	0	0	0	0	0	0	-
106	**Hexachlorobenzene***	YES	Base	0	0	0	0	0	0	-
107	**Hexachlorobutadiene***	YES	Base	0	0	0	0	0	0	-
108	**Hexachlorocyclohexan (alpa)**	YES	Base	0	0	0	0	0	0	-
109	**Hexachlorocyclohexan (beta)**	YES	Base	0	0	0	0	0	0	-
110	**Hexachlorocyclohexan (gamma)**	YES	Base	0	0	0	0	0	0	-
111	HexachlorocycloPentadiene		Base	0	0	0	0	0	0	-
112	Hexachloroethane		Base	0	0	0	0	0	0	-
113	**Indeno(1, 2, 3-CK)Pyrene***	YES	Base	0	0	0	0	0	0	-
114	Isophorone		Base	0	0	0	0	0	0	-
115	Naphthalene		Base	0	0	0	0	0	0	-
116	Nitrobenzene		Base	0	0	0	0	0	0	-
117	**N-Nitrosodi-N-Propylamine***	YES	Base	0	0	0	0	0	0	-
118	**N-Nitrosodi-N-Methylamine***	YES	Base	0	0	0	0	0	0	-
119	**N-Nitrosodi-N-Phenylamine***	YES	Base	0	0	0	0	0	0	-
120	**PCB-1016**	YES	Base	0	0	0	0	0	0	-
121	**PCB-1221**	YES	Base	0	0	0	0	0	0	-
122	**PCB-1232**	YES	Base	0	0	0	0	0	0	-
123	**PCB-1242**	YES	Base	0	0	0	0	0	0	-
124	**PCB-1248**	YES	Base	0	0	0	0	0	0	-
125	**PCB-1254**	YES	Base	0	0	0	0	0	0	-
126	**PCB-1260**	YES	Base	0	0	0	0	0	0	-
127	Phenanthrene		Base	0	0	0	0	0	0	-
128	Pyrene		Base	0	0	0	0	0	0	-
129	1, 2, 4-Trichlorobenzene		Base	0	0	0	0	0	0	-

3.11	Enter Q_d = wastewater discharge flow from facility (MGD)
4.81188219	Q_d = wastewater discharge flow (cfs) (this value is calculated from the MGD)
2	Enter flow from upstream discharge Qd2 = background stream flow in MGD above point of discharge
3.09445727	Qd2 = background stream flow from upstream source (cfs)
0	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
0	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
21	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
0	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter to Last	Enter C_s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q_d +Qd2+Q_s	Q_r = resultant in-stream flow, after discharge
Calculated on other	C_r = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
100.00	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 12, 2023

Facility Name: Constellium Muscle Shoals, LLC

NPDES No.: AL0000035

Freshwater A&I classification.						Freshwater Acute (ug/l) Q_s = 7Q10 for A&I >24 hrs travel time to higher class						Human Health Consumption Fish only (ug/l) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10			
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (Cd2) Daily Max	Max Daily Discharge as reported by Applicant (C_{max})	Water Quality Criteria (C_s)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?	Background from upstream source (Cd2) Monthly Ave	Avg Daily Discharge as reported by Applicant (C_{ave})	Water Quality Criteria (C_s)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	373.333	613.419	122.684	No
2	Arsenic		YES	0	0	592.334	973.257	194.651382	No	0	0	0.303	1.820	0.364	No
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-
4	Cadmium			0	0	8.533	14.020	2.804008466	No	0	0	-	-	-	-
5	Chromium/ Chromium III			0	0	2713.159	4457.956	891.5912065	No	0	0	-	-	-	-
6	Chromium/ Chromium VI			0	0	16.000	26.289	5.25787733	No	0	0	-	-	-	-
7	Copper			0	0	34.637	56.911	11.38228238	No	0	0	-	-	-	-
8	Lead			0	0	313.502	515.111	103.0221426	No	0	0	-	-	-	-
9	Mercury			0	0	2.400	3.943	0.7886816	No	0	0	0.042	0.070	0.014	No
10	Nickel			0	6.4	927.200	1523.469	304.6938486	No	0	6.4	992.908	1631.434	326.287	No
11	Selenium			0	0	20.000	32.862	6.572346663	No	0	0	2430.556	3993.813	798.723	No
12	Silver			0	0	3.217	5.285	1.057082193	No	0	0	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	0.274	0.449	0.090	No
14	Zinc			0	0	355.092	583.447	116.6894798	No	0	0	14893.617	24471.504	4894.301	No
15	Cyanide	YES		0	13	22.000	36.148	7.229581329	Yes	0	6.538	9333.333	15335.476	3067.095	No
16	Total Phenolic Compounds			0	6.7	-	-	-	-	0	6.7	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	5.426	8.916	1.763	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	0.144	0.865	0.173	No
20	Aldrin		YES	0	0	3.000	4.929	0.985851999	No	0	0	0.000	0.000	0.000	No
21	Benzene		YES	0	0	-	-	-	-	0	0	15.473	92.951	18.590	No
22	Bromoform		YES	0	1.98	-	-	-	-	0	1.98	78.762	473.147	94.629	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	0.957	5.751	1.150	No
24	Chlordane		YES	0	0	2.400	3.943	0.7886816	No	0	0	0.000	0.003	0.001	No
25	Clorobenzene			0	0	-	-	-	-	0	0	906.149	1466.881	297.776	No
26	Chlorodibromo-Methane		YES	0	0	-	-	-	-	0	0	7.407	44.498	8.900	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-
29	ChloroForm		YES	0	0	-	-	-	-	0	0	102.004	612.765	122.553	No
30	4,4' - DDD		YES	0	0	-	-	-	-	0	0	0.000	0.001	0.000	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	0.000	0.001	0.000	No
32	4,4' - DDT		YES	0	0	1.100	1.807	0.361479066	No	0	0	0.000	0.001	0.000	No
33	Dichlorobromo-Methane		YES	0	0	-	-	-	-	0	0	10.036	60.288	12.058	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	21.368	128.361	25.672	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	5907.173	9705.997	1941.199	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	4166.667	25030.347	5006.069	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	8.484	13.957	2.791	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	12.281	20.178	4.036	No
40	Dieldrin		YES	0	0	0.240	0.394	0.07886816	No	0	0	0.000	0.000	0.000	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	1244.444	2044.730	408.946	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	871.111	1431.311	286.262	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	345.679	2076.592	415.318	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	2.333	14.017	2.803	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	1.917	11.516	2.303	No
47	Toluene			0	0	-	-	-	-	0	0	6722.741	14332.220	2866.444	No
48	Toxaphene		YES	0	0	0.730	1.199	0.239690653	No	0	0	0.000	0.001	0.000	No
49	Tributyltin (TBT)		YES	0	0.460	0.756	0.151163973	No	0	0	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	9.097	54.647	10.929	No
52	Trichlorethylene		YES	0	0	-	-	-	-	0	0	17.470	104.948	20.990	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	1.425	8.557	1.711	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	87.065	143.055	28.611	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	171.990	282.595	56.519	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	497.512	817.456	163.491	No
58	4, 6-Dinitro-O-Cresol			0	0	-	-	-	-	0	0	-	-	-	-
59	2, 4-Dinitrophenol			0	0	-	-	-	-	0	0	3111.111	5111.825	1022.365	No
60	4,6-Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	165.455	993.932	198.786	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-
63	4-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-
64	Pentachlorophenol		YES	0	0	8.723	14.333	2.866634443	No	0	0	1.798	10.819	2.124	No
65	Phenol			0	0	-	-	-	-	0	0	500000.000	821543.333	164308.667	No
66	2, 4, 6-Trichlorophenol		YES	0	0	-	-	-	-	0	0	1.414	8.495	1.699	No
67	Acenaphthene			0	0	-	-	-	-	0	0	576.512	950.546	190.109	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	23333.333	38338.689	7667.738	No
70	Benzidine			0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	0.011	0.064	0.013	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	0.011	0.064	0.013	No
73	Benzo(b)fluoranthene			0	0	-	-	-	-	0	0	0.011	0.018	0.004	No
74	Benzo(GHI)Perylene			0	0	-	-	-	-	0	0	-	-	-	-
75	Benzo(K)Fluoranthene			0	0	-	-	-	-	0	0	0.011	0.018	0.004	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-
77	Bis (2-Chloroethyl)-Ether		YES	0	0	-	-	-	-	0	0	0.307	1.847	0.369	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	37788.775	62086.946	12417.389	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	1.282	7.702	1.540	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	1127.214	1852.111	370.422	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	924.092	1518.384	303.673	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	0.011	0.064	0.013	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	2621.723	4307.718	861.544	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	0.011	0.064	0.013	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	755.396	1241.181	248.236	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	562.350	923.990	184.798	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	112.470	184.798	36.960	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	0.017	0.100	0.020	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	25570.776	42015.001	8403.000	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	648148.148	1064963.560	212992.716	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	1.961	11.899	2.380	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-
96	1,2-Diphenylhydrazine			0	0	-	-	-	-	0	0	0.117	0.192	0.038	No
97	Endosulfan (alpha)		YES	0	0	0.22	0.361	0.072295813	No	0	0	51.852	311.489	62.298	No
98	Endosulfan (beta)		YES	0	0	0.22	0.361	0.072295813	No	0	0	51.852	311.489	62.298	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	51.852	311.489	62.298	No
100	Endrin		YES	0	0	0.086	0.141	0.028261091	No	0	0	0.035	0.212	0.042	No
101	Endrin Aldeyhde		YES	0	0	-	-	-	-	0	0	1.763	10.592	2.118	No
102	Fluoranthene			0	0	-	-	-	-	0	0	81.159	133.352	26.670	No
103	Fluorene			0	0	-	-	-	-	0	0	3111.111	5111.825	1022.365	No
104	Heptochlor		YES	0	0	0.52	0.854	0.170881013	No	0	0	0.000	0.000	0.000	No
105	Heptachlor Epoxide		YES	0	0	0.52	0.854	0.170881013	No	0	0	0.000	0.000	0.000	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	0.000	0.001	0.000	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	10.761	64.842	12.928	No
108	Hexachlorocyclohexan (alpha)		YES	0	0	-	-	-	-	0	0	0.003	0.017	0.003	No
109	Hexachlorocyclohexan (beta)		YES	0	0	-	-	-	-	0	0	0.010	0.060	0.012	No
110	Hexachlorocyclohexan (gamma)		YES	0	0	0.95	1.561	0.312186466	No	0	0	1.077	6.469	1.294	No
111	HexachlorocycloPentadiene			0	0	-	-	-	-	0	0	645.161	1060.056	212.011	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	1.918	3.151	0.630	No
113	Indeno(1, 2, 3-CK)Pyrene		YES	0	0	-	-	-	-	0	0	0.011	0.064	0.013	No
114	Isophorone			0	0	-	-	-	-	0	0	560.763	921.382	184.276	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	403.691	663.299	132.660	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	0.295	1.772	0.354	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	1.760	10.571	2.114	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	3.501	21.034	4.207	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	2333.333	3833.869	766.774	No
129	1, 2, 4-Trichlorobenzene			0	0	-	-	-	-	0	0	40.936	67.261	13.452	No

Facility Name: **Constellium Muscle Shoals, LLC**

Outfall DSN004 Winter Season

NPDES No.: **AL0000035**

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

ID	Pollutant	Carcinogen "yes"	Type	Background from upstream source (C_{d2}) Daily Max	Background from upstream source (C_{d2}) Monthly Ave	Background Instream (C_s) Daily Max	Background Instream (C_s) Monthly Ave	Enter Max Daily Discharge as reported by Applicant (C_d) Max	Enter Avg Daily Discharge as reported by Applicant (C_d) Ave	Partition Coefficient (Stream / Lake)
				ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	0	0	0	0	0.574
3	Beryllium		Metals	0	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0	0.236
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	
7	Copper**		Metals	0	0	0	0	0	0	0.366
8	Lead**		Metals	0	0	0	0	0	0	0.206
9	Mercury**		Metals	0	0	0	0	0	0	0.302
10	Nickel**		Metals	0	0	0	0	6.4	6.4	0.505
11	Selenium		Metals	0	0	0	0	0	0	-
12	Silver		Metals	0	0	0	0	0	0	-
13	Thallium		Metals	0	0	0	0	0	0	-
14	Zinc**		Metals	0	0	0	0	0	0	0.330
15	Cyanide		Metals	0	0	0	0	13	6.538	-
16	Total Phenolic Compounds		Metals	0	0	0	0	6.7	6.7	-
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	-
1.96	**Bromoform***	YES	VOC	0	0	0	0	1.96	1.96	-
23	**Carbon Tetrachloride***	YES	VOC	0	0	0	0	0	0	-
24	**Chlordane**	YES	VOC	0	0	0	0	0	0	-
25	Clorobenzene		VOC	0	0	0	0	0	0	-
26	**Chlorodibromo-Methane***	YES	VOC	0	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		VOC	0	0	0	0	0	0	-
29	**ChloroForm***	YES	VOC	0	0	0	0	0	0	-
30	**4,4'-DDD**	YES	VOC	0	0	0	0	0	0	-
31	**4,4'-DDE**	YES	VOC	0	0	0	0	0	0	-
32	**4.4'-DDT**	YES	VOC	0	0	0	0	0	0	-
33	**Dichlorobromo-Methane***	YES	VOC	0	0	0	0	0	0	-
34	1, 1-Dichloroethane		VOC	0	0	0	0	0	0	-
35	**1, 2-Dichloroethane***	YES	VOC	0	0	0	0	0	0	-
36	Trans-1, 2-Dichloro-Ethylene		VOC	0	0	0	0	0	0	-
37	**1, 1-Dichloroethylene***	YES	VOC	0	0	0	0	0	0	-
38	1, 2-Dichloropropane		VOC	0	0	0	0	0	0	-
39	1, 3-Dichloro-Propylene		VOC	0	0	0	0	0	0	-
40	**Dieldrin**	YES	VOC	0	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	0	-
44	**Methylene Chloride***	YES	VOC	0	0	0	0	0	0	-
45	**1, 1, 2, 2-Tetrachloro-Ethane***	YES	VOC	0	0	0	0	0	0	-
46	**Tetrachloro-Ethylene***	YES	VOC	0	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	0	-
48	**Toxaphene**	YES	VOC	0	0	0	0	0	0	-
49	**Tributyltins (TBT)**	YES	VOC	0	0	0	0	0	0	-
50	1, 1, 1-Trichloroethane		VOC	0	0	0	0	0	0	-
51	**1, 1, 2-Trichloroethane***	YES	VOC	0	0	0	0	0	0	-
52	**Trichloroethylene***	YES	VOC	0	0	0	0	0	0	-
53	**Vinyl Chloride***	YES	VOC	0	0	0	0	0	0	-
54	P-Chloro-M-Cresol		Acids	0	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	0	-
56	2, 4-Dichlorophenol		Acids	0	0	0	0	0	0	-
57	2, 4-Dimethylphenol		Acids	0	0	0	0	0	0	-
58	4, 6-Dinitro-O-Cresol		Acids	0	0	0	0	0	0	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	0	0	-
60	**4,6-Dintro-2-methylophenol**	YES	Acids	0	0	0	0	0	0	-
61	**Dioxin (2,3,7,8-TCDD)**	YES	Acids	0	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	0	0	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	0	0	-
65	Phenol		Acids	0	0	0	0	0	0	-
66	**2, 4, 6-Trichlorophenol***	YES	Acids	0	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	0	-
70	Benzidine		Bases	0	0	0	0	0	0	-
71	**Benzo(A)Anthracene***	YES	Bases	0	0	0	0	0	0	-
72	**Benzo(A)Pyrene***	YES	Bases	0	0	0	0	0	0	-
73	3, 4 Benzo-Fluoranthene		Bases	0	0	0	0	0	0	-
74	Benzo(GHI)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	0	-
77	**Bis (2-Chloroethyl)-Ether***	YES	Bases	0	0	0	0	0	0	-
78	Bis (2-Chloroiso-Propyl) Ether		Bases	0	0	0	0	0	0	-
79	**Bis (2-Ethylhexyl) Phthalate***	YES	Bases	0	0	0	0	0	0	-
80	4-Bromophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
81	Butyl Benzyl Phthalate		Bases	0	0	0	0	0	0	-
82	2-Chloronaphthalene		Bases	0	0	0	0	0	0	-
83	4-Chlorophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
84	**Chrysene***	YES	Bases	0	0	0	0	0	0	-
85	Di-N-Butyl Phthalate		Bases	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Bases	0	0	0	0	0	0	-
87	**Dibenzo(A,H)Anthracene***	YES	Bases	0	0	0	0	0	0	-
88	1, 2-Dichlorobenzene		Bases	0	0	0	0	0	0	-
89	1, 3-Dichlorobenzene		Bases	0	0	0	0	0	0	-
90	1, 4-Dichlorobenzene		Bases	0	0	0	0	0	0	-
91	**3, 3-Dichlorobenzidine***	YES	Bases	0	0	0	0	0	0	-
92	Diethyl Phthalate		Bases	0	0	0	0	0	0	-
93	Dimethyl Phthalate		Bases	0	0	0	0	0	0	-
94	**2, 4-Dinitrotoluene***	YES	Bases	0	0	0	0	0	0	-
95	2, 6-Dinitrotoluene		Bases	0	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		Bases	0	0	0	0	0	0	-
97	**Endosulfan (alpha)**	YES	Bases	0	0	0	0	0	0	-
98	**Endosulfan (beta)**	YES	Bases	0	0	0	0	0	0	-
99	**Endosulfan sulfate**	YES	Bases	0	0	0	0	0	0	-
100	**Endrin**	YES	Bases	0	0	0	0	0	0	-
101	**Endrin Aldeyhide**	YES	Bases	0	0	0	0	0	0	-
102	Fluoranthene		Bases	0	0	0	0	0	0	-
103	Fluorene		Bases	0	0	0	0	0	0	-
104	Heptochlor	YES	Bases	0	0	0	0	0	0	-
105	Heptachlor Epoxide	YES	Bases	0	0	0	0	0	0	-
106	**Hexachlorobenzene***	YES	Bases	0	0	0	0	0	0	-
107	**Hexachlorobutadiene***	YES	Bases	0	0	0	0	0	0	-
108	**Hexachlorocyclohexan (alpa)**	YES	Bases	0	0	0	0	0	0	-
109	**Hexachlorocyclohexan (beta)**	YES	Bases	0	0	0	0	0	0	-
110	**Hexachlorocyclohexan (gamma)**	YES	Bases	0	0	0	0	0	0	-
111	HexachlorocycloPentadiene		Bases	0	0	0	0	0	0	-
112	Hexachloroethane		Bases	0	0	0	0	0	0	-
113	**Indeno(1, 2, 3-CK)Pyrene***	YES	Bases	0	0	0	0	0	0	-
114	Isophorone		Bases	0	0	0	0	0	0	-
115	Naphthalene		Bases	0	0	0	0	0	0	-
116	Nitrobenzene		Bases	0	0	0	0	0	0	-
117	**N-Nitrosodi-N-Propylamine***	YES	Bases	0	0	0	0	0	0	-
118	**N-Nitrosodi-N-Methylamine***	YES	Bases	0	0	0	0	0	0	-
119	**N-Nitrosodi-N-Phenylamine***	YES	Bases	0	0	0	0	0	0	-
120	**PCB-1016**	YES	Bases	0	0	0	0	0	0	-
121	**PCB-1221**	YES	Bases	0	0	0	0	0	0	-
122	**PCB-1232**	YES	Bases	0	0	0	0	0	0	-
123	**PCB-1242**	YES	Bases	0	0	0	0	0	0	-
124	**PCB-1248**	YES	Bases	0	0	0	0	0	0	-
125	**PCB-1254**	YES	Bases	0	0	0	0	0	0	-
126	**PCB-1260**	YES	Bases	0	0	0	0	0	0	-
127	Phenanthrene		Bases	0	0	0	0	0	0	-
128	Pyrene		Bases	0	0	0	0	0	0	-
129	1, 2, 4-Trichlorobenzene		Bases	0	0	0	0	0	0	-

3.11	Enter Q_d = wastewater discharge flow from facility (MGD)
4.81188219	Q_d = wastewater discharge flow (cfs) (this value is calculated from the MGD)
1.5	Enter flow from upstream discharge Qd2 = background stream flow in MGD above point of discharge
2.32084295	Qd2 = background stream flow from upstream source (cfs)
0	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
0	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
21	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
0	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter 0's	Enter C_s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q_d +Qd2+Q_s	Q_r = resultant in-stream flow, after discharge
Calculated on other	C_r = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
100.00	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 12, 2023

Facility Name: Constellium Muscle Shoals, LLC

NPDES No.: AL0000035

						Freshwater A&I classification.							Human Health Consumption Fish only (µg/l)			
						Freshwater Acute (µg/l) Q_s = 7Q10 for A&I >24 hrs travel time to higher class							Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10			
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (Cd2) Daily Max	Max Daily Discharge as reported by Applicant (C_{max})	Water Quality Criteria (C_t)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?	Background from upstream source (Cd2) Monthly Ave	Avg Daily Discharge as reported by Applicant (C_{avg})	Water Quality Criteria (C_t)	Draft Permit Limit (C_{max})	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	373.333	553.396	110.680	No
2	Arsenic		YES	0	0	592.334	878.026	175.6052612	No	0	0	0.303	1.772	0.354	No
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-
4	Cadmium			0	0	8.533	12.648	2.529643685	No	0	0	-	-	-	-
5	Chromium/ Chromium III			0	0	2713.159	4021.757	804.3513749	No	0	0	-	-	-	-
6	Chromium/ Chromium VI			0	0	16.000	23.717	4.743407998	No	0	0	-	-	-	-
7	Copper			0	0	34.637	51.343	10.26855626	No	0	0	-	-	-	-
8	Lead			0	0	313.502	464.708	92.9416998	No	0	0	-	-	-	-
9	Mercury			0	0	2.400	3.558	0.7115112	No	0	0	0.042	0.063	0.013	No
10	Nickel			0	6.4	927.200	1374.402	274.8803849	No	0	6.4	992.908	1471.802	294.360	No
11	Selenium			0	0	20.000	29.646	5.929259997	No	0	0	2430.556	3602.849	720.570	No
12	Silver			0	0	3.217	4.768	0.953649507	No	0	0	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	0.274	0.406	0.081	No
14	Zinc			0	0	355.092	526.359	105.2717241	No	0	0	14893.617	22077.032	4415.406	No
15	Cyanide	YES		0	13	22.000	32.611	6.522185997	Yes	0	6.538	9333.333	13834.940	2766.988	No
16	Total Phenolic Compounds			0	6.7	-	-	-	-	0	6.7	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	5.426	8.044	1.609	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	0.144	0.842	0.168	No
20	Aldrin		YES	0	0	3.000	4.447	0.889389	No	0	0	0.000	0.000	0.000	No
21	Benzene		YES	0	0	-	-	-	-	0	0	15.473	90.463	18.093	No
22	Bromoform		YES	0	1.98	-	-	-	-	0	1.98	78.762	460.485	92.097	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	0.957	5.597	1.119	No
24	Chlordane		YES	0	0	2.400	3.558	0.7115112	No	0	0	0.000	0.003	0.001	No
25	Clorobenzene			0	0	-	-	-	-	0	0	906.149	1343.196	268.640	No
26	Chlorodibromo-Methane		YES	0	0	-	-	-	-	0	0	7.407	43.307	8.661	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-
29	ChloroForm		YES	0	0	-	-	-	-	0	0	102.004	596.365	119.273	No
30	4,4' - DDD		YES	0	0	-	-	-	-	0	0	0.000	0.001	0.000	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	0.000	0.001	0.000	No
32	4,4' - DDT		YES	0	0	1.100	1.631	0.3261093	No	0	0	0.000	0.001	0.000	No
33	Dichlorobromo-Methane		YES	0	0	-	-	-	-	0	0	10.036	58.675	11.735	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	21.368	124.925	24.985	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	5907.173	8756.291	1751.258	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	4166.667	24360.465	4872.093	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	8.494	12.591	2.518	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	12.281	18.204	3.641	No
40	Dieldrin		YES	0	0	0.240	0.356	0.07115112	No	0	0	0.000	0.000	0.000	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	1244.444	1844.659	368.932	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	871.111	1291.261	258.252	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	345.879	2021.016	404.203	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	2.333	13.642	2.728	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	1.917	11.208	2.242	No
47	Toluene			0	0	-	-	-	-	0	0	8722.741	12929.850	2585.970	No
48	Toxaphene		YES	0	0	0.730	1.082	0.21641799	No	0	0	0.000	0.001	0.000	No
49	Tributyltin (TBT)		YES	0	0	0.460	0.682	0.13637298	No	0	0	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	9.097	53.165	10.637	No
52	Trichlorethylene		YES	0	0	-	-	-	-	0	0	17.470	102.140	20.428	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	1.425	8.328	1.666	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	87.065	129.057	25.811	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	171.990	254.944	50.989	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	497.512	737.470	147.494	No
58	4, 6-Dinitro-O-Cresol			0	0	-	-	-	-	0	0	-	-	-	-
59	2, 4-Dinitrophenol			0	0	-	-	-	-	0	0	3111.111	4611.647	922.329	No
60	4,6-Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	165.455	987.332	193.466	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-
63	4-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-
64	Pentachlorophenol		YES	0	0	8.723	12.931	2.586141876	No	0	0	1.768	10.335	2.067	No
65	Phenol			0	0	-	-	-	-	0	0	500000.000	741157.500	148231.500	No
66	2, 4, 6-Trichlorophenol		YES	0	0	-	-	-	-	0	0	1.414	8.268	1.654	No
67	Acenaphthene			0	0	-	-	-	-	0	0	578.512	857.538	171.508	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	23333.333	34587.350	6917.470	No
70	Benzidine			0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	0.011	0.062	0.012	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	0.011	0.062	0.012	No
73	Benzo(b)fluoranthene			0	0	-	-	-	-	0	0	0.011	0.016	0.003	No
74	Benzo(GHI)Perylene			0	0	-	-	-	-	0	0	-	-	-	-
75	Benzo(K)Fluoranthene			0	0	-	-	-	-	0	0	0.011	0.016	0.003	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-
77	Bis (2-Chloroethyl)-Ether		YES	0	0	-	-	-	-	0	0	0.307	1.797	0.359	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	37788.775	56011.903	11202.381	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	1.282	7.496	1.499	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	1127.214	1670.888	334.177	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	924.092	1369.796	273.959	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	0.011	0.062	0.012	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	2621.723	3886.219	777.244	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	0.011	0.062	0.012	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	755.398	1119.734	223.947	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	562.350	833.580	166.716	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	112.470	166.716	33.343	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	0.017	0.097	0.019	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	25570.776	37903.945	7580.789	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	648148.148	960759.722	192151.944	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	1.981	11.561	2.316	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-
96	1,2-Diphenylhydrazine			0	0	-	-	-	-	0	0	0.117	0.174	0.035	No
97	Endosulfan (alpha)		YES	0	0	0.22	0.326	0.06522186	No	0	0	51.852	303.152	60.630	No
98	Endosulfan (beta)		YES	0	0	0.22	0.326	0.06522186	No	0	0	51.852	303.152	60.630	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	51.852	303.152	60.630	No
100	Endrin		YES	0	0	0.086	0.127	0.025495818	No	0	0	0.035	0.208	0.041	No
101	Endrin Aldeyhde		YES	0	0	-	-	-	-	0	0	1.763	10.309	2.062	No
102	Fluoranthene			0	0	-	-	-	-	0	0	81.159	120.304	24.061	No
103	Fluorene			0	0	-	-	-	-	0	0	3111.111	4611.647	922.329	No
104	Heptochlor		YES	0	0	0.52	0.771	0.15416076	No	0	0	0.000	0.000	0.000	No
105	Heptachlor Epoxide		YES	0	0	0.52	0.771	0.15416076	No	0	0	0.000	0.000	0.000	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	0.000	0.001	0.000	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	10.781	62.912	12.582	No
108	Hexachlorocyclohexan (alpha)		YES	0	0	-	-	-	-	0	0	0.003	0.017	0.003	No
109	Hexachlorocyclohexan (beta)		YES	0	0	-	-	-	-	0	0	0.010	0.058	0.012	No
110	Hexachlorocyclohexan (gamma)		YES	0	0	0.95	1.408	0.28163985	No	0	0	1.077	6.296	1.259	No
111	HexachlorocycloPentadiene			0	0	-	-	-	-	0	0	645.161	956.332	191.266	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	1.916	2.843	0.569	No
113	Indeno(1, 2, 3-CK)Pyrene		YES	0	0	-	-	-	-	0	0	0.011	0.062	0.012	No
114	Isophorone			0	0	-	-	-	-	0	0	560.763	831.227	166.245	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	403.691	598.397	119.679	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	0.295	1.725	0.345	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	1.780	10.288	2.058	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	3.501	20.471	4.094	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	0.000	0.000	0.000	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	2333.333	3458.735	691.747	No
129	1, 2, 4-Trichlorobenzene			0	0	-	-	-	-	0	0	40.936	60.680	12.136	No

Constellium

Randy Branscome
Constellium Muscle Shoals
4805 Second Street
Muscle Shoals, Alabama 35661 - 1256
Office Phone: 256-386- 6450
Cell Phone: 256.443.2793
Randy.Branscome@Constellium.com

RECEIVED
OCT 20 2022
INDUSTRIAL SECTION

Date: October 18, 2022

SUBJECT: NPDES Individual Permit Renewal Application: Permit No. AL0000035

Mr. Pinson,

We are pleased to submit this NPDES Permit Renewal Application for Constellium in Muscle Shoals, Al. We appreciate the support and guidance from Alabama Department of Environmental Management throughout this process.

If you have any questions, please contact me at randy.branscome@constellium.com or by phone at 256.386.6450 (office) or *256.443.2793 (cell).

Sincerely,

Randy Branscome

Randy Branscome
Sr. Environmental Manager
Constellium, Muscle Shoals, Al.

Fred Pearson
Director of Environmental and Sustainability
Constellium, Muscle Shoals, Al.

Enclosures:
Signed NPDES Individual Permit Renewal Application – Permit No. AL0000035.

Constellium

NPDES INDIVIDUAL PERMIT RENEWAL APPLICATION
CONSTELLIUM MUSCLE SHOALS, LLC
PERMIT NO. AL0000035

TABLE OF CONTENTS

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

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

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

RECEIVED
OCT 20 2022
INDUSTRIAL SECTION

PURPOSE OF THIS APPLICATION

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

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

SECTION A – GENERAL INFORMATION

1. Permittee Name: Constellium Muscle Shoals, LLC
2. NPDES Permit Number: AL 0000035 (not applicable if initial permit application)
3. SID Permit Number (if applicable): IU
4. NPDES General Permit Number (if applicable): ALG
5. Facility Location (Front Gate): Latitude: 34.76 N Longitude: -87.59 W
6. Responsible Official (as described on the last page of this application):

   Name: Fred Pearson III Title: Director - Environmental & Sustainability

   Address: 4805 Second Street

   City: Muscle Shoals State: Alabama Zip: 35661

   Phone Number: (256) 386-6674 Email Address: Fred.pearson-iii@constellium.com

7. Designated Discharge Monitoring Report (DMR) Contact:

   Name: Randy Branscome Title: Sr. Environmental Engineer

   Phone Number: (256) 386-6450 Email Address: randy.branscome@constellium.com

8. Type of Business Entity:

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

   ☐ Other (Please Specify)

8. Complete this section if the Applicant's business entity is a Corporation

   a) Location of Incorporation:

   Address: 1 Rodney Square, 10th Floor

   City: New Castle County: New Castle State: DE Zip: 19801

   b) Parent Corporation of Applicant:

   Name: Constellium Holdings Muscle Shoals, LLC

   Address: 4805 Second Street

   City: Muscle Shoals State: AL Zip: 35661

c) Subsidiary Corporation(s) of Applicant:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

d) Corporate Officers:

Name: Chris Smith

Address: 4805 Second Street

City: Muscle Shoals State: Alabama Zip: 35661

Name: Terrence Woods

Address: 4805 Second Street

City: Muscle Shoals State: Alabama Zip: 35661

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

Name: Fred Pearson III

Address: 4805 Second Street

City: Muscle Shoals State: Alabama Zip: 35661

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

Name: _____ Name: _____

Address: _____ Address: _____

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

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

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

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

Facility Name	Permit Number	Type of Action	Date of Action
N/A			

SECTION B – BUSINESS ACTIVITY

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

Industrial Categories

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

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

SECTION C – WASTEWATER DISCHARGE INFORMATION

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

For each shared outfall, provide the following:

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

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

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

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

Please refer to Figure 1: Topo Map. DNS 004, 007, and 004F have both flow metering and automatic sampling equipment. DSN 001, 004A, and 004E have flow metering.

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

☒ Yes ☐ No (If no, continue to C.4)

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

Expected to start up E13 casting operations, increasing aluminum forging production by 225,000 off-lbs/day starting in 2025. This should increase wastewater volume by approximately 0.05 mgd and untreated pollutant concentrations by approximately 4%.

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

Trade Name	Chemical Composition
See Addendum 4 for a full list of chemicals	

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

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

SECTION D – WATER SUPPLY

Water Sources (check as many as are applicable):

■ Private Well
☐ Municipal Water Utility (Specify City):
■ Surface Water
■ Other (Specify): See Addendum 5 for second private well

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

City:_____MGD* Well: 0.811 MGD* Well Depth: 250 Ft. Latitude: 34.7608 Longitude: 87.5853

Surface Intake Volume: 2.1 MGD* Intake Elevation in Relation to Bottom: 10 Ft.

Intake Elevation: 508 Ft. Latitude: 34.78 Longitude: -87.60

Name of Surface Water Source: Tennessee River

*** MGD – Million Gallons per Day**

Cooling Water Intake Structure Information

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

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

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

   c) Latitude:_____ Longitude:_____

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

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

3. Is any water withdrawn from the source water used for cooling? ■ Yes ☐ No
4. Using the average monthly measurements over any 12-month period, approximately what percentage of water withdrawn is used exclusively for cooling purposes? 7.1 %
5. Does the cooling water consist of treated effluent that would otherwise be discharged? ☐ Yes ■ No
   (If yes, go to Section E, if no, complete D.6 – D.17)
6. a. Is the cooling water used in a once-through cooling system? ☐ Yes ■ No

   b. Is the cooling water used in a closed cycle cooling system? ■ Yes ☐ No
7. When was the intake installed? 1940
   (Please provide dates for all major construction/installation of intake components including screens)
8. What is the maximum intake volume? 3.4 MGD
   (maximum pumping capacity in gallons per day)
9. What is the average intake volume? 2.1 MGD
   (average intake pump rate in gallons per day average in any 30-day period)
10. What is the actual intake flow (AIF) as defined in 40 CFR §125.92(a)? 2.03 MGD
11. How is the intake operated? (e.g., continuously, intermittently, batch) Continuously
12. What is the mesh size of the screen on your intake? One set is 0.75" followed by another set of 0.25"
13. What is the intake screen flow-through area? Length - 200", Width - 92"
14. What is the through-screen design intake flow velocity? 0.04 ft/sec
15. What is the through-screen actual velocity (in ft/sec)? 0.02 ft/sec
16. What is the mechanism for cleaning the screen? (e.g., does it rotate for cleaning) Monthly pressure washing
17. Do you have any additional fish detraction technology on your intake? ☐ Yes ■ No
18. Have there been any studies to determine the impact of the intake on aquatic organisms? ☐ Yes ■ No (If yes, please provide.)
19. Attach a site map showing the location of the water intake in relation to the facility, shoreline, water depth, etc.

SECTION E – WASTE STORAGE AND DISPOSAL INFORMATION

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

Description of Waste	Description of Storage Location
Waste Oil and Grease Drums and Totes	Inside storage area SPCC and BMP plans are current

SECTION F – COASTAL ZONE INFORMATION

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

If yes, complete items F.1 – F.12:

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

SECTION G – ANTI-DEGRADATION EVALUATION

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

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

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

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

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

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

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

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

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

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

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

SECTION H – EPA Application Forms

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

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

SECTION I – ENGINEERING REPORT/BMP PLAN REQUIREMENTS

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

SECTION J– RECEIVING WATERS

Outfall No.	Receiving Water(s)	303(d) Segment?	Included in TMDL?*
001	Pond Creek	☐ Yes ☒ No	☐ Yes ☒ No
004	Pond Creek	☐ Yes ☒ No	☐ Yes ☒ No
006	Pond Creek	☐ Yes ☒ No	☐ Yes ☒ No
007	Pond Creek	☐ Yes ☒ No	☐ Yes ☒ No
		☐ Yes ☐ No	☐ Yes ☐ No

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

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

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

(3) Requested interim limitations, if applicable;

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

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

SECTION K – APPLICATION CERTIFICATION

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

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

Signature of Responsible Official: _____ Date Signed: 10-14-22

Name: Fred Pearson III Title: Director - Environmental & Sustainability

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

Mailing Address: 4805 Second Street

City: Muscle Shoals State: Alabama Zip: 35661

Phone Number: (256) 386-6674 Email Address: Fred.pearson-ii@constellium.com

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

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

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

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

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

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

Biocide and/or Corrosion Inhibitor Trade Name	Chemical Composition	96-hour Mean Tolerance Data	Quantity of Product Used (lbs/yr)	Frequency of Use	Proposed Discharge Concentration of Product (lbs/gal)[2,4]	EPA Registration Number (if applicable)
3D Trasar 3DT120 Corrosion Inhibitor	No hazardous Ingredients	LC50 Fathead Minnow: 3,847 mg/l LC50 Ceriodaphnia dubia: 1,005 mg/l[1] NOEC Fathead Minnow: 1,800 mg/l NOEC Ceriodaphnia dubia: 648 mg/l[1] EC50 Ceriodaphnia dubia: 979 mg/l[1]	67339	Daily	5.93E-05	
3D Trasar 3DT134 Corrosion Inhibitor	No hazardous Ingredients	LC50 Ceriodaphnia dubia: 1,227 mg/l[1] NOEC Ceriodaphnia dubia: 648 mg/l[1]	42195	Daily	3.72E-05	
3D Trasar 3DT179 Corrosion Inhibitor	No hazardous Ingredients	LC50 Fathead Minnow: >10,000 mg/l LC50 Ceriodaphnia dubia: 1,768 mg/l[1] NOEC Fathead Minnow: 5,000 mg/l NOEC Ceriodaphnia dubia: 1,250 mg/l[1]	82393	Daily	7.26E-05	
3D Trasar 3DT185 Corrosion Inhibitor	60-100% Phosphoric Acid	LC50 Fathead Minnow: 3,660 mg/l LC50 Ceriodaphnia dubia: 1,625 mg/l[1] NOEC Fathead Minnow: 2,500 mg/l NOEC Ceriodaphnia dubia: 1,000 mg/l[1]	12094	Daily	1.07E-05	
Nalco 7357.61 Corrosion Inhibitor	30-60% Sodium Molybdate	LC50 Daphnia magna (Water flea): 1,948 mg/l[1] NOEC Daphnia magna (Water flea): 1,250 mg/l[1]	27199	Daily	2.40E-05	
Control Brom CB-70.91 Biocide	10-30% Sodium Bromide	LC50 Pimephales promelas (Fathead Minnow): >5,000 mg/l LC50 Ceriodaphnia dubia: >5,000 mg/l[1] NOEC Pimephales promelas (Fathead Minnow): >5,000 mg/l NOEC Ceriodaphnia dubia: >5,000 mg/l[1]	36111	Daily	3.18E-05	1706-235
STA-BR-EX ST-70.36 Biocide	9.23% Sodium Bromide 6.36% Sodium Hypochlorite 1-5% Sodium Chloride 1-5% Sodium Hydroxide	LC50 Pimephales promelas (Fathead Minnow): 8.3 mg/l LC50 Ceriodaphnia dubia: 1.6 mg/l[1] NOEC Pimephales promelas (Fathead Minnow): 3.6 mg/l NOEC Ceriodaphnia dubia: 0.63 mg/l[1]	6672	Daily	5.88E-06	1706-179
Trasar Trac109.36 - Corrosion Inhibitor	30-60% Sodium Nitrite 1-5% Sodium Hydroxide 0.1-1% Sodium Tetraborate	EC50 Daphnia magna (Water flea): 215.8 mg/l[1] NOEC Daphnia magna (Water flea): 80 mg/l[1]	15990	Daily	1.41E-05	
Nalco 77352NA - Biocide[3]	1-5% Magnesiun Nitrate 1-5% 5-Chloro-2-Methyl-5-Isothiazolin-3-one 1-5% Magnesium Chloride 0.1-1% 2-Methyl-4-Isothiazolin-3-one	5-Chloro-2-Methyl-4-Isothiazolin-3-one LC50 Fish: 0.19 mg/l 2-Methyl-4-Isothiazolin-3-one LC50 Fish: 0.19 mg/l Magnesium Nitrate EC50 Daphnia magna (Water flea): 490 mg/l[1]	14954	3 times a week	3.08E-05	707-133-1706
Sodium Hypochlorite - 12.5% Biocide[5]	10-30% Sodium Hypochlorite 5-10% Sodium Chloride 0.1-1% Sodium Hydroxide	Sodium Chloride LC50 Fish: 5,840 mg/l Sodium Hypochlorite EC50 daphnia and other aquatic invertebrates : 0.071 mg/l[1] Sodium Hydroxide EC50 daphnia and other aquatic invertebrates : 40 mg/l[1]	603367	Daily	5.31E-04	
Nalsperse 7348	No hazardous Ingredients	LC50 Fathead Minnow: >1,000 mg/l LC50 Ceriodaphnia dubia: 240 mg/l[1]	8019	Daily	7.06E-06	

[1] Only 48 hour exposure time data available in SDS

[2] Proposed discharge concentration calculated using the following formula: [Quantities Used (lb/yr)] / ([DSN004 flow (mgd) + DSN007 flow (mgd)] * [365 days/yr] * [1000000]) [DSN004 flow (mgd) + DSN007 flow (mgd)] = 3.111 mgd

[3] Proposed discharge concentration calculated using 156 days/yr instead of 365 days/yr based on 3 days per week and 52 weeks per year

[4] Discharge estimates do not account for losses or transformations of chemicals prior to discharge.

[5] TRC measured at internal outfall DSN004F. Maximum measured value for the past 12 months is 0.05 mg/l.

Deep Well Number	Usage (MGD)	Latitude	Longitude
8*	0.01	34.7589	87.5828

* Currently not operational

NOTE: Deep wells 7 and 8 are used on an as needed basis

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

3D TRASAR™ 3DT185

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	3D TRASAR™ 3DT185
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	:	02/13/2018

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals	:	Category 1
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary Statements : **Prevention:**
Keep only in original container. Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.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. Wash contaminated clothing before reuse.Absorb spillage to prevent material damage.
Storage:

Store in corrosive resistant stainless steel container with a resistant inner liner.

Other hazards : Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Phosphoric Acid	7664-38-2	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 : Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides 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. 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	:	Shipping and long term storage compatibility with construction materials can vary; we therefore recommend that compatibility is tested prior to use.Keep in properly labelled containers.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Product is corrosive to aluminum. Aluminum should not be used for feed, storage, or transportation systems., This product is corrosive to mild steel.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.

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

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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	Clear Colorless
Odour	:	Acidic
Flash point	:	, Method: ASTM D 93, Pensky-Martens closed cup, does not flash
pH	:	0 - 1,(100 %)
Odour Threshold	:	no data available
Melting point/freezing point	:	FREEZING POINT: -17 °C
Initial boiling point and boiling range	:	103 °C, (760 mm Hg), Method: ASTM D 86
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	:	1.58, (23.3 °C),
Density	:	no data available
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	:	21 mPa.s (20 °C) 9.3 mPa.s (50 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

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	:	None known.
Incompatible materials	:	Strong bases
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur 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.
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: 3,467 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	Acute toxicity estimate: 2,667 mg/kg
Skin corrosion/irritation	:	Species: Rabbit Result: 8.0 Method: Draize Test Test substance: Product
Serious eye damage/eye irritation	:	Species: rabbit Result: 110.0 Method: Draize Test Test substance: Product
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 inhalation toxicity	:	Phosphoric Acid LC50 rat: 0.962 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Fathead Minnow: 3,660 mg/l Exposure time: 96 hrs Test substance: Product LC50 Rainbow Trout: 4,844 mg/l Exposure time: 96 hrs Test substance: Product

NOEC Fathead Minnow: 2,500 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Rainbow Trout: 2,500 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna: 2,083 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 1,625 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna: 1,250 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 1,000 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to bacteria : LC50 Pseudomonas putida: > 1,000 mg/l
Test substance: Product

Toxicity to fish (Chronic toxicity) : EC25 / IC25: 1,972 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

LOEC: 2,500 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

NOEC: 1,250 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

Components

Toxicity to algae : Phosphoric Acid
EC50 Desmodesmus subspicatus (green algae): > 100 mg/l
Exposure time: 72 h

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

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

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 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:	:	D002
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	:	PHOSPHORIC ACID SOLUTION
Technical name(s)	:	Phosphoric Acid
UN/ID No.	:	UN 1805
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	6,660 lbs

RQ Component : PHOSPHORIC ACID

Air transport (IATA)

Proper shipping name	: PHOSPHORIC ACID SOLUTION
Technical name(s)	: Phosphoric Acid
UN/ID No.	: UN 1805
Transport hazard class(es)	: 8
Packing group	: III
Reportable Quantity (per package)	: 6,660 lbs
RQ Component	: PHOSPHORIC ACID

Sea transport (IMDG/IMO)

Proper shipping name	: PHOSPHORIC ACID SOLUTION
Technical name(s)	: Phosphoric Acid
UN/ID No.	: UN 1805
Transport hazard class(es)	: 8
Packing group	: III

Section: 15. REGULATORY INFORMATION

TSCA list : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Phosphoric Acid	7664-38-2	5000	6667

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 Health Hazard

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

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
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)

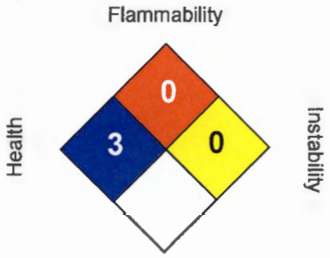
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

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).

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NFPA:



Special hazard.

HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	02/13/2018
Version Number	:	1.2
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.

NALCO Water
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SAFETY DATA SHEET

3D TRASAR™ 3DT120

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	3D TRASAR™ 3DT120
Other means of identification	:	Not applicable.
Recommended use	:	COOLING WATER TREATMENT
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	:	06/08/2016

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

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.
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.
Specific hazards during firefighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides 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 labeled containers.
Suitable material	:	Keep in properly labelled containers.
Unsuitable 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.

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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	yellow
Odour	:	odourless
Flash point	:	does not flash
pH	:	3.0, 100 %
Odour Threshold	:	no data available
Melting point/freezing point	:	POUR POINT: -2.0 °C
Initial boiling point and boiling range	:	no data available
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	:	1.113 - 1.149,
Density	:	no data available
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 temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	39.93 - 42.69 mm2/s (20 °C)
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Bases Contact with strong alkalies (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. SO2 may react with vapors from neutralizing amines and may produce a visible cloud of amine salt particles.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides 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.

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	:	LD50 rat: 5,000 mg/kg Test substance: Similar Product
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	LD50 rabbit: > 2,000 mg/kg Test substance: Similar Product
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

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): 1,279 mg/l
Exposure time: 96 hrs
Test substance: Similar Product
Test Type: Static

LC50 Oncorhynchus mykiss (rainbow trout): > 8,000 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

LC50 Lepomis macrochirus (Bluegill sunfish): > 5,000 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

LC50 Inland Silverside: 3,736 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

NOEC Oncorhynchus mykiss (rainbow trout): 625 mg/l
Exposure time: 96 hrs
Test substance: Similar Product
Test Type: Static

NOEC Oncorhynchus mykiss (rainbow trout): 4,800 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

LC50 Fathead Minnow: 3,847 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Fathead Minnow: 1,800 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): 1,339 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

LC50 Mysid Shrimp (Mysidopsis bahia): 3,750 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

EC50 Daphnia magna (Water flea): 718 mg/l
Exposure time: 48 hrs
Test substance: Similar Product
Test Type: Static

NOEC Daphnia magna (Water flea): 625 mg/l
Exposure time: 48 hrs
Test substance: Similar Product
Test Type: Static

NOEC Daphnia magna (Water flea): 1,037 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

EC50 Ceriodaphnia dubia: 979 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 1,005 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 648 mg/l
Exposure time: 48 hrs
Test substance: Product

Persistence and degradability

Total Organic Carbon (TOC) : 120,000 mg/l

Chemical Oxygen Demand (COD): 300,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	175 mg/l	Product

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	:	10 - 30%
Soil	:	70 - 90%

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

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 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.

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

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

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 :

TOXIC SUBSTANCES CONTROL ACT (TSCA)

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
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
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).

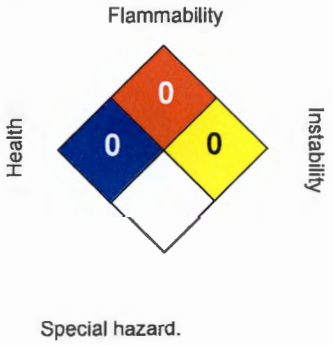
KOREA
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

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.

PHILIPPINES
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).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	06/08/2016
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.

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SAFETY DATA SHEET

3D TRASAR™ 3DT179

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	3D TRASAR™ 3DT179
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	:	02/08/2018

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

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.
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 nitrogen oxides (NOx) Sulphur oxides metal 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.

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.

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

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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	light yellow
Odour	:	odourless
Flash point	:	> 93.3 °C, Method: ASTM D 93, Pensky-Martens closed cup
pH	:	2.5 - 4.5, (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	FREEZING POINT: -8.3 °C
Initial boiling point and boiling range	:	no data available
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	:	1.25, (25 °C),

Density	:	10.4 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	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

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	:	Contact with strong alkalies (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.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides metal oxides

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.

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	:	LD50 rat: > 2,000 mg/kg Test substance: Similar Product
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	LD50 rat: > 2,000 mg/kg Test substance: Similar Product
Skin corrosion/irritation	:	Species: Rabbit Exposure time: 72 hrs Result: No skin irritation Test substance: Similar Product Species: Rabbit Exposure time: 72 hrs Result: 0.0 Method: Draize Test Test substance: Similar Product Species: Rabbit Exposure time: 72 hrs Result: 0.0 Method: Oedema Test substance: Similar Product Species: Rabbit Exposure time: 72 hrs Result: 0.0 Method: Erythema Test substance: Similar Product
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	:	Not mutagenic in Ames Test.
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 : This product has no known ecotoxicological effects.

Product

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): > 1,000 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

LC50 Pimephales promelas (fathead minnow): > 1,000 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

LC50 Inland Silverside: > 5,000 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

NOEC Oncorhynchus mykiss (rainbow trout): 1,000 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

NOEC Pimephales promelas (fathead minnow): 1,000 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

NOEC Inland Silverside: 5,000 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

LC50 Fathead Minnow: > 10,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Fathead Minnow: 5,000 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
Test substance: Similar Product

LC50 Mysid Shrimp (Mysidopsis bahia): 4,559 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

EC50 Daphnia magna (Water flea): > 1,000 mg/l
Exposure time: 48 hrs
Test substance: Similar Product

NOEC Daphnia magna (Water flea): < 1,000 mg/l
Exposure time: 48 hrs

Test substance: Similar Product

NOEC Mysid Shrimp (Mysidopsis bahia): 2,500 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

LC50 Ceriodaphnia dubia: 1,768 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 1,250 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to algae : LC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 330 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

NOEC Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 150 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

Persistence and degradability

The organic portion of this preparation is expected to be poorly biodegradable.

Total Organic Carbon (TOC) : 97,000 mg/l

Chemical Oxygen Demand (COD): 230,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	750 mg/l	Similar Product

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 : 10 - 30%
Soil : 70 - 90%

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

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 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.

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 : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	No SARA Hazards
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
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
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)

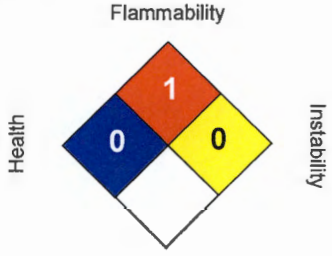
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

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).

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	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 02/08/2018

3D TRASAR™ 3DT179

Version Number	: 1.2
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.
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NALCO Water
An Ecolab Company

SAFETY DATA SHEET

3D TRASAR™ 3DT134

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	3D TRASAR™ 3DT134
Other means of identification	:	Not applicable.
Recommended use	:	COOLING WATER TREATMENT
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	:	07/31/2018

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. Protect product from freezing.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

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.
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 nitrogen oxides (NOx) Sulphur oxides 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. Protect product from freezing.

Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Buna-N, Polyurethane, Polypropylene, Polyethylene, Plasite 7122, Shipping and long term storage compatibility with construction 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: Brass, Stainless Steel 304, Neoprene, Fluoroelastomer, Chlorosulfonated polyethylene rubber, EPDM

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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	yellow
Odour	:	odourless
Flash point	:	> 93.3 °C
pH	:	3.2,(100 %)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -3.6 °C
Initial boiling point and boiling range	:	no data available
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	:	1.16, (20.0 °C),
Density	:	1.16 g/cm3 , 9.7 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	:	no data available
Viscosity, kinematic	:	19.6 mm2/s (20 °C)
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides 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.

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	:	Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
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

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Rainbow Trout: > 10,000 mg/l Exposure time: 96 h Test substance: Similar Product NOEC Rainbow Trout: 6,000 mg/l Exposure time: 96 h Test substance: Similar Product
Toxicity to daphnia and other aquatic invertebrates	:	LC50 Ceriodaphnia dubia: 1,227 mg/l Exposure time: 48 h Test substance: Similar Product LC50 Mysid Shrimp (Mysidopsis bahia): > 10,000 mg/l

Exposure time: 48 h
Test substance: Similar Product

NOEC Ceriodaphnia dubia: 648 mg/l
Exposure time: 48 h
Test substance: Similar Product

NOEC Mysid Shrimp (Mysidopsis bahia): 6,000 mg/l
Exposure time: 48 h
Test substance: Similar Product

Persistence and degradability

The product may be degraded via abiotic processes.

Total Organic Carbon (TOC) : 100,000 mg/l

Chemical Oxygen Demand (COD): 240,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	3,600 mg/l	

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

No bioaccumulation will occur. The large size of the polymer is incompatible with transport across the cellular membranes.

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 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.

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 : Not relevant

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.

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 : 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

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

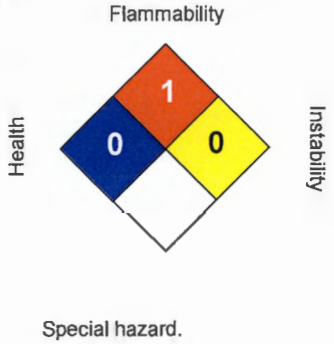
Japan. ENCS - Existing and New Chemical Substances Inventory
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Australia. Industrial Chemical (Notification and Assessment) Act
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	07/31/2018
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.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

NALCO® 7357

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCO® 7357
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	:	07/09/2020

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. Protect product from freezing.
Other hazards	:	None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Sodium Molybdate	7631-95-0	30 - 60

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.
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: metal oxides Sodium oxide
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). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

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. Protect product from freezing.

Suitable material : Keep in properly labelled containers.

Unsuitable material : not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Sodium Molybdate	7631-95-0	TWA (Total dust)	15 mg/m3 (as Mo)	OSHA Z1
		TWA (Inhalable fraction)	10 mg/m3 (as Mo)	ACGIH
		TWA (Respirable fraction)	3 mg/m3 (as Mo)	ACGIH

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 : > 100 °C, Method: ASTM D 93, Pensky-Martens closed cup

pH : 7.00 - 10.00,(100 %)

Odour Threshold : no data available

Melting point/freezing point : Freezing Point: -6.1 °C

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	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.4,
Density	:	1.39 g/cm3 , 11.6 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	:	no data available
Viscosity, kinematic	:	< 100 mm2/s
Molecular weight	:	no data available
VOC	:	no data available

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	:	Freezing temperatures.
Incompatible materials	:	None known
Hazardous decomposition products	:	Decomposition products may include the following materials: metal oxides Sodium oxides

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.

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	:	LD50 rat: 4,233 mg/kg Test substance: Active Substance
Acute inhalation toxicity	:	LD50 rat: > 1.93 mg/l Exposure time: 4 hrs Test substance: Active Substance Acute toxicity estimate: 14.52 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 rat: > 2,000 mg/kg Test substance: Active Substance
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

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Lepomis macrochirus (Bluegill sunfish): 280 mg/l Exposure time: 96 hrs Test substance: Product LC50 Oncorhynchus mykiss (rainbow trout): 220 - 290 mg/l Exposure time: 96 hrs Test substance: Product LC50 Inland Silverside: > 5,000 mg/l Exposure time: 96 hrs Test substance: Product LC50 Oncorhynchus mykiss (rainbow trout): > 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Inland Silverside: 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Oncorhynchus mykiss (rainbow trout): 5,000 mg/l Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	:	LC50 Mysid Shrimp (Mysidopsis bahia): > 5,000 mg/l Exposure time: 96 hrs Test substance: Product EC50 Daphnia magna (Water flea): 1,948 mg/l Exposure time: 48 hrs Test substance: Product Test Type: Static NOEC Mysid Shrimp (Mysidopsis bahia): 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Daphnia magna (Water flea): 1,250 mg/l Exposure time: 48 hrs Test substance: Product Test Type: Static

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

Chemical Oxygen Demand (COD): < 500 mg/l

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

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 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.

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

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.

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

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

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).

Taiwan Chemical Substance Inventory

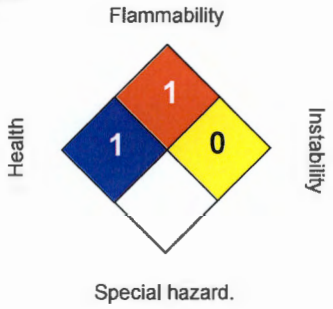
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

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	1
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	07/09/2020
Version Number	:	1.1
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.

NALCO
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SAFETY DATA SHEET

NALSPERSE® 7348

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALSPERSE® 7348
Other means of identification	:	Not applicable.
Recommended use	:	DISPERSANT AND DETERGENT
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	:	07/15/2014

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Specific measures: consult MSDS Section 4.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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.
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.

See toxicological information (Section 11)

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	:	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.

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). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

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 labeled containers.
Suitable material	:	Keep in properly labelled containers.
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	Colorless
Odour	:	Somewhat sweet
Flash point	:	235 °C Method: ASTM D 93, Pensky-Martens closed cup
pH	:	5.0 - 8.0, 2.5 % (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	> 93.3 °C
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	:	< 0.1 mm Hg (20 °C)
Relative vapour density	:	no data available
Relative density	:	1.0 - 1.04 (20 °C) ASTM D-1298
Density	:	8.5 lb/gal
Water solubility	:	dispersible
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	Carbon oxides
Viscosity, dynamic	:	273 mPa.s (25 °C)

		Method: ASTM D 2983
Viscosity, kinematic	:	no data available
VOC	:	0.7 % 7.19 g/l

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.
Hazardous decomposition products	:	Oxides of carbon

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.

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	:	LD50 rat Test substance Product
Acute inhalation toxicity	:	no data available

Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	Result: 0.6 Method: Draize Test Test substance:Product
Serious eye damage/eye irritation	:	Species: rabbit Result: 2.7 Method: Draize Test Test substance: Product
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	:	Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Rainbow Trout: > 1,000 mg/l Exposure time: 96 hrs Test substance: Product LC50 Fathead Minnow: > 1,000 mg/l Exposure time: 96 hrs Test substance: Product LC50 Gold Orfe: > 100 mg/l Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	:	LC50 Daphnia magna: > 1,000 mg/l Exposure time: 48 hrs Test substance: Product LC50 Ceriodaphnia dubia: 240 mg/l Exposure time: 48 hrs Test substance: Product
Toxicity to algae	:	LC50 Marine Algae (Skeletonema costatum): > 100 mg/l

		Exposure time: 72 hrs Test substance: Product
Toxicity to bacteria	:	LC50 Bacteria: > 100 mg/l Test substance: Product
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 12.5 mg/l Exposure time: 7 d Species: Ceriodaphnia dubia Test substance: Product LOEC: 25 mg/l Exposure time: 7 d Species: Ceriodaphnia dubia Test substance: Product EC25 / IC25: 13 mg/l Exposure time: 7 d Species: Ceriodaphnia dubia Test substance: Product

Persistence and degradability

The product is readily biodegradable

Total Organic Carbon (TOC) : 540,000 mg/l

Chemical Oxygen Demand (COD): 2,300,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	3 mg/l	Product

Biological degradation: Approx	60-70%	28 Day	Manometric respirometry test OECD 301F

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	:	<5%
Soil	:	> 90%

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

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 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.

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

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 302	:	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	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 :

TOXIC SUBSTANCES CONTROL ACT (TSCA)
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
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).

EUROPE
The substance(s) in this preparation are included in or exempted from the EINECS or ELINCS inventories

JAPAN
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).

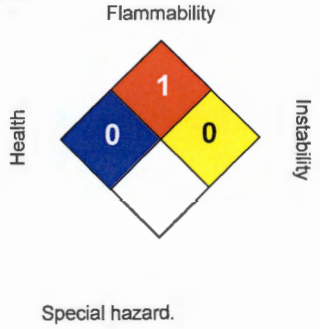
KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

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.

PHILIPPINES
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).

SECTION 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	: 07/15/2014
Version Number	: 1.0
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.

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 MSDS visit www.nalco.com and request access.

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SAFETY DATA SHEET

ControlBrom® CB70

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	ControlBrom® CB70
Other means of identification	:	Not applicable.
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	:	01/26/2015

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Eye irritation	:	Category 2A

GHS Label element

Hazard pictograms :

Signal Word :

Warning

Hazard Statements :

Harmful if swallowed or in contact with skin
Causes serious eye irritation.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection. Wear protective gloves/ protective clothing.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. If eye irritation persists: Get medical advice/ attention. Wash contaminated clothing before reuse.

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: (%)
Sodium Bromide	7647-15-6	10 - 30

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.

In case of skin contact : Take off contaminated clothing and shoes immediately. 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 if irritation develops and persists.

If swallowed : Get medical attention if symptoms occur. DO NOT INDUCE VOMITING. Do not give anything to drink.

If inhaled : Remove to fresh air. 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 nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Special protective equipment for firefighters : Use personal protective equipment.

Specific extinguishing : Fire residues and contaminated fire extinguishing water must

methods	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 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	:	Avoid contact with skin and eyes. Do not ingest. Wash hands thoroughly after handling. Use only with adequate ventilation. Do not breathe vapors/gases/dust.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers. Keep in dry place. Store in a cool well ventilated area away from direct sunlight.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Stainless Steel 304, Neoprene, Buna-N, Polyurethane, EPDM, Polypropylene (rigid), Polyethylene (rigid), CPVC (rigid), Plasite 4300, Plasite 7122, 100% phenolic resin liner, Epoxy phenolic resin, Chlorosulfonated polyethylene rubber, Fluoroelastomer, 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: Brass

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Effective exhaust ventilation system Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	:	Safety glasses with side-shields
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	:	Wear suitable protective clothing.
Respiratory protection	:	No personal respiratory protective equipment normally required.
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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	colourless
Odour	:	odourless
Flash point	:	does not flash
pH	:	10.2 - 12.4, 100 % (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	FREEZING POINT: -29 °C
Initial boiling point and boiling range	:	no data available
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	:	11.5 mm Hg (20 °C)
Relative vapour density	:	no data available
Relative density	:	1.38 - 1.42 (20 °C)
Density	:	11.6 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 temperature	:	no data available
Viscosity, dynamic	:	1 mPa.s (20 °C)
Viscosity, kinematic	:	no data available
VOC	:	0 %

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature

Incompatible materials	:	Reducing agents Oxidizing agents Acids Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur 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 irritation.
Skin	:	Harmful in contact with skin.
Ingestion	:	Harmful if swallowed.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	Redness, Pain, Irritation
Skin contact	:	No information available.
Ingestion	:	No information available.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	LD50 rat > 5,000 mg/kg Test substance Product
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	LD50 rabbit: > 5,000 mg/kg Test substance: Product
Skin corrosion/irritation	:	Species: Rabbit Result: No skin irritation Test substance:Product

		Species: Rabbit Result: 0.0 Method: Draize Test Test substance:Product
Serious eye damage/eye irritation	:	Species: rabbit Result: 7.0 Method: Draize Test Test substance: Product Species: rabbit Result: Essentially non-irritating Test substance: Product
Respiratory or skin sensitization	:	Test Method: Buehler Species: Guinea pig Result: Did not cause sensitisation on laboratory animals. Test substance: Product
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	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Pimephales promelas (fathead minnow): > 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Pimephales promelas (fathead minnow): > 5,000 mg/l Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	:	LC50 Ceriodaphnia dubia: > 5,000 mg/l Exposure time: 48 hrs Test substance: Product NOEC Ceriodaphnia dubia: > 5,000 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.

Chemical Oxygen Demand (COD): 92,000 mg/l

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

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 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.

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

EPA Reg. No. : 1706-235

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Acute Health Hazard
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 :

TOXIC SUBSTANCES CONTROL ACT (TSCA)

This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA

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).

EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

JAPAN

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).

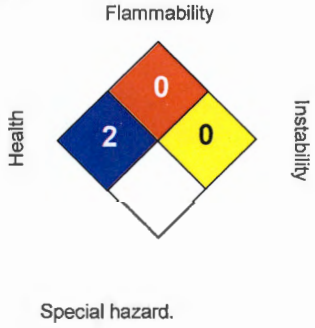
KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

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.

PHILIPPINES
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).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	01/26/2015
Version Number	:	1.0
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.

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 MSDS visit www.nalco.com and request access.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

NALCO® 77352NA

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCO® 77352NA
Other means of identification	:	Not applicable.
Recommended use	:	BIOCIDE
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	:	10/15/2019

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation)	:	Category 4
Skin corrosion	:	Category 1A
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Harmful if inhaled.

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. 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.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Magnesium Nitrate	10377-60-3	1 - 5
5-Chloro-2-Methyl-4-Isothiazolin-3-one	26172-55-4	1 - 5
Magnesium Chloride	7786-30-3	1 - 5
2-Methyl-4-Isothiazolin-3-one	2682-20-4	0.1 - 1

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.

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 nitrogen oxides (NOx) Sulphur oxides 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. 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 out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	Keep in properly labelled containers.
Unsuitable 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.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	yellow
Odour	:	Pungent
Flash point	:	does not flash
pH	:	3 - 5,(100 %)
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	100 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	0.1 mm Hg, (20 °C),
Relative vapour density	:	no data available
Relative density	:	1.02, (20 °C),
Density	:	1.02 g/cm3 , 8.5 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	:	3 mPa.s (25 °C)
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	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature Freezing temperatures.
Incompatible materials	:	Amines Organic materials and reducing agents Mercaptans Oxidizing agents Aluminium Mild steel
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur 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. May cause allergic skin reaction.
Ingestion	:	Causes digestive tract burns.
Inhalation	:	Harmful if inhaled. 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, Irritation, Corrosion, Allergic reactions
Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	LD50 rat: 4,000 mg/kg Test substance: Product (estimated)
Acute inhalation toxicity	:	Acute toxicity estimate: 19.13 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 rabbit: > 5,000 mg/kg Test substance: Product (estimated)
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

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : Harmful to aquatic life.

Product

Toxicity to algae : EC50 Marine Algae (Skeletonema costatum): 0.003 mg/l
Test substance: Active Substance

EC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 0.018 mg/l
Test substance: Active Substance

Components

Toxicity to fish : Magnesium Nitrate
LC50 Oncorhynchus mykiss (rainbow trout): > 100 mg/l
Exposure time: 96 h

5-Chloro-2-Methyl-4-Isothiazolin-3-one
LC50 Fish: 0.19 mg/l
Exposure time: 96 h

2-Methyl-4-Isothiazolin-3-one
LC50 Fish: 0.19 mg/l
Exposure time: 96 h

Components

Toxicity to daphnia and other aquatic invertebrates	:	Magnesium Nitrate EC50 Daphnia magna (Water flea): 490 mg/l Exposure time: 48 h

Persistence and degradability

The organic portion of this preparation is expected to be readily biodegradable.

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

This preparation or material is not expected to bioaccumulate.

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.

Land transport (DOT)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE, ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No.	:	UN 3265

Transport hazard class(es)	:	8
Packing group	:	II

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE, ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No.	:	UN 3265
Transport hazard class(es)	:	8
Packing group	:	II

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE, ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No.	:	UN 3265
Transport hazard class(es)	:	8
Packing group	:	II
*Marine pollutant	:	ISOTHIAZOLINONE MICROBIOCIDE

* 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.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements: 5-Chloro-2-Methyl-4-Isothiazolin-3-one

EPA Reg. No. : 707-133-1706

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.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Respiratory or skin sensitisation
Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Skin corrosion or irritation

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
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)
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

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)

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).

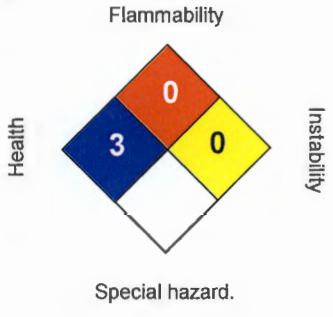
China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

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	:	10/15/2019
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.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

SODIUM HYPOCHLORITE, 12.5% w/w

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	SODIUM HYPOCHLORITE, 12.5% w/w
Other means of identification	:	Not applicable.
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	:	07/06/2016

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion	:	Category 1B
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. **Response:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.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. Wash contaminated clothing before reuse. **Storage:** Store locked up. **Disposal:** Dispose of contents/ container to an approved waste disposal plant.
Other hazards	:	Mixing this product with acid or ammonia releases chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Sodium Hypochlorite	7681-52-9	10 - 30
Sodium Chloride	7647-14-5	5 - 10
Sodium Hydroxide	1310-73-2	0.1 - 1

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: Hydrogen chloride

Special protective equipment for firefighters : Use personal protective equipment.

Specific extinguishing : Fire residues and contaminated fire extinguishing water must be disposed of in

methods	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. Mixing this product with acid or ammonia releases chlorine gas.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labeled 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

This product does not contain any substance that has an established exposure limit.

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 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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	Clear Yellow Light green
Odour	:	Pungent
Flash point	:	does not flash
pH	:	no data available
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	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	:	17.5 mm Hg, (20.0 °C),
Relative vapour density	:	no data available
Relative density	:	1.2, (15.5 °C),
Density	:	10.0 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 temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available

VOC	:	0 %, Calculation method

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Mixing this product with acid or ammonia releases chlorine gas.
Conditions to avoid	:	None known.
Incompatible materials	:	None known
Hazardous decomposition products	:	Decomposition products may include the following materials: Hydrogen chloride

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.
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	:	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 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 inhalation toxicity	:	Sodium Hypochlorite LC50 rat: > 5.25 mg/l Exposure time: 4 h

Components

Acute dermal toxicity	:	Sodium Hypochlorite LD50 rabbit: > 10,000 mg/kg Sodium Chloride LD50 rabbit: > 10,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Very toxic to aquatic life.

Components

Toxicity to fish	:	Sodium Chloride LC50 Fish: 5,840 mg/l Exposure time: 96 h

Components

Toxicity to daphnia and other aquatic invertebrates	:	Sodium Hypochlorite EC50 : 0.071 mg/l Exposure time: 48 h Sodium Hydroxide EC50 : 40 mg/l Exposure time: 48 h

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

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

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	:	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.

Land transport (DOT)

Proper shipping name	:	HYPOCHLORITE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1791
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	746 lbs
RQ Component	:	SODIUM HYPOCHLORITE

Air transport (IATA)

Proper shipping name	:	HYPOCHLORITE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1791
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	746 lbs
RQ Component	:	SODIUM HYPOCHLORITE

Sea transport (IMDG/IMO)

Proper shipping name	:	HYPOCHLORITE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1791
Transport hazard class(es)	:	8
Packing group	:	III

Section: 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium Hypochlorite	7681-52-9	100	746

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 Health Hazard
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 :

TOXIC SUBSTANCES CONTROL ACT (TSCA)

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
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).

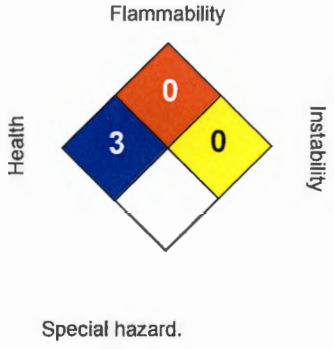
JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

KOREA
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

PHILIPPINES
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).

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	:	07/06/2016
Version Number	:	1.0
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.

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.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

STABREX™ ST70

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	STABREX™ ST70
Other means of identification	:	Not applicable.
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	:	09/11/2019

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 4
Skin corrosion	:	Category 1
Serious eye damage	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed or if inhaled
Causes severe skin burns and eye damage.

Precautionary Statements :

Prevention:
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. 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.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Sodium Bromide	7647-15-6	9.23
Sodium Hypochlorite	7681-52-9	6.36
Sodium Chloride	7647-14-5	1 - 5
Sodium Hydroxide	1310-73-2	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.

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.

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	:	This product is toxic to fish and other aquatic organisms. It is not to be used in circumstances that would cause or allow it to enter lakes, streams, ponds, estuaries, oceans or other waters in contravention of federal or provincial regulatory requirements. DO NOT discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. The requirements of applicable laws should be determined before using the product.
Methods and materials for containment and cleaning up	:	Clean-up methods - small spillage 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). Clean-up methods - large spillage For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

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. Mixing this product with acid or ammonia releases chlorine gas.
Conditions for safe storage	:	Do not store near acids. 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: Polyethylene, Polypropylene, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use., HDPE (high density polyethylene), Neoprene, PVC, Polyurethane, Chlorosulfonated polyethylene rubber, Fluoroelastomer
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Brass, Buna-N, EPDM, Stainless Steel 316L, Stainless Steel 304, 100% phenolic resin liner, Epoxy phenolic resin, Mild steel

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Sodium Hypochlorite	7681-52-9	STEL	2 mg/m3	AIHA WEEL

Sodium Hydroxide	1310-73-2	Ceiling	2 mg/m3	ACGIH
		Ceiling	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z1

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:
butyl-rubber
Neoprene gloves
Nitrile rubber
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.
Combined particulates and inorganic gas/vapour type

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 : Liquid

Colour : light yellow

Odour : odourless

Flash point : Not applicable.

pH : 13.0

Odour Threshold : no data available

Melting point/freezing point : -8.2 °C, ASTM D-1177

Initial boiling point and boiling range : no data available

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 : 7.7 mm Hg, (25 °C), ASTM D 2879-86,
27 mm Hg, (46 °C), ASTM D 2879-86,

Relative vapour density	:	no data available
Relative density	:	1.305 - 1.380, (25 °C), ASTM D-1298
Density	:	11.0 - 11.3 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	:	7 mPa.s
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	:	Mixing this product with acid or ammonia releases chlorine gas.
Conditions to avoid	:	Avoid extremes of temperature. Heat and light which can accelerate decomposition. Freezing temperatures.
Incompatible materials	:	None known.

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	:	Harmful if inhaled. 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	:	LD50 rat: 1,500 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Skin corrosion/irritation	:	Species: rabbit Result: 7.9 Method: Draize Test Test substance: Similar Product
Serious eye damage/eye irritation	:	Species: rabbit Result: Corrosive Method: Draize Test Test substance: Similar Product
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	:	Toxic to aquatic life.

Product

Toxicity to fish	:	LC50 Oncorhynchus mykiss (rainbow trout): 4.5 mg/l Exposure time: 96 hrs Test substance: Product LC50 Cyprinodon variegatus (sheepshead minnow): 16 mg/l Exposure time: 96 hrs Test substance: Product

LC50 Pimephales promelas (fathead minnow): 8.3 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Oncorhynchus mykiss (rainbow trout): 1.3 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Cyprinodon variegatus (sheepshead minnow): 8 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 3.6 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Pimephales promelas (fathead minnow): 7.1 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 5.0 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): 4.3 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Mysid Shrimp (Mysidopsis bahia): 27 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 1.6 mg/l
Exposure time: 48 hrs
Test substance: Product

EC50 Daphnia magna (Water flea): 4.2 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna (Water flea): 2.2 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Mysid Shrimp (Mysidopsis bahia): 13 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 0.63 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to algae : LC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 3.66 mg/l
Exposure time: 72 hrs

Test substance: Product

NOEC Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 2.5 mg/l
Exposure time: 72 hrs
Test substance: Product

Toxicity to fish (Chronic toxicity) : EC25 / IC25: 3.34 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

LOEC: 5 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

NOEC: 2.5 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC25 / IC25: 15.6 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

NOEC: 2.5 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

LOEC: 5.0 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

NOEC: 20.0 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

LOEC: 40.0 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

Persistence and degradability

Chemical Oxygen Demand (COD): 89,900 mg/l

Biochemical Oxygen Demand (BOD):This material is an oxidizing biocide and is not expected to persist in the environment.

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	:	30 - 50%

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

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:	:	D002
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.

Land transport (DOT)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II
Reportable Quantity (per	:	15,625 lbs

package)
RQ Component : Sodium Hydroxide

Air transport (IATA)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II
Reportable Quantity (per package)	:	15,625 lbs
RQ Component	:	Sodium Hydroxide

Sea transport (IMDG/IMO)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II

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. : 1706-179

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium Hydroxide	1310-73-2	1000	15625

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 : 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.

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)

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.

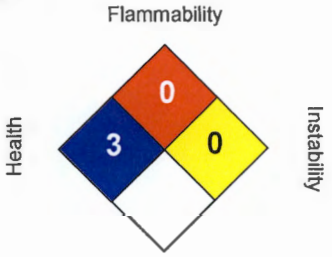
Australia. Industrial Chemical (Notification and Assessment) Act
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

STABREX™ ST70

NFPA:



Special hazard.

HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	09/11/2019
Version Number	:	1.6
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.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

NALCO® TRAC109

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCO® TRAC109
Other means of identification	:	Not applicable.
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	:	02/15/2017

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing liquids	:	Category 3
Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1
Specific target organ toxicity - single exposure (Oral)	:	Category 1 (Blood)

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : May intensify fire; oxidiser.
Harmful if swallowed.
Causes severe skin burns and eye damage.
Causes damage to organs (Blood) if swallowed.

Precautionary Statements : **Prevention:**
Keep away from heat. Keep/Store away from clothing and other combustible materials. Do not breathe dust/fume/gas/mist/vapours/spray. 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.
IF exposed: Call a POISON CENTER or doctor/ physician.
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: (%)
Sodium Nitrite	7632-00-0	30 - 60
Sodium Hydroxide	1310-73-2	1 - 5
Sodium Tetraborate	1330-43-4	0.1 - 1

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 nitrogen oxides (NOx) Sulphur oxides 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. 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	:	Do not store near acids. 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

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Sodium Hydroxide	1310-73-2	Ceiling	2 mg/m3	ACGIH
		Ceiling	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z1
Sodium Tetraborate	1330-43-4	TWA	1 mg/m3	NIOSH REL
		TWA (Inhalable fraction)	2 mg/m3 (Borate)	ACGIH
		STEL (Inhalable fraction)	6 mg/m3 (Borate)	ACGIH

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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	clear
Odour	:	odourless
Flash point	:	> 93.3 °C
pH	:	12.1 - 14.0, (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	no data available
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	:	1.34, (25.0 °C),
Density	:	1.33 g/cm3 , 11.1 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 temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

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	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur 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	:	Harmful if swallowed. Causes digestive tract burns.
Inhalation	:	May cause nose, throat, and lung irritation.
Chronic Exposure	:	May damage fertility or the unborn child if swallowed. May cause damage to organs.

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: 475.13 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 data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Very toxic to aquatic life.

Product

Toxicity to fish	:	LC50 Oncorhynchus mykiss (rainbow trout): 100.83 mg/l Exposure time: 96 hrs Test substance: Product Test Type: Static NOEC Oncorhynchus mykiss (rainbow trout): 25 mg/l Exposure time: 96 hrs Test substance: Product Test Type: Static
Toxicity to daphnia and other aquatic invertebrates	:	EC50 Daphnia magna (Water flea): 215.8 mg/l Exposure time: 48 hrs Test substance: Product Test Type: Static NOEC Daphnia magna (Water flea): 80 mg/l Exposure time: 48 hrs Test substance: Product

Test Type: Static

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

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

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 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:	:	D002
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	:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical name(s)	:	Sodium Nitrite, Sodium Hydroxide
UN/ID No.	:	UN 3266
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	260 lbs
RQ Component	:	SODIUM NITRITE

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical name(s)	:	Sodium Nitrite, Sodium Hydroxide
UN/ID No.	:	UN 3266
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	260 lbs
RQ Component	:	SODIUM NITRITE

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical name(s)	:	Sodium Nitrite, Sodium Hydroxide
UN/ID No.	:	UN 3266
Transport hazard class(es)	:	8
Packing group	:	III
*Marine pollutant	:	SODIUM NITRITE

*Note: This product is regulated as a Marine Pollutant when shipped by Rail, Highway (in bulk quantities), or Air (if no other hazard class applies), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

TSCA list : The following substance(s) is/are subject to a Significant New Use Rule:
The following substance(s) is/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)
Sodium Nitrite	7632-00-0	100	264

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Fire Hazard Acute Health Hazard
SARA 302	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	The following components are subject to reporting levels established by SARA Title III, Section 313: Sodium Nitrite 7632-00-0 30 - 60 %

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpart D):
The following components are listed: Sodium Nitrite

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)

Canadian Domestic Substances List (DSL)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

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).

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)

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).

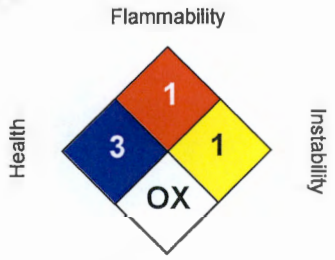
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NALCO® TRAC109

NFPA:



Special hazard.

HMIS III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	02/15/2017
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

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United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA Form 3510-1 Revised March 2019

Water Permits Division

Application Form 1
General Information
NPDES Permitting Program

Note: All applicants to the National Pollutant Discharge Elimination System (NPDES) permits program, with the exception of publicly owned treatment works and other treatment works treating domestic sewage, must complete Form 1. Additionally, all applicants must complete one or more of the following forms: 2B, 2C, 2D, 2E, or 2F. To determine the specific forms you must complete, consult the "General Instructions" for this form.

RECEIVED

OCT 20 2022

INDUSTRIAL SECTION

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

EPA Identification Number	NPDES Permit Number	Facility Name
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC

Form 1 NPDES

EPA

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

GENERAL INFORMATION

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

Activities Requiring an NPDES Permit

1.1 Applicants *Not Required* to Submit Form 1

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

1.2 Applicants *Required* to Submit Form 1

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

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

Name, Mailing Address, and Location

2.1 Facility Name

Constellium Muscle Shoals, LLC

2.2 EPA Identification Number

ALD095687679

2.3 Facility Contact

Name (first and last)	Title	Phone number
Randy Branscome	Sr. Environmental Engineer	(256) 443-2793

Email address
randy.branscome@constellium.com

2.4 Facility Mailing Address

Street or P.O. box
4805 Second Street

City or town	State	ZIP code
Muscle Shoals	Alabama	35661

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	

Name, Mailing Address, and Location Continued

2.5	**Facility Location**		
	Street, route number, or other specific identifier 4805 Second Street		
	County name Colbert	County code (if known)	
	City or town Muscle Shoals	State Alabama	ZIP code 35661

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

SIC and NAICS Codes

3.1	SIC Code(s)	**Description** (optional)
	3353	Aluminum Sheet, Plate, and Foil
	3341	Secondary Nonferrous Metals
	3479	Metal Coating and Allied Services
	3365	Aluminum Foundries
3.2	**NAICS Code(s)**	**Description** (optional)
	331315	Aluminum Sheet, Plate, and Foil Manufacturing
	331314	Secondary Smelting and Alloying of Aluminum
	332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to
	331524	Aluminum Foundries (except Die-Casting)

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

Operator Information

4.1	**Name of Operator**
	Constellium Muscle Shoals, LLC
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**
	(256) 386-6000

Operator Information Continued

4.5	**Operator Address**		
	Street or P.O. Box 4805 Second Street		
	City or town Muscle Shoals	State Alabama	ZIP code 35661
	Email address of operator		

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

Indian Land

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

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) AL0000035	☐ RCRA (hazardous wastes)	☐ UIC (underground injection of fluids)
☐ PSD (air emissions)	☐ Nonattainment program (CAA)	☐ NESHAPs (CAA)
☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☑ Other (specify) PWS - 0000366; Title V Air perr

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

Map

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

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

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

Nature of Business

8.1 Describe the nature of your business.

Molten aluminum, pig, and scrap are melted, alloyed, and cast into ingots. These ingots are hot- and cold-rolled into sheets and plate with possible intermediate thermal treatment. Coils may be coated for fabrication at this location or shipped off-site.

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.)

Tennessee River - less than 25% of intake is used for cooling water purposes
Private Wells - only used for non-contact cooling when intake water is insufficient

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

Variance Requests

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

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

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	

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

Checklist and Certification Statement

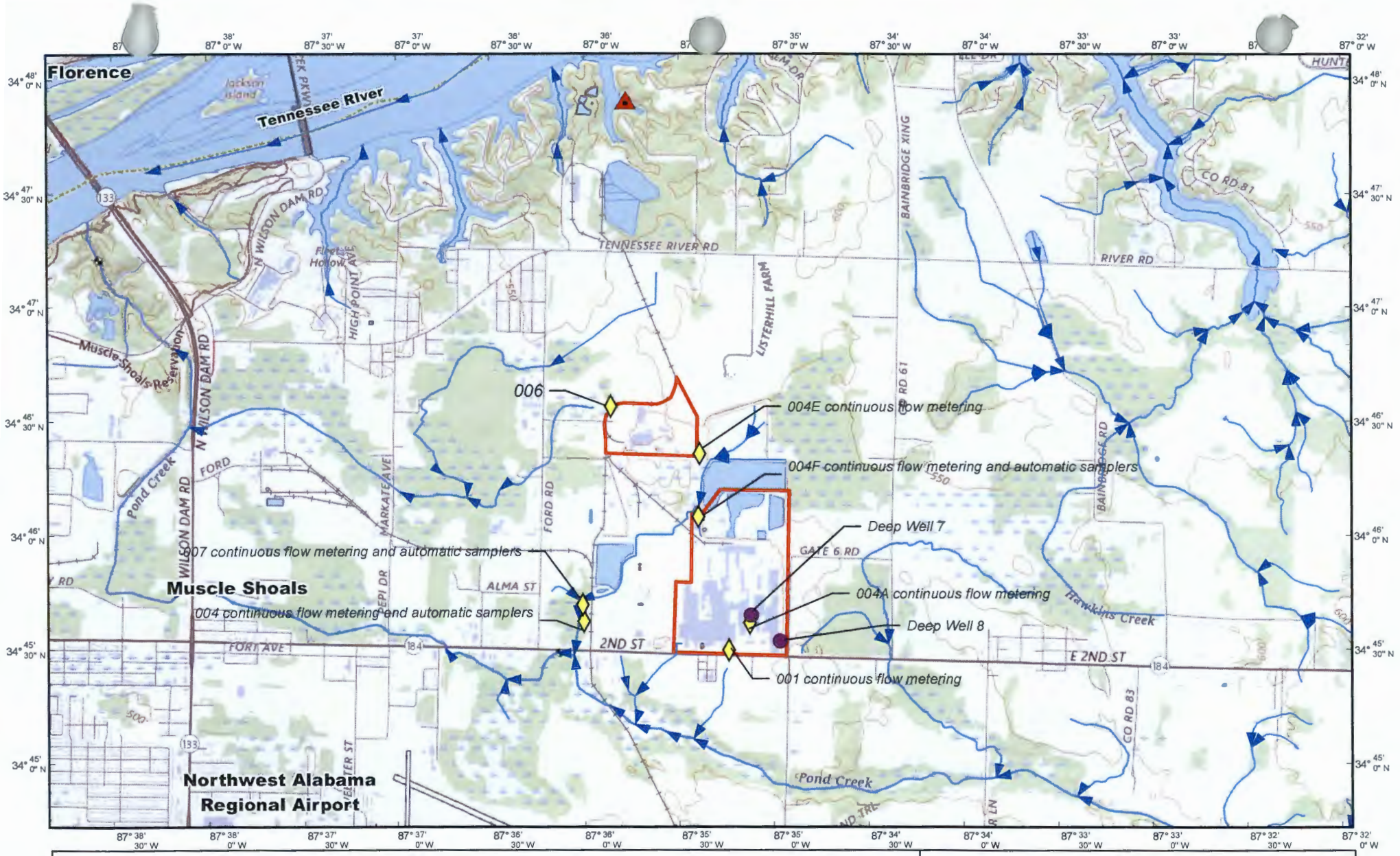
11.1 In Column 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

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

11.2 **Certification Statement**

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

Name (print or type first and last name)	Official title
Fred Pearson III	Director - Environmental & Sustainability
Signature	Date signed
	10-14-22



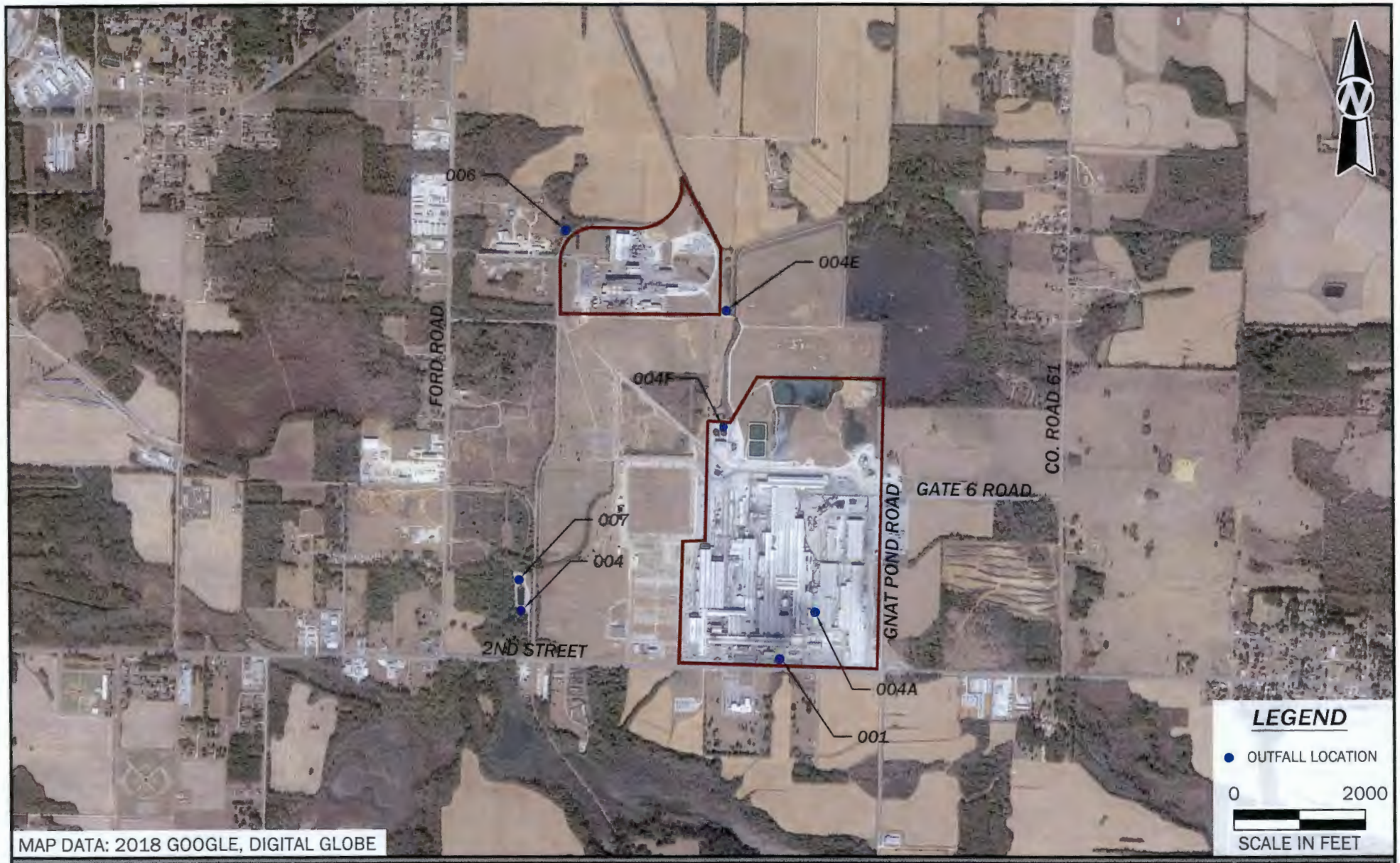
Topographic Site Map

Constellium Muscle Shoals, LLC
Muscle Shoals, Colbert County, Alabama

Geosyntec consultants

Baton Rouge, LA | September 2022

Figure 1



TTL

2743B Gunter Park Drive West | Montgomery, AL 36109
334.244.0766 | www.ttlusa.com

CONSTELLIUM SID PERMIT RENEWAL

CONSTELLIUM MUSCLE SHOALS, LLC

4805 SECOND STREET
MUSCLE SHOALS, COLBERT COUNTY, ALABAMA

Drawn By:	T C C
Checked By:	J H F
Date:	12/03/18
Proj. No.:	000180100295.00
File Name:	0295 Fig 2 Site dwg

Figure 2
SITE MAP

United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA Form 3510-2C Revised March 2019

Water Permits Division

EPA

Application Form 2C

Existing Manufacturing, Commercial, Mining, and Silvicultural Operations

NPDES Permitting Program

Note: Complete this form ***and*** Form 1 if your facility is an existing manufacturing, commercial, mining, or silvicultural facility that currently discharges process wastewater.

EPA Identification Number	NPDES Permit Number	Facility Name
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC

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

Form 2C NPDES

EPA

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

EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS

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

Outfall Location

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

Outfall Number	Receiving Water Name	Latitude	Longitude
004	Pond Creek	34° 45′ 37″ N	87° 35′ 0″ W
007	Pond Creek	34° 45′ 41″ N	87° 36′ 5″ 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**** 004

Operations Contributing to Flow

Operation	Average Flow
Stormwater	0.53 mgd
Rolling Operations	0.275 mgd
Casting Operations	0.42 mgd
See Addendum 2 for additional operations	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
Oily Waste Treatment	1-X, 4-A, 4-C	Recycled
Sanitary wastewater treatment	4-A	
Oil Skimming Basin	1-U, 1-X, 4-A, 4-C	Recycled
See Addendum 2 for additional treatment units		

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INDUSTRIAL SECTION

Average Flows and Treatment Continued

3.1 cont.

****Outfall Number**** 007

Operations Contributing to Flow

Operation	Average Flow
Stormwater	0.079 mgd
Rolling Operations	0.041 mgd
Casting Operations	0.063 mgd
See Addendum 1 for additional operations	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
Oily Waste Treatment	1-X, 4-A, 4-C	Recycled
Sanitary wastewater treatment	4A	
Oil Skimming Basin	1-U, 1-X, 4-A, 4-C	Recycled
See Addendum 1 for additional treatment units		

****Outfall Number**** _____

Operations Contributing to Flow

Operation	Average Flow
	mgd
	mgd
	mgd
	mgd

Treatment Units

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

System Users

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

☐ Yes ☑ No ➔ SKIP to Section 4.

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

☐ Yes ☐ No

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

Intermittent Flows

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

☑ Yes ☐ No → SKIP to Section 5.

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

Outfall Number	Operation (list)	Frequency		Flow Rate		Duration
		Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	
004	Fire Hydrant Test	3 days/week	1 months/year	0.003 mgd	0.006 mgd	6 days
	Fire Sprinkler Test	1 days/week	3 months/year	0.005 mgd	0.009 mgd	2 days
	Fire Pump Test	2 days/week	1 months/year	0.09 mgd	0.27 mgd	3 days
007	Fire Hydrant Test	3 days/week	1 months/year	0.003 mgd	0.006 mgd	1 days
	Fire Sprinkler Test	1 days/week	3 months/year	0.005 mgd	0.009 mgd	1 days
	Fire Pump Test	2 days/week	1 months/year	0.09 mgd	0.27 mgd	1 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
Aluminum Forming	Rolling with Neat Oils	40 CFR 467 Subpart A
Aluminum Forming	Rolling with Emulsions	40 CFR 467 Subpart B
	See Addendum 2 for additional ELGs	

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
004	Rolling with Neat Oils	3,291,701	off-lb
004	Rolling with Emulsions	3,291,701	off-lb
	See Addendum 2 for additional ELGs		

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.)			
Aluminum Forming	☑ Volatile	☑ Acid	☑ Base/Neutral	☐ Pesticide
Coil Coating	☑ Volatile	☑ Acid	☑ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide

Effluent and Intake Characteristics Continued

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

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

Used or Manufactured Toxics

8.1	Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct? ☑ Yes ☐ No ➔ SKIP to Section 9.
8.2	List the pollutants below. 1. Beryllium 4. Lead 7. 2. Chromium (alloying agents) 5. Zinc 8. 3. Copper 6. Chromium (coil coating) 9.

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

Biological Toxicity Tests

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

☑ Yes ☐ No ➔ SKIP to Section 10.

9.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
Acute toxicity biomonitoring	Required per discharge permit	☑ Yes ☐ No	07/05/2022
		☐ Yes ☐ No	
		☐ Yes ☐ No	

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

Contract Analyses

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

☑ Yes ☐ No ➔ SKIP to Section 11.

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

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm	Southern Environmental Testing, Inc.	Waypoint Analytical	
Laboratory address	3103 Northington Court Florence, AL 35630	2790 Whitten Road Memphis, TN 38133	
Phone number	(256) 740-5532	(901) 213-2400	
Pollutant(s) analyzed	None	All pollutants in Tables A-C marked "Testing Required" or "Believed Present"	

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

Additional Information

11.1 Has the NPDES permitting authority requested additional information?

☐ Yes ☑ No ➔ SKIP to Section 12.

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

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

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

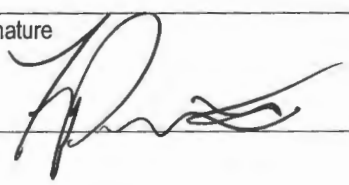
Checklist and Certification Statement

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

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

12.2 **Certification Statement**

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

Name (print or type first and last name)	Official title
Fred Pearson III	Director - Environmental & Sustainability
Signature	Date signed
	10-14-22

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent				Intake (Optional)	
					Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you have applied to your NPDES permitting authority for a waiver for *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☐	Concentration	mg/L	9.25		4.1	11		
			Mass							
2.	Chemical oxygen demand (COD)	☐	Concentration	mg/L	20.2			1		
			Mass							
3.	Total organic carbon (TOC)	☐	Concentration	mg/L	5.64			1		
			Mass							
4.	Total suspended solids (TSS)	☐	Concentration	mg/L	32		12.1	11		
			Mass							
5.	Ammonia (as N)	☐	Concentration	mg/L	2.06		0.26	11		
			Mass							
6.	Flow	☐	Rate	MGD	5.29		3.11	13		
7.	Temperature (winter)	☐	°C	°C	10.3		8.5	3		
	Temperature (summer)	☐	°C	°C	25.3		23.2	5		
8.	pH (minimum)	☐	Standard units	s.u.	6.6		7.1	13		
	pH (maximum)	☐	Standard units	s.u.	7.9		7.1	13		

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

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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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	<0.01			1		
					Mass							
1.2	Arsenic, total (7440-38-2)	☑	☐	☐	Concentration	mg/L	<0.01			1		
					Mass							
1.3	Beryllium, total (7440-41-7)	☑	☐	☐	Concentration	mg/L	<0.01			1		
					Mass							
1.4	Cadmium, total (7440-43-9)	☑	☐	☐	Concentration	mg/L	<0.002			1		
					Mass							
1.5	Chromium, total (7440-47-3)	☑	☐	☐	Concentration	mg/L	<0.005			1		
					Mass							
1.6	Copper, total (7440-50-8)	☑	☐	☐	Concentration	mg/L	<0.005			1		
					Mass							
1.7	Lead, total (7439-92-1)	☑	☐	☐	Concentration	mg/L	<0.006			1		
					Mass							
1.8	Mercury, total (7439-97-6)	☑	☐	☐	Concentration	mg/L	<0.0002			1		
					Mass							
1.9	Nickel, total (7440-02-0)	☑	☐	☐	Concentration	mg/L	0.0064			1		
					Mass							
1.10	Selenium, total (7782-49-2)	☑	☐	☐	Concentration	mg/L	<0.01			1		
					Mass							
1.11	Silver, total (7440-22-4)	☑	☐	☐	Concentration	mg/L	<0.005			1		
					Mass							

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	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	<0.02			1		
					Mass							
1.13	Zinc, total (7440-66-6)	☑	☐	☐	Concentration	mg/L	<0.02			1		
					Mass							
1.14	Cyanide, total (57-12-5)	☑	☐	☐	Concentration	mg/L	<0.005			1		
					Mass							
1.15	Phenols, total	☑	☐	☐	Concentration	mg/L	0.0067			1		
					Mass							
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☑	☐	☐	Concentration	µg/L	<20.0			1		
					Mass							
2.2	Acrylonitrile (107-13-1)	☑	☐	☐	Concentration	µg/L	<20.0			1		
					Mass							
2.3	Benzene (71-43-2)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.4	Bromoform (75-25-2)	☑	☐	☐	Concentration	µg/L	1.96			1		
					Mass							
2.5	Carbon tetrachloride (56-23-5)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.6	Chlorobenzene (108-90-7)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.7	Chlorodibromomethane (124-48-1)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.8	Chloroethane (75-00-3)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							

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

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
2.10	Chloroform (67-66-3)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.11	Dichlorobromomethane (75-27-4)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.12	1,1-dichloroethane (75-34-3)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.13	1,2-dichloroethane (107-06-2)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.14	1,1-dichloroethylene (75-35-4)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.15	1,2-dichloropropane (78-87-5)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.16	1,3-dichloropropylene (542-75-6)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.17	Ethylbenzene (100-41-4)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.18	Methyl bromide (74-83-9)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.19	Methyl chloride (74-87-3)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.20	Methylene chloride (75-09-2)	☑	☐	☐	Concentration	µg/L	<10.0			1		
					Mass							
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.23	Toluene (108-88-3)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
2.24	1,2-trans-dichloroethylene (156-60-5)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.25	1,1,1-trichloroethane (71-55-6)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.26	1,1,2-trichloroethane (79-00-5)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.27	Trichloroethylene (79-01-6)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
2.28	Vinyl chloride (75-01-4)	☑	☐	☐	Concentration	µg/L	<1.00			1		
					Mass							
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
3.2	2,4-dichlorophenol (120-83-2)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
3.3	2,4-dimethylphenol (105-67-9)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
3.4	4,6-dinitro-o-cresol (534-52-1)	☑	☐	☐	Concentration	µg/L	<10.0			1		
					Mass							
3.5	2,4-dinitrophenol (51-28-5)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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	<5.00			1		
					Mass							
3.7	4-nitrophenol (100-02-7)	☑	☐	☐	Concentration	µg/L	<10.0			1		
					Mass							
3.8	p-chloro-m-cresol (59-50-7)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
3.9	Pentachlorophenol (87-86-5)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
3.10	Phenol (108-95-2)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
3.11	2,4,6-trichlorophenol (88-05-2)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.2	Acenaphthylene (208-96-8)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.3	Anthracene (120-12-7)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.4	Benzidine (92-87-5)	☑	☐	☐	Concentration	µg/L	<20.0			1		
					Mass							
4.5	Benzo (a) anthracene (56-55-3)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.6	Benzo (a) pyrene (50-32-8)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.8	Benzo (ghi) perylene (191-24-2)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.9	Benzo (k) fluoranthene (207-08-9)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.11	Bis (2-chloroethyl) ether (111-44-4)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☑	☐	☐	Concentration	µg/L	36.7			1		
					Mass							
4.14	4-bromophenyl phenyl ether (101-55-3)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.15	Butyl benzyl phthalate (85-68-7)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.16	2-chloronaphthalene (91-58-7)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.18	Chrysene (218-01-9)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.19	Dibenzo (a,h) anthracene (53-70-3)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.21	1,3-dichlorobenzene (541-73-1)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.22	1,4-dichlorobenzene (106-46-7)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.23	3,3-dichlorobenzidine (91-94-1)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.24	Diethyl phthalate (84-66-2)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.25	Dimethyl phthalate (131-11-3)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.26	Di-n-butyl phthalate (84-74-2)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.27	2,4-dinitrotoluene (121-14-2)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.28	2,6-dinitrotoluene (606-20-2)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.29	Di-n-octyl phthalate (117-84-0)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.31	Fluoranthene (206-44-0)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.32	Fluorene (86-73-7)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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	<5.00			1		
					Mass							
4.34	Hexachlorobutadiene (87-68-3)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.35	Hexachlorocyclopentadiene (77-47-4)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.36	Hexachloroethane (67-72-1)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.38	Isophorone (78-59-1)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.39	Naphthalene (91-20-3)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.40	Nitrobenzene (98-95-3)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.41	N-nitrosodimethylamine (62-75-9)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.42	N-nitrosodi-n-propylamine (621-64-7)	☑	☐	☐	Concentration	µg/L	<5.00			1		
					Mass							
4.43	N-nitrosodiphenylamine (86-30-6)	☑	☐	☐	Concentration	µg/L	<20.0			1		
					Mass							
4.44	Phenanthrene (85-01-8)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							
4.45	Pyrene (129-00-0)	☑	☐	☐	Concentration	µg/L	<2.00			1		
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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	<5.00			1		
					Mass							
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☐	☐	☑	Concentration							
					Mass							
5.2	α-BHC (319-84-6)	☐	☐	☑	Concentration							
					Mass							
5.3	β-BHC (319-85-7)	☐	☐	☑	Concentration							
					Mass							
5.4	γ-BHC (58-89-9)	☐	☐	☑	Concentration							
					Mass							
5.5	δ-BHC (319-86-8)	☐	☐	☑	Concentration							
					Mass							
5.6	Chlordane (57-74-9)	☐	☐	☑	Concentration							
					Mass							
5.7	4,4'-DDT (50-29-3)	☐	☐	☑	Concentration							
					Mass							
5.8	4,4'-DDE (72-55-9)	☐	☐	☑	Concentration							
					Mass							
5.9	4,4'-DDD (72-54-8)	☐	☐	☑	Concentration							
					Mass							
5.10	Dieldrin (60-57-1)	☐	☐	☑	Concentration							
					Mass							
5.11	α-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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							
					Mass							
5.13	Endosulfan sulfate (1031-07-8)	☐	☐	☑	Concentration							
					Mass							
5.14	Endrin (72-20-8)	☐	☐	☑	Concentration							
					Mass							
5.15	Endrin aldehyde (7421-93-4)	☐	☐	☑	Concentration							
					Mass							
5.16	Heptachlor (76-44-8)	☐	☐	☑	Concentration							
					Mass							
5.17	Heptachlor epoxide (1024-57-3)	☐	☐	☑	Concentration							
					Mass							
5.18	PCB-1242 (53469-21-9)	☐	☐	☑	Concentration							
					Mass							
5.19	PCB-1254 (11097-69-1)	☐	☐	☑	Concentration							
					Mass							
5.20	PCB-1221 (11104-28-2)	☐	☐	☑	Concentration							
					Mass							
5.21	PCB-1232 (11141-16-5)	☐	☐	☑	Concentration							
					Mass							
5.22	PCB-1248 (12672-29-6)	☐	☐	☑	Concentration							
					Mass							
5.23	PCB-1260 (11096-82-5)	☐	☐	☑	Concentration							
					Mass							
5.24	PCB-1016 (12674-11-2)	☐	☐	☑	Concentration							
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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							
					Mass							

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

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you believe all pollutants on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
☐	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
1.	Bromide (24959-67-9)	☑	☐	Concentration	mg/L	1.28			1		
				Mass							
2.	Chlorine, total residual	☐	☑	Concentration	mg/L						
				Mass							
3.	Color	☐	☑	Concentration	mg/L						
				Mass							
4.	Fecal coliform	☐	☑	Concentration	mg/L						
				Mass							
5.	Fluoride (16984-48-8)	☑	☐	Concentration	mg/L	<1.25			1		
				Mass							
6	Nitrate-nitrite	☑	☐	Concentration	mg/L	<1.00			1		
				Mass							
7.	Nitrogen, total organic (as N)	☑	☐	Concentration	mg/L	1.020			1		
				Mass							
8.	Oil and grease	☑	☐	Concentration	mg/L	1.55		1.25	11		
				Mass							
9.	Phosphorus (as P), total (7723-14-0)	☑	☐	Concentration	mg/L	<0.500			1		
				Mass							
10.	Sulfate (as SO_4) (14808-79-8)	☑	☐	Concentration	mg/L	36.8			1		
				Mass							
11.	Sulfide (as S)	☐	☑	Concentration	mg/L	<0.5			1		
				Mass							

NOTE: All sanitary wastewater treatment discharges to DSN004F. Therefore, sampling for E. Coli and TRC was moved to DSN004F as a more representative sampling location than DSN004.

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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	<0.200			1		
				Mass							
14.	Aluminum, total (7429-90-5)	☑	☐	Concentration	mg/L	1.32			1		
				Mass							
15.	Barium, total (7440-39-3)	☑	☐	Concentration	mg/L	0.0215			1		
				Mass							
16.	Boron, total (7440-42-8)	☑	☐	Concentration	mg/L	0.0652			1		
				Mass							
17.	Cobalt, total (7440-48-4)	☐	☑	Concentration	mg/L	<0.01			1		
				Mass							
18.	Iron, total (7439-89-6)	☑	☐	Concentration	mg/L	0.493			1		
				Mass							
19.	Magnesium, total (7439-95-4)	☑	☐	Concentration	mg/L	6.5			1		
				Mass							
20.	Molybdenum, total (7439-98-7)	☑	☐	Concentration	mg/L	0.608			1		
				Mass							
21.	Manganese, total (7439-96-5)	☑	☐	Concentration	mg/L	0.161			1		
				Mass							
22.	Tin, total (7440-31-5)	☐	☑	Concentration	mg/L	<0.05			1		
				Mass							
23.	Titanium, total (7440-32-6)	☐	☑	Concentration	mg/L	<0.01			1		
				Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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

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

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

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	004

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Outfall Number 007

Operations Contributing to Flow	
Operation	**Average Flow (MGD)**
Cooling Water Systems	0.142
High Speed Cleaning and Coating Line	0.017
Metal Wash Line	0.060
Sanitary Sewage	0.028
ARP Oily Waste and Plant Wash Line	0.019
Oil Cellar Sumps	0.002
Water Treatment Plant	0.015

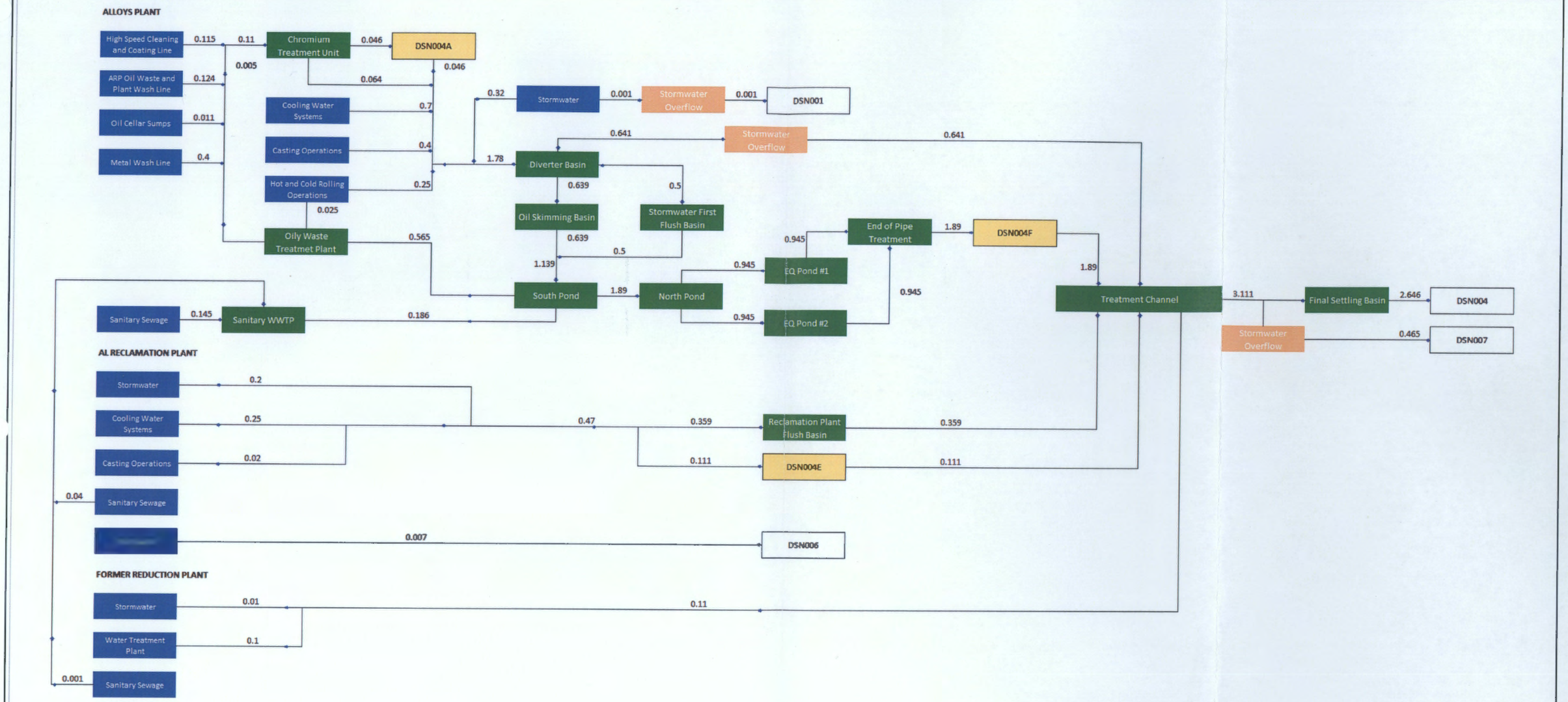
Treatment Units		
Description (include size, flow rate through each treatment unit, retention time, etc.)	**Code from Table 2C-1**	**Final Disposal of Solid or Liquid Wastes Other than by Discharge**
Alloys Plant Wash Line Oil Separator	1-X, 4-A, 4-C	Recycled
Chromium Treatment	1-U, 2-C, 2-K, 2-L, 4-A, 5-U, 5-Q	Landfill
South Retention Pond	3-G, 4-A, 5-Q	Landfill
North Retention Pond	3-B, 4-A, 5-Q	Landfill
EQ ponds	1-O, 3-B, 4-A, 5-Q	Landfill
Treatment Channel	3-H, 4-A	
End of Pipe Treatment	1-G, 1-M, 1-U, 1-X, 2-D, 2-F, 2-K, 3-B, 4-A, 5-Q	Landfill
Final Retention Pond	3-B, 4-A, 5-Q	Landfill

ELG Category	ELG Subcategory	Regulatory Citation
Aluminum Forming	Forging	40 CFR 467 Subpart D
Coil Coating	Aluminum Basis Material Subcategory	40 CFR 465 Subpart D

Outfall Number	Operation, Product, or Material	Quantity per Day	Unit of Measure
004	Forging	3,037,603*	off-lb
004	Coil Coating	10,067,044	ft^2 of area processed
007	Rolling with Neat Oils	3,291,701	off-lb
007	Rolling with Emulsions	3,291,701	off-lb
007	Forging	3,037,603*	off-lb
007	Coil Coating	10,067,044	ft^2 of area processed

* An additional 225,000 off-lb/day will be added starting in 2025

DSN007 is substantially identical to DSN004. Discharge at DSN007 is water that would have been discharged via DSN004 had the final retention pond not been bypassed due to excessive rainfall.



Legend

LEGEND

- Wastewater Source
- Treatment Unit
- Stormwater Overflow
- Internal Outfall
- External Outfall

NOTE: All flow values are in millions of gallons per day (MGD)

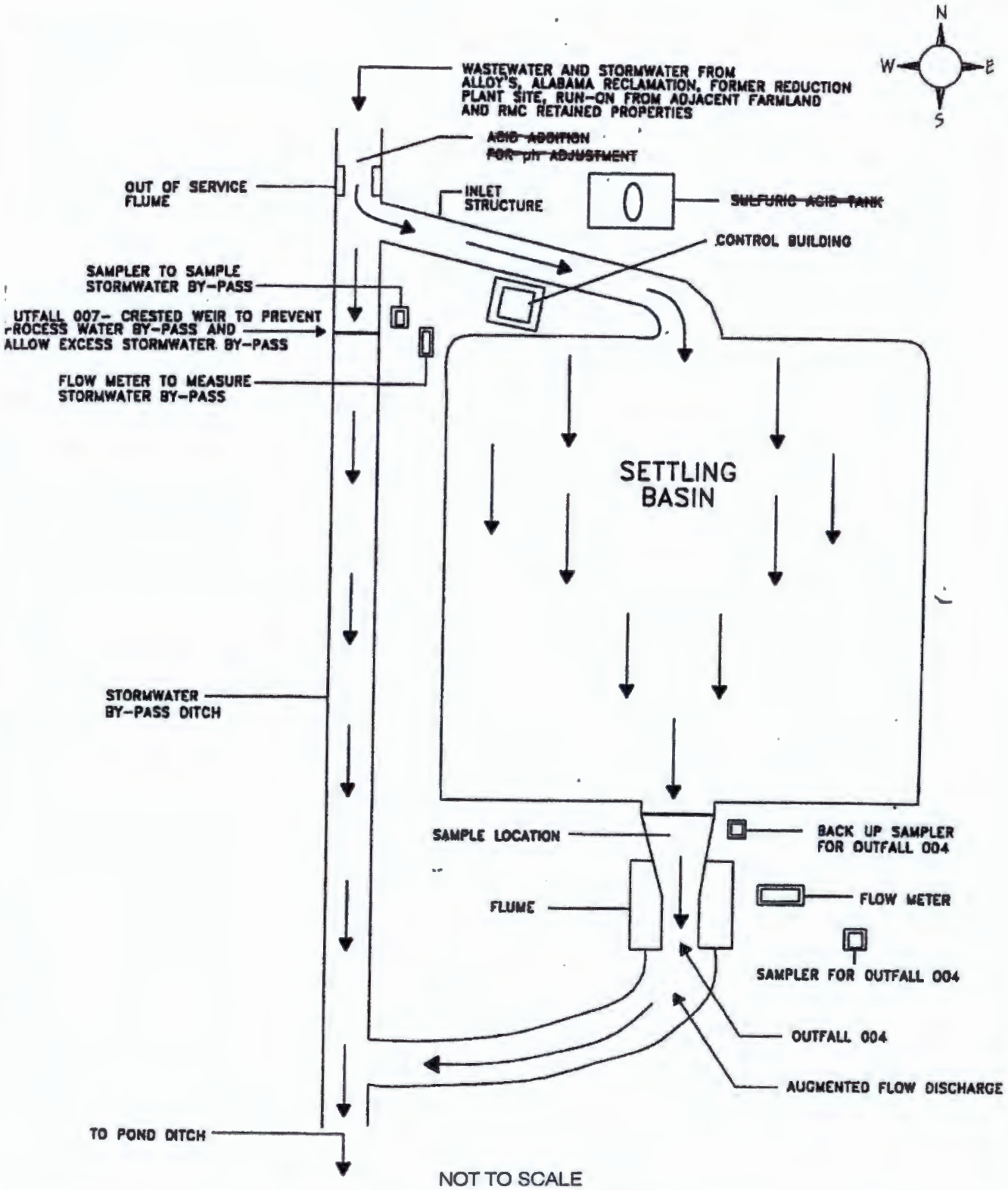
Flows for DSN004 are based on corrected DMR values.

Line Diagram
Constellium Muscle Shoals, LLC.
4805 Second Street
Muscle Shoals, Alabama 35661

Geosyntec consultants

TXW7524 | September 2022

Figure 2



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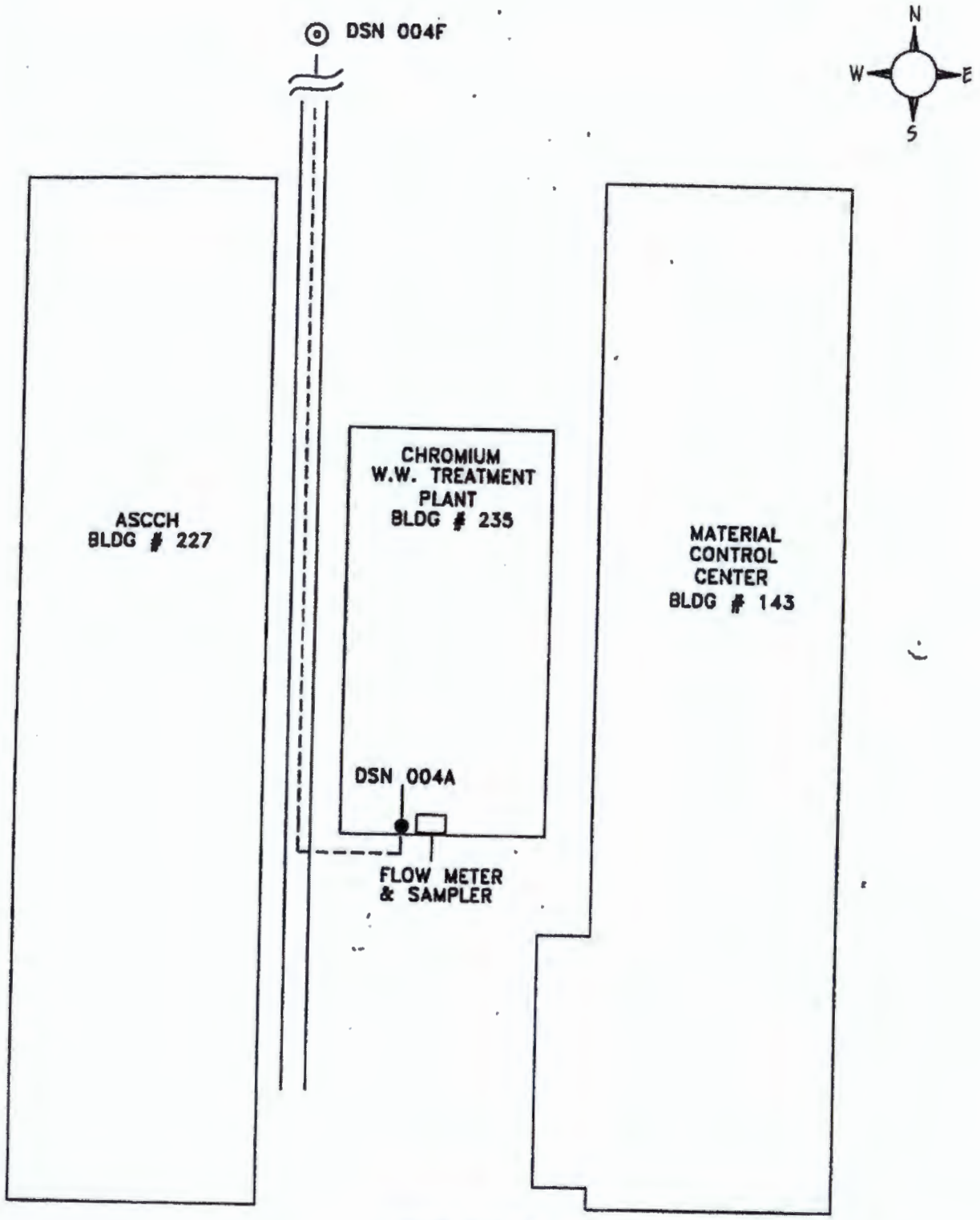
CONSTELLIUM SID PERMIT RENEWAL

CONSTELLIUM MUSCLE SHOALS, LLC

4805 SECOND STREET
MUSCLE SHOALS, COLBERT COUNTY, ALABAMA

Drawn By:	T.C.C
Checked By:	J.H.F
Date:	12/03/18
Proj. No.:	000180100295.00
File Name:	0295 Details.dwg

Figure 3-2
OUTFALLS 004 & 007



NOT TO SCALE

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CONSTELLIUM SID PERMIT RENEWAL

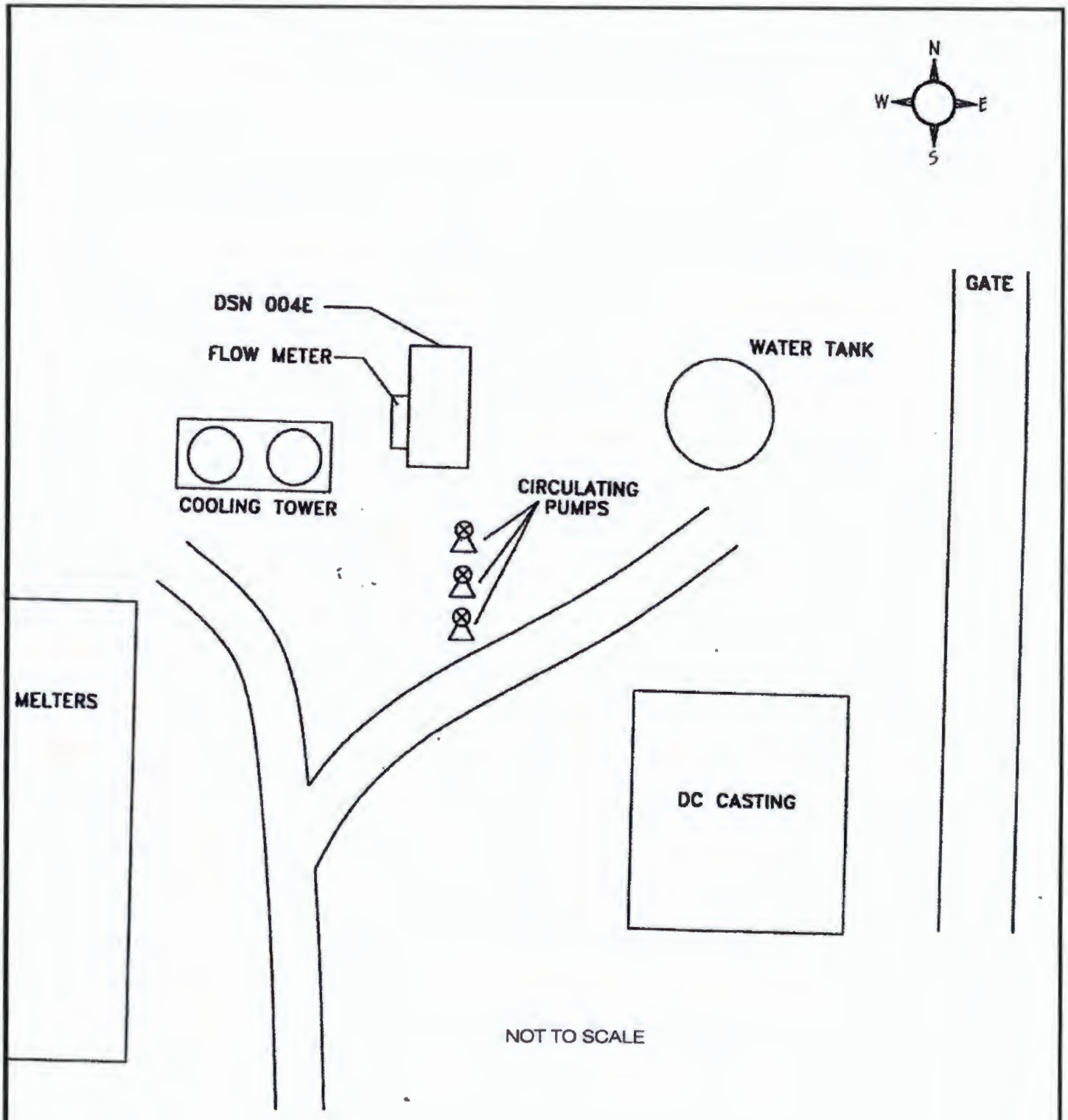
CONSTELLIUM MUSCLE SHOALS, LLC

4805 SECOND STREET
MUSCLE SHOALS, COLBERT COUNTY, ALABAMA

Drawn By	T C C
Checked By	J H F
Date:	12/03/18
Proj. No.:	000180100295.00
File Name:	0295 Details.dwg

Figure 3-3

OUTFALL 004A



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CONSTELLIUM MUSCLE SHOALS, LLC

4805 SECOND STREET
MUSCLE SHOALS, COLBERT COUNTY, ALABAMA

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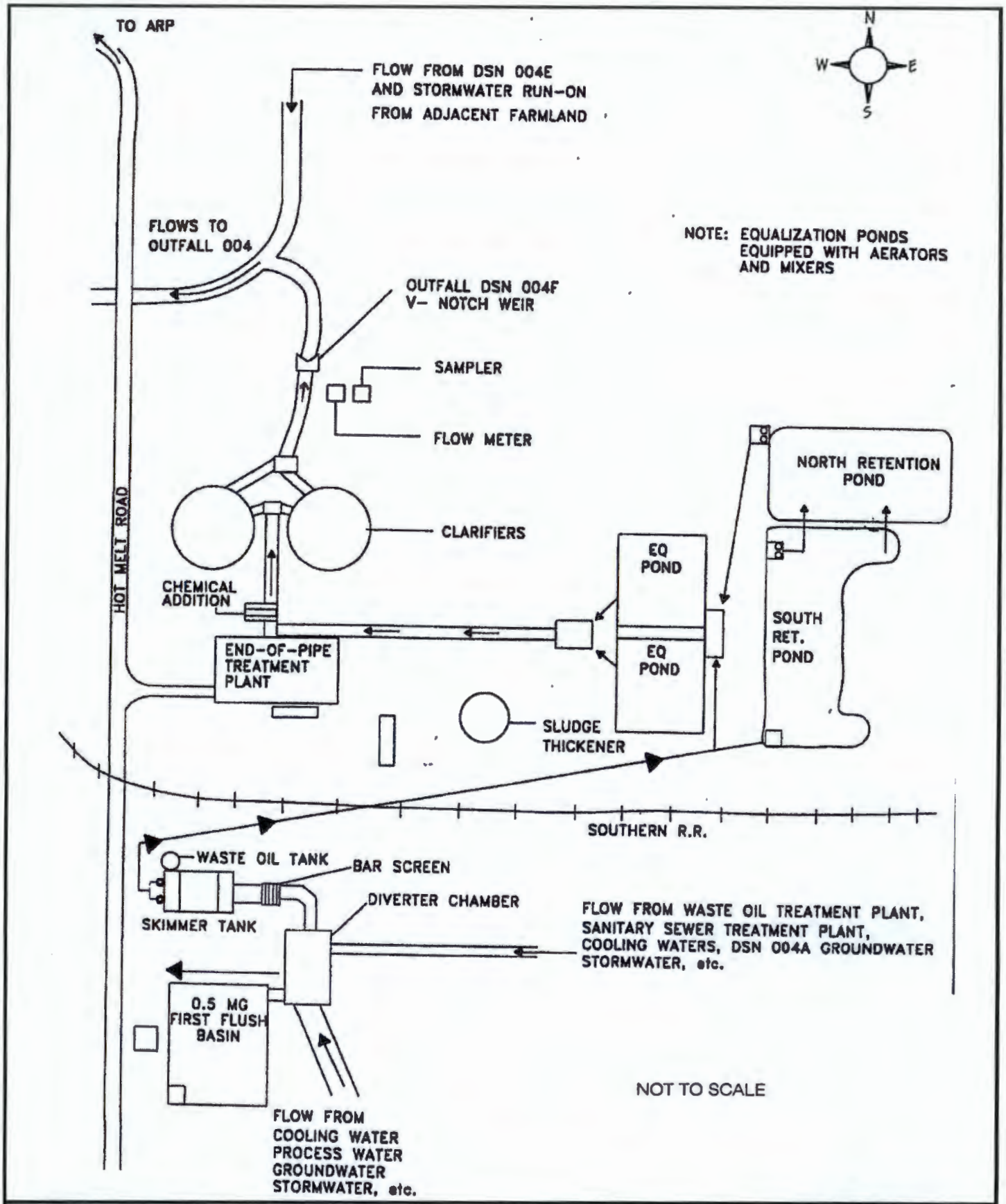
Checked By:	J H F
Date:	12/03/18
Proj. No.:	0001801D0295.00
File Name:	0295 Details.dwg

Figure 3-4

OUTFALL 004E



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CONSTELLIUM MUSCLE SHOALS, LLC

4805 SECOND STREET
MUSCLE SHOALS, COLBERT COUNTY, ALABAMA

Drawn By:	T.C.C
Checked By:	J.H.F
Date:	12/03/18
Proj. No.:	000180100295.00
File Name:	0295 Details.dwg

Figure 3-5

OUTFALL 004F

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
Main 901.213.2400 ° Fax 901.213.2440
www.waypointanalytical.com

9/6/2022

Southern Environmental Engineering
Mr. Eric Curtis
1222 Helton Drive
Florence, AL, 35630

Ref: Analytical Testing
Lab Report Number: 22-237-0025
Client Project Description: Constellium Form 2C Sampling

Dear Mr. Eric Curtis:
Waypoint Analytical, LLC. received sample(s) on 8/25/2022 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method. Where the laboratory was not responsible for the sampling stage (refer to the chain of custody) results apply to the sample as received.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2021) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Andrea R Brownfield
Project manager

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Waypoint ANALYTICAL

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Certification Summary

Laboratory ID: WP MTN: Waypoint Analytical, LLC., Memphis, TN

State	Program	Lab ID	Expiration Date
Alabama	State Program	40750	02/28/2023
Arkansas	State Program	88-0650	02/07/2023
California	State Program	2904	06/30/2023
Florida	State Program - NELAP	E871157	06/30/2023
Georgia	State Program	C044	02/18/2023
Georgia	State Program	04015	06/30/2023
Illinois	State Program - NELAP	200078	10/10/2022
Kentucky	State Program	80215	06/30/2023
Kentucky	State Program	KY90047	12/31/2022
Louisiana	State Program - NELAP	LA037	12/31/2022
Louisiana	State Program - NELAP	04015	06/30/2023
Mississippi	State Program	MS	02/11/2023
North Carolina	State Program	415	12/31/2022
Pennsylvania	State Program - NELAP	68-03195	05/31/2023
South Carolina	State Program	84002	06/30/2022
Tennessee	State Program	02027	02/11/2023
Texas	State Program - NELAP	T104704180	09/30/2022
Virginia	State Program	00106	06/30/2023
Virginia	State Program - NELAP	460181	09/14/2022

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
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www.waypointanalytical.com

Sample Summary Table

Report Number: 22-237-0025

Client Project Description: Constellium Form 2C Sampling

Lab No	Client Sample ID	Matrix	Date Collected	Date Received
81443	DSN0041	Aqueous	08/24/2022 08:48	08/25/2022
81444	DSN0041	Aqueous	08/24/2022 11:55	08/25/2022

Waypoint ANALYTICAL

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Client: Southern Environmental Engineering
Project: Constellium Form 2C Sampling
Lab Report Number: 22-237-0025
Date: 9/6/2022

CASE NARRATIVE

Anions by Ion Chromatography Method EPA-300.0
Sample 81443 (DSN0041)
QC Batch No: L634341/L634260
The sample was diluted due to the nature of the sample matrix. Reporting limits have been adjusted accordingly.

Semivolatile Organic Compounds - GC/MS Method 625.1
Analyte: 4-Bromophenyl phenyl ether
QC Batch No: L635398/L635165
This target analyte was flagged for recoveries outside QC limits in the associated LCS/LCSD. Data for this analyte is flagged "M" to indicate that results should be considered minimum concentration due to the potential for a low bias.

Total Organic Carbon Method 5310C-2014
Sample 90018 (Waste Liquid (Composite) - Weekly)
Analyte: TOC
QC Batch No: L635148/L635139
The sample was diluted due to the nature of the sample matrix. Reporting limits have been adjusted accordingly.

Waypoint ANALYTICAL

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23184
Southern Environmental Engineering
Mr. Eric Curtis
1222 Helton Drive
Florence , AL 35630

Project Constellium Form 2C Sampling

Information :

Report Date : 09/06/2022
Received : 08/25/2022

Andrea R. Brownfield
Project manager

Report Number : **22-237-0025**

REPORT OF ANALYSIS

Lab No : **81443**
Sample ID : **DSN0041**

Matrix: **Aqueous**
Sampled: **8/24/2022 8:48**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
COD (Chemical Oxygen Demand)	**20.2**	mg/L	15.0	1	08/31/22 11:00	SLT	5220D-2011
Bromide	**1.28**	mg/L	1.00	10	08/25/22 17:24	SPJ	EPA-300.0
Fluoride	<1.25	mg/L	1.25	10	08/25/22 17:24	SPJ	EPA-300.0
Nitrate+Nitrite-N	<1.00	mg/L	1.00	10	08/25/22 17:24		EPA-300.0
Organic N	**1.020**	mg/L	1.000	1	08/29/22 13:04		CALCULATION
Phosphorus	<0.500	mg/L	0.500	1	08/29/22 12:50	ANH	365.4
Sulfate	**36.8**	mg/L	10.0	10	08/25/22 17:24	SPJ	EPA-300.0
Sulfide	<0.5	mg/L	0.5	1	08/29/22 09:00	ADM	4500S2F-2011
Surfactants (MBAS, calculated as LAS, mol wt 342)	<0.200	mg/L	0.200	1	08/25/22 14:00	CJR	5540C-2011
Aluminum	**1.32**	mg/L	0.100	1	08/31/22 19:08	TJS	EPA-200.7
Barium	**0.0215**	mg/L	0.0100	1	08/31/22 19:08	TJS	EPA-200.7
Boron	**0.0652**	mg/L	0.0500	1	08/31/22 19:08	TJS	EPA-200.7
Cobalt	<0.0100	mg/L	0.0100	1	08/31/22 19:08	TJS	EPA-200.7
Iron	**0.493**	mg/L	0.100	1	08/31/22 19:08	TJS	EPA-200.7
Magnesium	**6.50**	mg/L	0.100	1	08/31/22 19:08	TJS	EPA-200.7
Molybdenum	**0.608**	mg/L	0.0050	1	08/31/22 19:08	TJS	EPA-200.7
Manganese	**0.161**	mg/L	0.0100	1	08/31/22 19:08	TJS	EPA-200.7
Tin	<0.0500	mg/L	0.0500	1	08/31/22 19:08	TJS	EPA-200.7
Titanium	<0.0100	mg/L	0.0100	1	08/31/22 19:08	TJS	EPA-200.7
Antimony	<0.0100	mg/L	0.0100	1	08/31/22 19:08	TJS	EPA-200.7
Arsenic	<0.0100	mg/L	0.0100	1	08/31/22 19:08	TJS	EPA-200.7
Beryllium	<0.0010	mg/L	0.0010	1	08/31/22 19:08	TJS	EPA-200.7

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit
M Minimum value

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23184
Southern Environmental Engineering
Mr. Eric Curtis
1222 Helton Drive
Florence , AL 35630

Project Constellium Form 2C Sampling

Information :

Report Date : 09/06/2022
Received : 08/25/2022

Andrea R. Brownfield
Project manager

Report Number : **22-237-0025**

REPORT OF ANALYSIS

Lab No : **81443**
Sample ID : **DSN0041**

Matrix: **Aqueous**
Sampled: **8/24/2022 8:48**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Cadmium	<0.0020	mg/L	0.0020	1	08/31/22 19:08	TJS	EPA-200.7
Chromium	<0.0050	mg/L	0.0050	1	08/31/22 19:08	TJS	EPA-200.7
Copper	<0.0050	mg/L	0.0050	1	08/31/22 19:08	TJS	EPA-200.7
Lead	<0.0060	mg/L	0.0060	1	08/31/22 19:08	TJS	EPA-200.7
Mercury	<0.00020	mg/L	0.00020	1	08/26/22 10:40	JTR	EPA-245.1
Nickel	**0.0064**	mg/L	0.0050	1	08/31/22 19:08	TJS	EPA-200.7
Selenium	<0.0100	mg/L	0.0100	1	08/31/22 19:08	TJS	EPA-200.7
Silver	<0.0050	mg/L	0.0050	1	08/31/22 19:08	TJS	EPA-200.7
Thallium	<0.0200	mg/L	0.0200	1	09/01/22 23:25	EAL	EPA-200.7
Zinc	<0.0200	mg/L	0.0200	1	08/31/22 19:08	TJS	EPA-200.7
Total Kjeldahl Nitrogen	**1.02**	mg/L	1.00	1	08/29/22 13:04	ANH	4500NORGD-2011
Ammonia Nitrogen	<0.100	mg/L	0.100	1	08/30/22 10:45	ANV	4500NH3D-2011
Color	<5	Pt-Co	5	1	08/25/22 16:45	SLT	2120B-2011
Nitrate (NO3-N)	<1.00	mg/L	1.00	10	08/25/22 17:24	SPJ	EPA-300.0
Nitrite (NO2-N)	<1.00	mg/L	1.00	10	08/25/22 17:24	SPJ	EPA-300.0
TOC	**5.64**	mg/L	1.00	1	08/31/22 05:56	CJD	5310C-2014

Analytical Method: 625.1 **Prep Batch(es):** **L635165** 08/31/22 12:03
Prep Method: 625.1

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
2-Chlorophenol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
2,4-Dichlorophenol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398

Qualifiers/ Definitions
DF Dilution Factor
MQL Method Quantitation Limit
M Minimum value

Waypoint ANALYTICAL

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www.waypointanalytical.com

23184
Southern Environmental Engineering
Mr. Eric Curtis
1222 Helton Drive
Florence , AL 35630

Project Constellium Form 2C Sampling

Information :

Report Date : 09/06/2022
Received : 08/25/2022

Andrea R. Brownfield
Project manager

Report Number : **22-237-0025**

REPORT OF ANALYSIS

Lab No : **81443**
Sample ID : **DSN0041**

Matrix: **Aqueous**
Sampled: **8/24/2022 8:48**

Analytical Method: 625.1 **Prep Batch(es):** **L635165** 08/31/22 12:03
Prep Method: 625.1

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
2,4-Dimethylphenol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
4,6-Dinitro-o-cresol	<10.0	µg/L	10.0	1	09/01/22 02:01	SMB	L635398
2,4-Dinitrophenol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
2-Nitrophenol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
4-Nitrophenol	<10.0	µg/L	10.0	1	09/01/22 02:01	SMB	L635398
p-Chloro-m-cresol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Pentachlorophenol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Phenol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
2,4,6-Trichlorophenol	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Acenaphthene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Acenaphthylene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Anthracene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Benzidine	<20.0	µg/L	20.0	1	09/01/22 02:01	SMB	L635398
Benzo(a)anthracene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Benzo(a)pyrene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
3,4-Benzofluoranthene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Benzo(g,h,i)perylene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Benzo(k)fluoranthene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Bis(2-Chloroethoxy)methane	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Bis(2-Chloroethyl)ether	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Bis(2-Chloroisopropyl)ether	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Bis(2-ethylhexyl)phthalate	**36.7**	µg/L	10.0	1	09/01/22 02:01	SMB	L635398

Qualifiers/ Definitions
DF Dilution Factor
MQL Method Quantitation Limit
M Minimum value

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1222 Helton Drive
Florence , AL 35630

Project Constellium Form 2C Sampling

Information :

Report Date : 09/06/2022
Received : 08/25/2022

Andrea R. Brownfield
Project manager

Report Number : **22-237-0025**

REPORT OF ANALYSIS

Lab No : **81443**
Sample ID : **DSN0041**

Matrix: **Aqueous**
Sampled: **8/24/2022 8:48**

Analytical Method: 625.1 **Prep Batch(es):** **L635165** 08/31/22 12:03
Prep Method: 625.1

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
4-Bromophenyl phenyl ether	<5.00 M	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Butyl benzyl phthalate	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
2-Chloronaphthalene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
4-Chlorophenyl phenyl ether	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Chrysene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Dibenzo(a,h)anthracene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
1,2-Dichlorobenzene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
1,3-Dichlorobenzene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
1,4-Dichlorobenzene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
3,3'-Dichlorobenzidine	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Diethyl phthalate	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Dimethyl phthalate	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Di-n-butyl phthalate	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
2,4-Dinitrotoluene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
2,6-Dinitrotoluene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Di-n-Octyl Phthalate	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
1,2-Diphenylhydrazine/Azobenzene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Fluoranthene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Fluorene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Hexachlorobenzene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Hexachlorobutadiene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Hexachlorocyclopentadiene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398

Qualifiers/ Definitions
DF Dilution Factor
MQL Method Quantitation Limit
M Minimum value

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Project Constellium Form 2C Sampling

Information :

Report Date : 09/06/2022
Received : 08/25/2022

Andrea R. Brownfield
Project manager

Report Number : **22-237-0025**

REPORT OF ANALYSIS

Lab No : **81443**
Sample ID : **DSN0041**

Matrix: **Aqueous**
Sampled: **8/24/2022 8:48**

Analytical Method: 625.1 **Prep Batch(es):** **L635165** 08/31/22 12:03
Prep Method: 625.1

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Hexachloroethane	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Indeno(1,2,3-cd)pyrene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Isophorone	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Naphthalene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Nitrobenzene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
N-Nitrosodimethylamine	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
N-Nitroso-di-n-propylamine	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
N-Nitrosodiphenylamine	<10.0	µg/L	10.0	1	09/01/22 02:01	SMB	L635398
Phenanthrene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
Pyrene	<2.00	µg/L	2.00	1	09/01/22 02:01	SMB	L635398
1,2,4-Trichlorobenzene	<5.00	µg/L	5.00	1	09/01/22 02:01	SMB	L635398
Surrogate: 2-Fluorobiphenyl	52.9		Limits: 30-107%	1	09/01/22 02:01	SMB	L635398
Surrogate: 2-Fluorophenol	20.1		Limits: 8-88%	1	09/01/22 02:01	SMB	L635398
Surrogate: Nitrobenzene-d5	53.0		Limits: 29-105%	1	09/01/22 02:01	SMB	L635398
Surrogate: Phenol-d6	12.9		Limits: 7-58%	1	09/01/22 02:01	SMB	L635398
Surrogate: 4-Terphenyl-d14	87.0		Limits: 30-130%	1	09/01/22 02:01	SMB	L635398
Surrogate: 2,4,6-Tribromophenol	48.5		Limits: 16-138%	1	09/01/22 02:01	SMB	L635398

Qualifiers/ Definitions
DF Dilution Factor
MQL Method Quantitation Limit
M Minimum value

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Project Constellium Form 2C Sampling
Information :

Report Date : 09/06/2022
Received : 08/25/2022

Andrea R. Brownfield
Project manager

Report Number : **22-237-0025**

REPORT OF ANALYSIS

Lab No : **81444**
Sample ID : **DSN0041**

Matrix: **Aqueous**
Sampled: **8/24/2022 11:55**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Cyanide, Total	<0.005	mg/L	0.005	1	09/01/22 10:58	FMM	4500CNE-2016
Phenols (Total)	**0.0067**	mg/L	0.0050	1	09/06/22 10:00	CLP	420.1

Analytical Method: 624.1 **Prep Batch(es):** **L635332** 08/31/22 08:43
Prep Method: 624.1

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acrolein	<20.0	µg/L	20.0	1	08/31/22 16:42	HRS	L635378
Acrylonitrile	<20.0	µg/L	20.0	1	08/31/22 16:42	HRS	L635378
Benzene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Bromoform	**1.96**	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Carbon Tetrachloride	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Chlorobenzene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Chlorodibromomethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Chloroethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
2-Chloroethylvinyl Ether	<5.00	µg/L	5.00	1	08/31/22 16:42	HRS	L635378
Chloroform	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Dichlorobromomethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Dichlorodifluoromethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
1,1-Dichloroethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
1,2-Dichloroethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
1,1-Dichloroethylene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
1,2-Dichloropropane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378

Qualifiers/ Definitions
DF Dilution Factor
MQL Method Quantitation Limit
M Minimum value

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Project Constellium Form 2C Sampling

Information :

Report Date : 09/06/2022
Received : 08/25/2022

Andrea R. Brownfield
Project manager

Report Number : **22-237-0025**

REPORT OF ANALYSIS

Lab No : **81444**
Sample ID : **DSN0041**

Matrix: **Aqueous**
Sampled: **8/24/2022 11:55**

Analytical Method: 624.1 **Prep Batch(es):** **L635332** 08/31/22 08:43
Prep Method: 624.1

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,3-Dichloro-propylene	<1.00	µg/L	1.00	1	08/31/22 16:42		L635378
Ethylbenzene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Methyl Bromide	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Methyl Chloride	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Methylene Chloride	<10.0	µg/L	10.0	1	08/31/22 16:42	HRS	L635378
1,1,2,2-Tetrachloroethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Tetrachloroethylene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Toluene	<5.00	µg/L	5.00	1	08/31/22 16:42	HRS	L635378
1,2-trans-Dichloroethylene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
1,1,1-Trichloroethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
1,1,2-Trichloroethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Trichloroethylene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Trichlorofluoromethane	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Vinyl Chloride	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
cis-1,3-Dichloropropene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
trans-1,3-Dichloropropene	<1.00	µg/L	1.00	1	08/31/22 16:42	HRS	L635378
Surrogate: 4-Bromofluorobenzene	114		Limits: 71-131%	1	08/31/22 16:42	HRS	L635378
Surrogate: Dibromofluoromethane	105		Limits: 70-128%	1	08/31/22 16:42	HRS	L635378
Surrogate: 1,2-Dichloroethane - d4	114		Limits: 67-136%	1	08/31/22 16:42	HRS	L635378
Surrogate: Toluene-d8	98.6		Limits: 70-130%	1	08/31/22 16:42	HRS	L635378

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit
M Minimum value

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Analytical Batch: L634303
Analysis Method: 2120B-2011
Analysis Description: Color (True)

Laboratory Control Sample LCS

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Color	Pt-Co	50	50	100	90-110

Duplicate L 81443-DUP

Parameter	Units	Result	DUP Result	RPD	Max RPD	Analyzed
Color	Pt-Co	< 5	< 5	0.0	15	08/25/22 16:45

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L634316
QC Prep Batch Method: TKN/TKP Digestion
QC Analytical Batch(es): L634332,L634333
Analysis Method: 365.4
Analysis Description: Total Phosphorus

Lab Reagent Blank LRB-L634316 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
Phosphorus	mg/L	< 0.500	0.500	08/29/22 12:44

Laboratory Control Sample LCS-L634316

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Phosphorus	mg/L	2.00	1.61	81.0	80-120

Duplicate L 81554-DUP-L634316

Parameter	Units	Result	DUP Result	RPD	Max RPD	Analyzed
Phosphorus	mg/L	2.88	3.01	4.4	20.0	08/29/22 12:47

Matrix Spike L 81554-MS-L634316

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	%Rec Limits	Max RPD
Phosphorus	mg/L	2.88	2.00		4.48		80.0	70-130	

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Analytical Batch: L635869
Analysis Method: 420.1
Analysis Description: Total Recoverable Phenolics

Lab Reagent Blank LRB Matrix: AQU
Associated Lab Samples: 81444

Parameter	Units	Blank Result	MQL	Analyzed
Phenols (Total)	mg/L	< 0.0050	0.0050	09/06/22 10:00

Laboratory Control Sample LCS

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Phenols (Total)	mg/L	0.0240	0.0235	98.0	90-110

Duplicate L 81444-DUP

Parameter	Units	Result	DUP Result	RPD	Max RPD	Analyzed
Phenols (Total)	mg/L	0.0067	0.0061	9.3	30.00	09/06/22 10:00

Matrix Spike L 81444-MS

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	%Rec Limits	Max RPD
Phenols (Total)	mg/L	0.0067	0.0360		0.0313		68.0	61-120	

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Analytical Batch: L635423
Analysis Method: 4500CNE-2016
Analysis Description: Total Cyanide

Lab Reagent Blank LRB Matrix: AQU
Associated Lab Samples: 81444

Parameter	Units	Blank Result	MQL	Analyzed
Cyanide, Total	mg/L	< 0.005	0.005	09/01/22 10:58

Laboratory Control Sample LCS

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Cyanide, Total	mg/L	0.200	0.198	99.0	90-110

Matrix Spike & Matrix Spike Duplicate L 98562-MS L 98562-MSD

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Cyanide, Total	mg/L	0.747	4.00	4.00	4.62	4.65	97.0	98.0	70-130	0.6	20.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Analytical Batch: L634803
Analysis Method: 4500NH3D-2011
Analysis Description: Ammonia Nitrogen (ISE)

Lab Reagent Blank LRB Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
Ammonia Nitrogen	mg/L	< 0.100	0.100	08/30/22 10:45

Laboratory Control Sample LCS

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Ammonia Nitrogen	mg/L	5.00	4.83	97.0	90-110

Matrix Spike & Matrix Spike Duplicate L 81423-MS L 81423-MSD

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Ammonia Nitrogen	mg/L	0.797	2.04	2.04	2.66	2.61	91.0	89.0	70-130	1.8	20.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L634316
QC Prep Batch Method: TKN/TKP Digestion
QC Analytical Batch(es): L634332,L634333
Analysis Method: 4500NORGD-2011
Analysis Description: Block Digestion and FIA

Lab Reagent Blank LRB-L634316 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
Total Kjeldahl Nitrogen	mg/L	< 1.00	1.00	08/29/22 12:59

Laboratory Control Sample LCS-L634316

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Total Kjeldahl Nitrogen	mg/L	10.0	10.2	102	90-110

Duplicate L 81554-DUP-L634316

Parameter	Units	Result	DUP Result	RPD	Max RPD	Analyzed
Total Kjeldahl Nitrogen	mg/L	1.20	1.33	10.2	20.0	08/29/22 13:02

Matrix Spike L 81554-MS-L634316

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	%Rec Limits	Max RPD
Total Kjeldahl Nitrogen	mg/L	1.20	10.0		8.90		77.0	70-130	

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Analytical Batch: L634598
Analysis Method: 4500S2F-2011
Analysis Description: Sulfide

Lab Reagent Blank LRB Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
Sulfide	mg/L	< 0.5	0.5	08/29/22 09:00

Laboratory Control Sample & LCSD LCS LCSD

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS %Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD
Sulfide	mg/L	24.0	22.0	22.0	92.0	92.0	70-130	0.0	20.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Analytical Batch: L635259
Analysis Method: 5220D-2011
Analysis Description: Chemical Oxygen Demand (COD)

Lab Reagent Blank LRB Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
COD (Chemical Oxygen Demand)	mg/L	< 15.0	15.0	08/31/22 11:00

Laboratory Control Sample LCS

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
COD (Chemical Oxygen Demand)	mg/L	75.0	73.7	98.0	95-105

Duplicate L 81423-DUP

Parameter	Units	Result	DUP Result	RPD	Max RPD	Analyzed
COD (Chemical Oxygen Demand)	mg/L	55.2	54.7	0.9	10.0	08/31/22 11:00

Matrix Spike L 81423-MS

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	%Rec Limits	Max RPD
COD (Chemical Oxygen Demand)	mg/L	55.2	78.9		140		107	70-130	

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635139
QC Prep Batch Method: 5310C-2011
QC Analytical Batch(es): L635148
Analysis Method: 5310C-2014
Analysis Description: Total Organic Carbon

Lab Reagent Blank LRB-L635139 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
TOC	mg/L	< 1.00	1.00	08/30/22 19:07

Laboratory Control Sample LCS-L635139

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
TOC	mg/L	5.00	4.86	97.0	85-115

Duplicate G 90018-DUP-L635139

Parameter	Units	Result	DUP Result	RPD	Max RPD	Analyzed
TOC	mg/L	124	122	1.6	20.0	08/31/22 01:29

Matrix Spike L 81443-MS-L635139

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	%Rec Limits	Max RPD
TOC	mg/L	5.64	5.26		9.35		70.0	70-130	

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Analytical Batch: L634314
Analysis Method: 5540C-2011
Analysis Description: Methylene Blue Activated Surfactants

Lab Reagent Blank LRB Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
Surfactants (MBAS, calculated as LAS, r	mg/L	< 0.200	0.200	08/25/22 14:00

Laboratory Control Sample LCS

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Surfactants (MBAS, calculated as LAS, r	mg/L	1.20	1.17	98.0	90-110

Matrix Spike & Matrix Spike Duplicate Q 89882-MS Q 89882-MSD

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Surfactants (MBAS, calculated as LAS, r	mg/L	< 0.202	0.606	0.606	0.654	0.681	108	112	70-130	4.0	20.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635332
QC Prep Batch Method: 624.1
QC Analytical Batch(es): L635378
Analysis Method: 624.1
Analysis Description: Volatile Organic Compounds - GC/MS

Lab Reagent Blank LRB-L635332 Matrix: AQU
Associated Lab Samples: 81444

Parameter	Units	Blank Result	MQL	Analyzed	% Recovery	% Rec Limits
Acrolein	µg/L	< 20.0	20.0	08/31/22 12:33		
Acrylonitrile	µg/L	< 20.0	20.0	08/31/22 12:33		
Benzene	µg/L	< 1.00	1.00	08/31/22 12:33		
Bromodichloromethane	µg/L	< 1.00	1.00	08/31/22 12:33		
Bromoform	µg/L	< 1.00	1.00	08/31/22 12:33		
Bromomethane	µg/L	< 1.00	1.00	08/31/22 12:33		
Carbon Tetrachloride	µg/L	< 1.00	1.00	08/31/22 12:33		
Chlorobenzene	µg/L	< 1.00	1.00	08/31/22 12:33		
Chlorodibromomethane	µg/L	< 1.00	1.00	08/31/22 12:33		
Chloroethane	µg/L	< 1.00	1.00	08/31/22 12:33		
2-Chloroethylvinyl Ether	µg/L	< 5.00	5.00	08/31/22 12:33		
Chloroform	µg/L	< 1.00	1.00	08/31/22 12:33		
Chloromethane	µg/L	< 1.00	1.00	08/31/22 12:33		
Dichlorodifluoromethane	µg/L	< 1.00	1.00	08/31/22 12:33		
1,1-Dichloroethane	µg/L	< 1.00	1.00	08/31/22 12:33		
1,2-Dichloroethane	µg/L	< 1.00	1.00	08/31/22 12:33		
1,1-Dichloroethene	µg/L	< 1.00	1.00	08/31/22 12:33		
trans-1,2-Dichloroethene	µg/L	< 1.00	1.00	08/31/22 12:33		
1,2-Dichloropropane	µg/L	< 1.00	1.00	08/31/22 12:33		
cis-1,3-Dichloropropene	µg/L	< 1.00	1.00	08/31/22 12:33		
trans-1,3-Dichloropropene	µg/L	< 1.00	1.00	08/31/22 12:33		
Ethylbenzene	µg/L	< 1.00	1.00	08/31/22 12:33		
Methylene Chloride	µg/L	< 10.0	10.0	08/31/22 12:33		
1,1,2,2-Tetrachloroethane	µg/L	< 1.00	1.00	08/31/22 12:33		
Tetrachloroethene	µg/L	< 1.00	1.00	08/31/22 12:33		
Toluene	µg/L	< 5.00	5.00	08/31/22 12:33		
1,1,1-Trichloroethane	µg/L	< 1.00	1.00	08/31/22 12:33		

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635332
QC Prep Batch Method: 624.1
QC Analytical Batch(es): L635378
Analysis Method: 624.1
Analysis Description: Volatile Organic Compounds - GC/MS

Lab Reagent Blank LRB-L635332 Matrix: AQU
Associated Lab Samples: 81444

Parameter	Units	Blank Result	MQL	Analyzed	% Recovery	% Rec Limits
1,1,2-Trichloroethane	µg/L	< 1.00	1.00	08/31/22 12:33		
Trichloroethene	µg/L	< 1.00	1.00	08/31/22 12:33		
Trichlorofluoromethane	µg/L	< 1.00	1.00	08/31/22 12:33		
Vinyl Chloride	µg/L	< 1.00	1.00	08/31/22 12:33		
4-Bromofluorobenzene (S)				08/31/22 12:33	116	71-131
Dibromofluoromethane (S)				08/31/22 12:33	109	70-128
1,2-Dichloroethane - d4 (S)				08/31/22 12:33	111	67-136
oluene-d8 (S)				08/31/22 12:33	101	70-130

Laboratory Control Sample LCS-L635332

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Acrolein	µg/L	100	137	137	40-140
Acrylonitrile	µg/L	100	115	115	40-140
Benzene	µg/L	20.0	24.5	123	65-135
Bromodichloromethane	µg/L	20.0	21.1	106	65-135
Bromoform	µg/L	20.0	16.3	81.5	70-130
Bromomethane	µg/L	20.0	19.9	99.5	15-242
Carbon Tetrachloride	µg/L	20.0	23.1	116	70-130
Chlorobenzene	µg/L	20.0	20.0	100	65-135
Chlorodibromomethane	µg/L	20.0	17.2	86.0	50-150
Chloroethane	µg/L	20.0	24.5	123	40-160
2-Chloroethylvinyl Ether	µg/L	20.0	10.1	50.5	5-225
Chloroform	µg/L	20.0	24.8	124	70-135
Chloromethane	µg/L	20.0	17.0	85.0	1-205
Chlorodifluoromethane	µg/L	20.0	9.42	47.1	30-160
1,1-Dichloroethane	µg/L	20.0	24.1	121	70-130

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635332
QC Prep Batch Method: 624.1
QC Analytical Batch(es): L635378
Analysis Method: 624.1
Analysis Description: Volatile Organic Compounds - GC/MS

Laboratory Control Sample LCS-L635332

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
1,2-Dichloroethane	µg/L	20.0	24.7	124	70-130
1,1-Dichloroethene	µg/L	20.0	24.0	120	50-150
trans-1,2-Dichloroethene	µg/L	20.0	24.8	124	70-130
1,2-Dichloropropane	µg/L	20.0	22.6	113	35-165
cis-1,3-Dichloropropene	µg/L	20.0	22.2	111	25-175
trans-1,3-Dichloropropene	µg/L	20.0	22.2	111	50-150
Ethylbenzene	µg/L	20.0	23.8	119	60-140
ethylene Chloride	µg/L	20.0	25.0	125	60-140
1,1,2,2-Tetrachloroethane	µg/L	20.0	22.9	115	60-140
Tetrachloroethene	µg/L	20.0	16.8	84.0	70-160
Toluene	µg/L	20.0	21.7	109	70-130
1,1,1-Trichloroethane	µg/L	20.0	24.0	120	70-130
1,1,2-Trichloroethane	µg/L	20.0	19.4	97.0	70-130
Trichloroethene	µg/L	20.0	20.2	101	60-135
Trichlorofluoromethane	µg/L	20.0	25.7	129	50-150
Vinyl Chloride	µg/L	20.0	21.7	109	5-195
4-Bromofluorobenzene (S)				123	71-131
Dibromofluoromethane (S)				106	70-128
1,2-Dichloroethane - d4 (S)				105	67-136
Toluene-d8 (S)				107	70-130

Matrix Spike & Matrix Spike Duplicate A 73728-MS-L635332 A 73728-MSD-L635332

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
crolein	µg/L	< 20.0	100	100	134	98.7	134	98.7	40-160	30.3	60.0
Acrylonitrile	µg/L	< 20.0	100	100	105	74.1	105	74.1	40-160	34.5	60.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635332
QC Prep Batch Method: 624.1
QC Analytical Batch(es): L635378
Analysis Method: 624.1
Analysis Description: Volatile Organic Compounds - GC/MS

Matrix Spike & Matrix Spike Duplicate A 73728-MS-L635332 A 73728-MSD-L635332

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Benzene	µg/L	< 1.00	20.0	20.0	23.0	20.7	115	104	37-151	10.5	61.0
Bromodichloromethane	µg/L	16.5	20.0	20.0	46.5	38.4	150	110	35-155	19.0	56.0
Bromoform	µg/L	< 1.00	20.0	20.0	22.8	14.8	114	74.0	45-169	42.5*	42.0
Bromomethane	µg/L	< 1.00	20.0	20.0	11.2	10.5	56.0	52.5	1-242	6.4	61.0
Chlorobenzene	µg/L	< 1.00	20.0	20.0	24.1	20.4	121	102	37-160	16.6	53.0
Chlorodibromomethane	µg/L	2.54	20.0	20.0	27.7	20.3	126	88.8	53-149	30.8	50.0
Chloroethane	µg/L	< 1.00	20.0	20.0	17.7	17.7	88.5	88.5	14-230	0.0	78.0
Chloroform	µg/L	64.1	20.0	20.0	78.9	73.1	74.0	45.0*	51-138	7.6	54.0
Chloromethane	µg/L	< 1.00	20.0	20.0	12.1	16.2	60.5	81.0	1-273	28.9	60.0
1,1-Dichloroethane	µg/L	< 1.00	20.0	20.0	23.4	22.0	117	110	59-155	6.1	49.0
1,1-Dichloroethene	µg/L	< 1.00	20.0	20.0	26.7	25.1	134	126	1-234	6.1	32.0
trans-1,2-Dichloroethene	µg/L	< 1.00	20.0	20.0	25.4	23.8	127	119	54-156	6.5	45.0
1,2-Dichloropropane	µg/L	< 1.00	20.0	20.0	23.8	20.2	119	101	1-210	16.3	55.0
cis-1,3-Dichloropropene	µg/L	< 1.00	20.0	20.0	24.0	18.1	120	90.5	1-227	28.0	58.0
trans-1,3-Dichloropropene	µg/L	< 1.00	20.0	20.0	27.7	17.8	139	89.0	17-183	43.5	86.0
Ethylbenzene	µg/L	< 1.00	20.0	20.0	29.1	24.5	146	123	37-162	17.1	63.0
Methylene Chloride	µg/L	< 10.0	20.0	20.0	23.9	22.8	120	114	5-221	4.7	28.0
1,1,2,2-Tetrachloroethane	µg/L	< 1.00	20.0	20.0	24.6	16.3	123	81.5	46-157	40.5	61.0
Tetrachloroethene	µg/L	< 1.00	20.0	20.0	21.3	18.3	107	91.5	64-148	15.1	39.0
Toluene	µg/L	< 5.00	20.0	20.0	24.8	21.8	124	109	47-150	12.8	41.0
1,1,1-Trichloroethane	µg/L	< 1.00	20.0	20.0	28.1	25.6	141	128	52-162	9.3	36.0
1,1,2-Trichloroethane	µg/L	< 1.00	20.0	20.0	24.1	16.9	121	84.5	52-150	35.1	45.0
Trichloroethene	µg/L	< 1.00	20.0	20.0	22.6	20.4	113	102	70-157	10.2	48.0
Trichlorofluoromethane	µg/L	< 1.00	20.0	20.0	23.3	23.7	117	119	17-181	1.7	48.0
Vinyl Chloride	µg/L	< 1.00	20.0	20.0	15.2	16.7	76.0	83.5	1-251	9.4	66.0
4-Bromofluorobenzene (S)							127	119	71-131		

* QC Fail

Date: 09/06/2022 04:13 PM

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635332
QC Prep Batch Method: 624.1
QC Analytical Batch(es): L635378
Analysis Method: 624.1
Analysis Description: Volatile Organic Compounds - GC/MS

Matrix Spike & Matrix Spike Duplicate A 73728-MS-L635332 A 73728-MSD-L635332

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Dibromofluoromethane (S)							100	95.2	70-128		
1,2-Dichloroethane - d4 (S)							108	88.6	67-136		
Toluene-d8 (S)							107	102	70-130		

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635165
QC Prep Batch Method: 625.1
QC Analytical Batch(es): L635398
Analysis Method: 625.1
Analysis Description: Semivolatile Organic Compounds - GC/MS

Lab Reagent Blank LRB-L635165 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed	% Recovery	% Rec Limits
Acenaphthene	µg/L	< 2.00	2.00	08/31/22 18:26		
Acenaphthylene	µg/L	< 2.00	2.00	08/31/22 18:26		
Anthracene	µg/L	< 2.00	2.00	08/31/22 18:26		
Benzidine	µg/L	< 20.0	20.0	08/31/22 18:26		
Benzo(a)anthracene	µg/L	< 2.00	2.00	08/31/22 18:26		
Benzo(a)pyrene	µg/L	< 2.00	2.00	08/31/22 18:26		
Benzo(b)fluoranthene	µg/L	< 2.00	2.00	08/31/22 18:26		
Benzo(g,h,i)perylene	µg/L	< 2.00	2.00	08/31/22 18:26		
Benzo(k)fluoranthene	µg/L	< 2.00	2.00	08/31/22 18:26		
Bis(2-Chloroethoxy)methane	µg/L	< 5.00	5.00	08/31/22 18:26		
Bis(2-Chloroethyl)ether	µg/L	< 5.00	5.00	08/31/22 18:26		
Bis(2-Chloroisopropyl)ether	µg/L	< 5.00	5.00	08/31/22 18:26		
Bis(2-ethylhexyl)phthalate	µg/L	< 10.0	10.0	08/31/22 18:26		
4-Bromophenyl phenyl ether	µg/L	< 5.00	5.00	08/31/22 18:26		
Butyl benzyl phthalate	µg/L	< 5.00	5.00	08/31/22 18:26		
4-Chloro-3-methylphenol	µg/L	< 5.00	5.00	08/31/22 18:26		
2-Chloronaphthalene	µg/L	< 5.00	5.00	08/31/22 18:26		
2-Chlorophenol	µg/L	< 5.00	5.00	08/31/22 18:26		
4-Chlorophenyl phenyl ether	µg/L	< 5.00	5.00	08/31/22 18:26		
Chrysene	µg/L	< 2.00	2.00	08/31/22 18:26		
Dibenz(a,h)anthracene	µg/L	< 2.00	2.00	08/31/22 18:26		
1,2-Dichlorobenzene	µg/L	< 5.00	5.00	08/31/22 18:26		
1,3-Dichlorobenzene	µg/L	< 5.00	5.00	08/31/22 18:26		
1,4-Dichlorobenzene	µg/L	< 5.00	5.00	08/31/22 18:26		
3,3'-Dichlorobenzidine	µg/L	< 5.00	5.00	08/31/22 18:26		
2,4-Dichlorophenol	µg/L	< 5.00	5.00	08/31/22 18:26		
Diethyl phthalate	µg/L	< 5.00	5.00	08/31/22 18:26		

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635165
QC Prep Batch Method: 625.1
QC Analytical Batch(es): L635398
Analysis Method: 625.1
Analysis Description: Semivolatile Organic Compounds - GC/MS

Lab Reagent Blank LRB-L635165 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed	% Recovery	% Rec Limits
Dimethyl phthalate	µg/L	< 5.00	5.00	08/31/22 18:26		
2,4-Dimethylphenol	µg/L	< 5.00	5.00	08/31/22 18:26		
Di-n-butyl phthalate	µg/L	< 5.00	5.00	08/31/22 18:26		
4,6-Dinitro-2-methylphenol	µg/L	< 10.0	10.0	08/31/22 18:26		
2,4-Dinitrophenol	µg/L	< 5.00	5.00	08/31/22 18:26		
2,4-Dinitrotoluene	µg/L	< 5.00	5.00	08/31/22 18:26		
2,6-Dinitrotoluene	µg/L	< 5.00	5.00	08/31/22 18:26		
-n-Octyl Phthalate	µg/L	< 5.00	5.00	08/31/22 18:26		
1,2-Diphenylhydrazine/Azobenzene	µg/L	< 5.00	5.00	08/31/22 18:26		
Fluoranthene	µg/L	< 2.00	2.00	08/31/22 18:26		
Fluorene	µg/L	< 2.00	2.00	08/31/22 18:26		
Hexachlorobenzene	µg/L	< 5.00	5.00	08/31/22 18:26		
Hexachlorobutadiene	µg/L	< 5.00	5.00	08/31/22 18:26		
Hexachlorocyclopentadiene	µg/L	< 5.00	5.00	08/31/22 18:26		
Hexachloroethane	µg/L	< 5.00	5.00	08/31/22 18:26		
Indeno(1,2,3-cd)pyrene	µg/L	< 2.00	2.00	08/31/22 18:26		
Isophorone	µg/L	< 5.00	5.00	08/31/22 18:26		
Naphthalene	µg/L	< 2.00	2.00	08/31/22 18:26		
Nitrobenzene	µg/L	< 5.00	5.00	08/31/22 18:26		
2-Nitrophenol	µg/L	< 5.00	5.00	08/31/22 18:26		
4-Nitrophenol	µg/L	< 10.0	10.0	08/31/22 18:26		
N-Nitrosodimethylamine	µg/L	< 5.00	5.00	08/31/22 18:26		
N-Nitrosodiphenylamine	µg/L	< 10.0	10.0	08/31/22 18:26		
N-Nitroso-di-n-propylamine	µg/L	< 5.00	5.00	08/31/22 18:26		
Pentachlorophenol	µg/L	< 5.00	5.00	08/31/22 18:26		
enanthrene	µg/L	< 2.00	2.00	08/31/22 18:26		
Phenol	µg/L	< 5.00	5.00	08/31/22 18:26		

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635165
QC Prep Batch Method: 625.1
QC Analytical Batch(es): L635398
Analysis Method: 625.1
Analysis Description: Semivolatile Organic Compounds - GC/MS

Lab Reagent Blank LRB-L635165 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed	% Recovery	% Rec Limits
Pyrene	µg/L	< 2.00	2.00	08/31/22 18:26		
1,2,4-Trichlorobenzene	µg/L	< 5.00	5.00	08/31/22 18:26		
2,4,6-Trichlorophenol	µg/L	< 5.00	5.00	08/31/22 18:26		
2-Fluorobiphenyl (S)				08/31/22 18:26	59.6	30-107
2-Fluorophenol (S)				08/31/22 18:26	26.5	8-88
Nitrobenzene-d5 (S)				08/31/22 18:26	63.3	29-105
Phenol-d6 (S)				08/31/22 18:26	17.0	7-58
-Terphenyl-d14 (S)				08/31/22 18:26	75.2	30-130
2,4,6-Tribromophenol (S)				08/31/22 18:26	52.1	16-138

Laboratory Control Sample & LCSD LCS-L635165 LCSD-L635165

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS %Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD
Acenaphthene	µg/L	50.0	30.1	27.0	60.2	54.0	47-145	10.8	20.0
Acenaphthylene	µg/L	50.0	27.3	24.6	54.6	49.2	33-145	10.4	20.0
Anthracene	µg/L	50.0	30.7	29.5	61.4	59.0	27-133	3.9	20.0
Benzidine	µg/L	150	85.8	79.5	57.2	53.0	1-176	7.6	20.0
Benzo(a)anthracene	µg/L	50.0	30.6	29.5	61.2	59.0	33-143	3.6	20.0
Benzo(a)pyrene	µg/L	50.0	29.2	27.7	58.4	55.4	17-163	5.2	20.0
Benzo(b)fluoranthene	µg/L	50.0	36.6	34.9	73.2	69.8	24-159	4.7	20.0
Benzo(g,h,i)perylene	µg/L	50.0	24.2	25.5	48.4	51.0	1-219	5.2	20.0
Benzo(k)fluoranthene	µg/L	50.0	27.5	27.3	55.0	54.6	11-162	0.7	20.0
Bis(2-Chloroethoxy)methane	µg/L	50.0	29.6	25.7	59.2	51.4	33-184	14.1	20.0
Bis(2-Chloroethyl)ether	µg/L	50.0	27.1	23.7	54.2	47.4	12-158	13.3	20.0
is(2-Chloroisopropyl)ether	µg/L	50.0	31.0	26.8	62.0	53.6	36-166	14.5	20.0
Bis(2-ethylhexyl)phthalate	µg/L	50.0	39.2	38.9	78.4	77.8	8-158	0.7	20.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635165
QC Prep Batch Method: 625.1
QC Analytical Batch(es): L635398
Analysis Method: 625.1
Analysis Description: Semivolatile Organic Compounds - GC/MS

Laboratory Control Sample & LCSD LCS-L635165 LCSD-L635165

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS %Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD
4-Bromophenyl phenyl ether	µg/L	50.0	25.8	25.6	51.6*	51.2*	53-127	0.7	20.0
Butyl benzyl phthalate	µg/L	50.0	39.6	39.8	79.2	79.6	1-152	0.5	20.0
4-Chloro-3-methylphenol	µg/L	50.0	29.1	27.2	58.2	54.4	22-147	6.7	20.0
2-Chloronaphthalene	µg/L	50.0	27.9	25.4	55.8	50.8	50-118	9.3	20.0
2-Chlorophenol	µg/L	50.0	23.5	20.3	47.0	40.6	23-134	14.6	20.0
4-Chlorophenyl phenyl ether	µg/L	50.0	28.3	26.7	56.6	53.4	25-158	5.8	20.0
Chrysene	µg/L	50.0	28.9	28.9	57.8	57.8	17-168	0.0	20.0
Dibenz(a,h)anthracene	µg/L	50.0	26.9	27.5	53.8	55.0	1-227	2.2	20.0
1,2-Dichlorobenzene	µg/L	50.0	24.1	21.1	48.2	42.2	32-129	13.2	20.0
1,3-Dichlorobenzene	µg/L	50.0	22.9	20.5	45.8	41.0	1-172	11.0	20.0
1,4-Dichlorobenzene	µg/L	50.0	22.8	20.2	45.6	40.4	20-124	12.0	20.0
3,3'-Dichlorobenzidine	µg/L	150	85.4	87.1	56.9	58.0	1-262	1.9	20.0
2,4-Dichlorophenol	µg/L	50.0	26.2	23.7	52.4	47.4	39-135	10.0	20.0
Diethyl phthalate	µg/L	50.0	31.2	30.7	62.4	61.4	1-114	1.6	20.0
Dimethyl phthalate	µg/L	50.0	30.4	28.5	60.8	57.0	1-112	6.4	20.0
2,4-Dimethylphenol	µg/L	50.0	28.5	25.2	57.0	50.4	32-119	12.2	20.0
Di-n-butyl phthalate	µg/L	50.0	34.9	32.7	69.8	65.4	1-118	6.5	20.0
4,6-Dinitro-2-methylphenol	µg/L	50.0	36.1	36.3	72.2	72.6	27-128	0.5	20.0
2,4-Dinitrophenol	µg/L	150	85.3	84.1	56.8	56.0	1-191	1.4	20.0
2,4-Dinitrotoluene	µg/L	50.0	35.2	34.8	70.4	69.6	39-139	1.1	20.0
2,6-Dinitrotoluene	µg/L	50.0	29.4	28.1	58.8	56.2	50-158	4.5	20.0
Di-n-Octyl Phthalate	µg/L	50.0	42.3	40.5	84.6	81.0	4-146	4.3	20.0
1,2-Diphenylhydrazine/Azobenzene	µg/L	50.0	34.4	32.6	68.8	65.2	35-116	5.3	20.0
Fluoranthene	µg/L	50.0	30.4	29.2	60.8	58.4	26-137	4.0	20.0
Fluorene	µg/L	50.0	31.2	29.4	62.4	58.8*	59-121	5.9	20.0
Hexachlorobenzene	µg/L	50.0	25.8	25.1	51.6	50.2	1-152	2.7	20.0

* QC Fail

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635165
QC Prep Batch Method: 625.1
QC Analytical Batch(es): L635398
Analysis Method: 625.1
Analysis Description: Semivolatile Organic Compounds - GC/MS

Laboratory Control Sample & LCSD LCS-L635165 LCSD-L635165

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS %Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD
Hexachlorobutadiene	µg/L	50.0	20.2	17.9	40.4	35.8	24-118	12.0	20.0
Hexachlorocyclopentadiene	µg/L	50.0	20.8	19.3	41.6	38.6	10-102	7.4	20.0
Hexachloroethane	µg/L	50.0	24.9	21.6	49.8	43.2	40-113	14.1	20.0
Indeno(1,2,3-cd)pyrene	µg/L	50.0	28.0	29.2	56.0	58.4	1-171	4.1	20.0
Isophorone	µg/L	50.0	30.9	26.9	61.8	53.8	21-196	13.8	20.0
Naphthalene	µg/L	50.0	26.9	23.5	53.8	47.0	21-133	13.4	20.0
Nitrobenzene	µg/L	50.0	28.9	25.1	57.8	50.2	35-180	14.0	20.0
2-Nitrophenol	µg/L	50.0	27.9	24.6	55.8	49.2	29-182	12.5	20.0
4-Nitrophenol	µg/L	50.0	1.39	1.39	19.0	19.2	1-132	1.0	20.0
N-Nitrosodimethylamine	µg/L	50.0	15.3	13.6	30.6	27.2	14-84	11.7	20.0
N-Nitrosodiphenylamine	µg/L	50.0	26.6	25.1	53.2	50.2	45-135	5.8	20.0
N-Nitroso-di-n-propylamine	µg/L	50.0	29.2	24.8	58.4	49.6	1-230	16.2	20.0
Pentachlorophenol	µg/L	50.0	29.4	29.8	58.8	59.6	14-176	1.3	20.0
Phenanthrene	µg/L	50.0	31.0	29.4	62.0	58.8	54-120	5.2	20.0
Phenol	µg/L	50.0	9.50	8.37	19.0	16.7	5-112	12.6	20.0
Pyrene	µg/L	50.0	38.0	37.6	76.0	75.2	70-120	1.0	20.0
1,2,4-Trichlorobenzene	µg/L	50.0	24.0	21.2	48.0	42.4	30-130	12.3	20.0
2,4,6-Trichlorophenol	µg/L	50.0	29.9	27.9	59.8	55.8	37-144	6.9	20.0
2-Fluorobiphenyl (S)					60.2	52.0	30-107		
2-Fluorophenol (S)					24.5	21.4	8-88		
Nitrobenzene-d5 (S)					61.6	53.1	29-105		
Phenol-d6 (S)					17.6	15.1	7-58		
4-Terphenyl-d14 (S)					74.9	72.0	30-130		
2,4,6-Tribromophenol (S)					53.4	52.2	16-138		

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635008
QC Prep Batch Method: EPA-200.7 (PREP)
QC Analytical Batch(es): L635323
Analysis Method: EPA-200.7
Analysis Description: Total Metals

Lab Reagent Blank LRB-L635008 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
Aluminum	mg/L	< 0.100	0.100	08/31/22 18:41
Antimony	mg/L	< 0.0100	0.0100	08/31/22 18:41
Arsenic	mg/L	< 0.0100	0.0100	08/31/22 18:41
Barium	mg/L	< 0.0100	0.0100	08/31/22 18:41
Beryllium	mg/L	< 0.0010	0.0010	08/31/22 18:41
Boron	mg/L	< 0.0500	0.0500	08/31/22 18:41
Cadmium	mg/L	< 0.0020	0.0020	08/31/22 18:41
Chromium	mg/L	< 0.0050	0.0050	08/31/22 18:41
Cobalt	mg/L	< 0.0100	0.0100	08/31/22 18:41
Copper	mg/L	< 0.0050	0.0050	08/31/22 18:41
Iron	mg/L	< 0.100	0.100	08/31/22 18:41
Lead	mg/L	< 0.0060	0.0060	08/31/22 18:41
Magnesium	mg/L	< 0.100	0.100	08/31/22 18:41
Manganese	mg/L	< 0.0100	0.0100	08/31/22 18:41
Molybdenum	mg/L	< 0.0050	0.0050	08/31/22 18:41
Nickel	mg/L	< 0.0050	0.0050	08/31/22 18:41
Selenium	mg/L	< 0.0100	0.0100	08/31/22 18:41
Silver	mg/L	< 0.0050	0.0050	08/31/22 18:41
Tin	mg/L	< 0.0500	0.0500	08/31/22 18:41
Titanium	mg/L	< 0.0100	0.0100	08/31/22 18:41
Thallium	mg/L	< 0.0200	0.0200	09/01/22 23:20
Zinc	mg/L	< 0.0200	0.0200	08/31/22 18:41

Laboratory Control Sample LCS-L635008

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Aluminum	mg/L	10.0	10.4	104	85-115

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635008
QC Prep Batch Method: EPA-200.7 (PREP)
QC Analytical Batch(es): L635323
Analysis Method: EPA-200.7
Analysis Description: Total Metals

Laboratory Control Sample LCS-L635008

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Antimony	mg/L	0.100	0.0956	96.0	85-115
Arsenic	mg/L	0.100	0.105	105	85-115
Barium	mg/L	1.00	1.02	102	85-115
Beryllium	mg/L	0.100	0.106	106	85-115
Boron	mg/L	1.00	0.994	99.0	85-115
Cadmium	mg/L	0.100	0.102	102	85-115
Chromium	mg/L	1.00	1.10	110	85-115
Cobalt	mg/L	1.00	1.01	101	85-115
Copper	mg/L	1.00	0.996	100	85-115
Iron	mg/L	10.0	10.1	101	85-115
Lead	mg/L	0.100	0.102	102	85-115
Magnesium	mg/L	10.0	9.66	97.0	85-115
Manganese	mg/L	1.00	1.08	108	85-115
Molybdenum	mg/L	1.00	0.969	97.0	85-115
Nickel	mg/L	1.00	1.03	103	85-115
Selenium	mg/L	0.100	0.100	100	85-115
Silver	mg/L	0.100	0.101	101	85-115
Tin	mg/L	1.00	0.998	100	85-115
Titanium	mg/L	1.00	1.06	106	85-115
Thallium	mg/L	0.100	0.104	104	85-115
Zinc	mg/L	1.00	1.05	105	85-115

Matrix Spike & Matrix Spike Duplicate L 82951-MS-L635008 L 82951-MSD-L635008

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Aluminum	mg/L	0.280	10.0	10.0	11.1	11.4	108	111	70-130	2.6	20.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L635008
QC Prep Batch Method: EPA-200.7 (PREP)
QC Analytical Batch(es): L635323
Analysis Method: EPA-200.7
Analysis Description: Total Metals

Matrix Spike & Matrix Spike Duplicate L 82951-MS-L635008 L 82951-MSD-L635008

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Antimony	mg/L	< 0.0100	0.100	0.100	0.104	0.106	104	106	70-130	1.9	20.0
Arsenic	mg/L	< 0.0100	0.100	0.100	0.105	0.108	105	108	70-130	2.8	20.0
Barium	mg/L	0.0371	1.00	1.00	1.06	1.09	102	105	70-130	2.7	20.0
Beryllium	mg/L	< 0.0010	0.100	0.100	0.106	0.109	106	109	70-130	2.7	20.0
Boron	mg/L	0.320	1.00	1.00	1.32	1.34	100	102	70-130	1.5	20.0
Cadmium	mg/L	< 0.0020	0.100	0.100	0.102	0.104	102	104	70-130	1.9	20.0
Chromium	mg/L	< 0.0050	1.00	1.00	1.07	1.10	107	110	70-130	2.7	20.0
Cobalt	mg/L	< 0.0100	1.00	1.00	1.02	1.05	102	105	70-130	2.8	20.0
Copper	mg/L	0.0151	1.00	1.00	1.04	1.06	102	104	70-130	1.9	20.0
Iron	mg/L	0.770	10.0	10.0	10.9	11.2	101	104	70-130	2.7	20.0
Lead	mg/L	< 0.0060	0.100	0.100	0.103	0.105	103	105	70-130	1.9	20.0
Magnesium	mg/L	14.1	10.0	10.0	23.4	23.9	93.0	98.0	70-130	2.1	20.0
Manganese	mg/L	0.164	1.00	1.00	1.22	1.25	106	109	70-130	2.4	20.0
Molybdenum	mg/L	0.0123	1.00	1.00	0.999	1.02	99.0	101	70-130	2.0	20.0
Nickel	mg/L	0.0185	1.00	1.00	1.05	1.08	103	106	70-130	2.8	20.0
Selenium	mg/L	< 0.0100	0.100	0.100	0.0702	0.0762	70.0	76.0	70-130	8.1	20.0
Silver	mg/L	< 0.0050	0.100	0.100	0.103	0.105	103	105	70-130	1.9	20.0
Tin	mg/L	< 0.0500	1.00	1.00	0.952	0.975	95.0	98.0	70-130	2.3	20.0
Titanium	mg/L	0.0114	1.00	1.00	1.01	1.04	100	103	70-130	2.9	20.0
Thallium	mg/L	< 0.0200	0.100	0.100	0.107	0.108	107	108	70-130	0.9	20.0
Zinc	mg/L	0.0345	1.00	1.00	1.07	1.10	104	107	70-130	2.7	20.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L634208
QC Prep Batch Method: 245.1
QC Analytical Batch(es): L634410
Analysis Method: EPA-245.1
Analysis Description: Mercury

Lab Reagent Blank LRB-L634208 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
Mercury	mg/L	< 0.00020	0.00020	08/26/22 10:24

Laboratory Control Sample LCS-L634208

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Mercury	mg/L	0.00400	0.00410	103	85-115

Matrix Spike & Matrix Spike Duplicate L 81443-MS-L634208 L 81443-MSD-L634208

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Mercury	mg/L	< 0.00020	0.00400	0.00400	0.00399	0.00415	100	104	70-130	3.9	20.0

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Quality Control Data

Client ID: Southern Environmental Engineering
Project Description: Constellium Form 2C Sampling
Report No: 22-237-0025

QC Prep: L634260
QC Prep Batch Method: EPA-300.0 (PREP)
QC Analytical Batch(es): L634341
Analysis Method: EPA-300.0
Analysis Description: Anions by Ion Chromatography

Lab Reagent Blank LRB-L634260 Matrix: AQU
Associated Lab Samples: 81443

Parameter	Units	Blank Result	MQL	Analyzed
Bromide	mg/L	< 0.100	0.100	08/25/22 09:23
Fluoride (w/o distillation)	mg/L	< 0.125	0.125	08/25/22 09:23
Nitrate (NO3-N)	mg/L	< 0.100	0.100	08/25/22 09:23
Nitrite (NO2-N)	mg/L	< 0.100	0.100	08/25/22 09:23
Sulfate	mg/L	< 1.00	1.00	08/25/22 09:23

Laboratory Control Sample LCS-L634260

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Bromide	mg/L	12.5	12.6	101	90-110
Fluoride (w/o distillation)	mg/L	6.25	6.19	99.0	90-110
Nitrate (NO3-N)	mg/L	11.3	11.8	105	90-110
Nitrite (NO2-N)	mg/L	7.61	7.81	103	90-110
Sulfate	mg/L	62.5	65.6	105	90-110

Matrix Spike & Matrix Spike Duplicate L 81454-MS-L634260 L 81454-MSD-L634260

Parameter	Units	Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS %Rec	MSD %Rec	%Rec Limits	RPD	Max RPD
Bromide	mg/L	< 0.105	6.58	6.58	6.79	6.68	103	102	80-120	1.6	20.0
Fluoride (w/o distillation)	mg/L	< 0.131	3.29	3.29	3.42	3.36	104	102	80-120	1.7	20.0
Nitrate (NO3-N)	mg/L	0.660	5.94	5.94	7.03	6.90	107	105	80-120	1.8	20.0
Nitrite (NO2-N)	mg/L	< 0.105	4.01	4.01	4.12	3.97	103	99.0	80-120	3.7	20.0
Sulfate	mg/L	3.26	32.9	32.9	39.0	38.4	109	107	80-120	1.5	20.0

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Shipment Receipt Form

Customer Number: **23184**
Customer Name: **Southern Environmental Engineering**
Report Number: **22-237-0025**

Shipping Method

○ Fed Ex	○ US Postal	○ Lab	○ Other :	
○ UPS	○ Client	◉ Courier	Thermometer ID:	T99

Shipping container/cooler uncompromised?	◉ Yes	○ No	
Number of coolers/boxes received	1		
Custody seals intact on shipping container/cooler?	○ Yes	○ No	◉ Not Present
Custody seals intact on sample bottles?	○ Yes	○ No	◉ Not Present
Chain of Custody (COC) present?	◉ Yes	○ No	
COC agrees with sample label(s)?	◉ Yes	○ No	
COC properly completed	◉ Yes	○ No	
Samples in proper containers?	◉ Yes	○ No	
Sample containers intact?	◉ Yes	○ No	
Sufficient sample volume for indicated test(s)?	◉ Yes	○ No	
All samples received within holding time?	◉ Yes	○ No	
Cooler temperature in compliance?	◉ Yes	○ No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	◉ Yes	○ No	
Water - Sample containers properly preserved	◉ Yes	○ No	○ N/A
Water - VOA vials free of headspace	◉ Yes	○ No	○ N/A
Trip Blanks received with VOAs	○ Yes	◉ No	○ N/A
Soil VOA method 5035 – compliance criteria *met*	○ Yes	○ No	◉ N/A

☐ High concentration container (48 hr) ☐ Low concentration EnCore samplers (48 hr)

☐ High concentration pre-weighed (methanol -14 d) ☐ Low conc pre-weighed vials (Sod Bis -14 d)

Special precautions or instructions included?	○ Yes	◉ No

Comments:

Signature: Summer Harrison Date & Time: 08/25/2022 10:37:24

Client Name/Address
SEE
PO Box 3241
Florence, AL 35630

Client Project Manager/Contact
Jacob Dennison

Billing Information
Same

22-237-0025
23184
08-25-2022
10:33:07
Southern Environmental Engineering
Constellium Form 2C Sampling

Project Description
Constellium Form 2C Sampling

Project/Site Location (City/State)
Florence, AL

☐ RUSH – Additional charges apply
☐ Special Detection Limit(s)
Date Results Needed

Method of
☐ Fed Ex
☑ Courier
Other

Project Number

Project Manager Phone #
(256) 443-0528

Project Manager Email
jdennison@see-env.com

Purchase Order Number

Site/Facility ID #

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Memphis, TN 38133
(901) 213-2400

Unless noted, all containers per Table II of 40 CFR Part 136.

Preservative key:
- A Cool < 10C Na2S2O3 (Micro Only)
- B Cool <= 6C
- C H2SO4 pH<2
- D None Required
- E NaOH pH>10
- F HNO3 pH<2
- G HCL pH<2
- H H3PO4 pH<2
- I Cool <= 6C NA2S2O3

Date	Time	Sample Identification	Number of Containers	Matrix (Refer to Key)	(G)rab or (C)omposite	See Note 1.	Color	See Note 2.	TOC	Metals per Note 4.	Sulfide	SVOC per Note 3.			Comments/Notes
8/24/22	0848	DSN0041	1	WW	C	✓									Note 1. Bromide, Fluoride, Sulfate, Surfactants
8/24/22	0848	DSN0041	1	WW	C		✓								
8/24/22	0848	DSN0041	1	WW	C			✓							Note 2. COD, N+N, Total Organic N, Total P
8/24/22	0848	DSN0041	3	WW	C				✓						
8/24/22	0848	DSN0041	1	WW	C					✓					
8/24/22	0848	DSN0041	1	WW	C						✓				
8/24/22	0848	DSN0041	2	WW	C							✓			Note 3. EPA Form 2C, Table B, Sections 3 & 4

For Laboratory Use Only
Ice: (Y)/N
Custody Seals: (Y)/N
Lab Comments: Custody Seals received on: (Cooler(s))/Container(s)
Blank/Cooler Temp: 1.1 T99 SCII

Sampled by (Name – Print)
Andrew Thornton

Client Remarks/Comments
Note 4. Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn, Al, Ba, B, Co, Fe, Mg, Mo, Mn, Sn, Ti

Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time
Andrew Thornton	8/24/22 1600		
		Summer Harrison	8/25/22 10:00

Client Name/Address	Client Project Manager/Contact	Billing Information	For Laboratory Use Only
SEE PO Box 3241 Florence, AL 35630	Jacob Dennison	Same	

Project Description	Project/Site Location (City/State)		Method of Shipment	Matrix Key
Constellium Form 2C Sampling	Florence, AL	☐ RUSH – Additional charges apply ☐ Special Detection Limit(s) Date Results Needed	☐ Fed Ex ☐ UPS ☐ USPS ☑ Courier ☐ Client Drop Off Other	WW – Wastewater GW – Groundwater DW – Drinking Water S – Soil /Solid O – Oil P - Product M - Misc

Project Number	Project Manager Phone #	Project Manager Email	Purchase Order Number	Site/Facility ID #
	(256) 443-0528	jdennison@see-env.com		

Waypoint ANALYTICAL
2790 Whitten Road
Memphis, TN 38133
(901) 213-2400

Unless noted, all containers per Table II of 40 CFR Part 136.

A	Cool < 10C Na2S2O3 (Micro Only)
B	Cool <= 6C
C	H2SO4 pH<2
D	None Required
E	NaOH pH>10
F	HNO3 pH<2
G	HCl pH<2
H	H3PO4 pH<2
I	Cool <= 6C NA2S2O3

Date	Time	Sample Identification	Number of Containers	Matrix (Refer to Key)	(G)rab or (C)omposite	Total Cyanide	Total Phenols	VOC per Note 5.	Comments/Notes
						Required Analysis / Preservative			
8/24/22	1155	DSN0041	1	WW	G	✓			
8/24/22	1155	DSN0041	2	WW	G		✓		
8/24/22	1155	DSN0041	3	WW	G			✓	Note 5. EPA Form 2C, Table B, Section 2

22-237-0025
23184
08-25-2022
10:33:07
Southern Environmental Engineering
Constellium Form 2C Sampling

For Laboratory Use Only			Sampled by (Name – Print)	Client Remarks/Comments
Ice: (Y) / N	Custody Seals: (Y) / N	Lab Comments: Custody Seals received on: Cooler(s)/Container(s)	A. Thornton	
Blank/Cooler Temp: 1.1 TG9 SH				

Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time
	8/24/22 1600		
Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time
Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time
		Summer Hanson	8/25/22 10:00

United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA Form 3510-2E Revised March 2019

Water Permits Division

EPA

Application Form 2E

Manufacturing, Commercial, Mining, and Silvicultural Facilities Which Discharge Only Nonprocess Wastewater

NPDES Permitting Program

Note: Complete this form ***and*** Form 1 if your facility is a new or existing manufacturing, commercial, mining, and silvicultural facility that discharges only nonprocess wastewater.

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	

FORM 2E NPDES — EPA

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

MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(h)(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
001	Pond Creek	34° 45′ 30″ N	87° 35′ 13″ W
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″

SECTION 2. DISCHARGE DATE (40 CFR 122.21(h)(2))

Discharge Date

2.1 Are you a new or existing discharger? (Check only one response.)

☐ New discharger ☑ Existing discharger ➔ SKIP to Section 3.

2.2 Specify your anticipated discharge date:

SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3))

Waste Types

3.1 What types of wastes are currently being discharged if you are an existing discharger or will be discharged if you are a new discharger? (Check all that apply.)

☐ Sanitary wastes
☐ Restaurant or cafeteria waste
☑ Non-contact cooling water
☑ Other nonprocess wastewater (describe/explain directly below)

Groundwater infiltration water and stormwater

3.2 Does the facility use cooling water additives?

☑ Yes ☐ No ➔ SKIP to Section 4.

3.3 List the cooling water additives used and describe their composition.

Cooling Water Additives (list)	Composition of Additives (if available to you)
Cooling Water Treatment, Corrosion Inhibitor, Detergent, Sodium Hypochlorite	See attached SDSs

SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4))

Effluent Characteristics

4.1 Have you completed monitoring for all parameters in the table below at each of your outfalls and attached the results to this application package?

☑ Yes ☐ No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) ➔ SKIP to Section 5.

4.2 Provide data as requested in the table below.[1] (See instructions for specifics.)

Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (use codes per instructions)
		Mass	Conc.	Mass	Conc.	
Biochemical oxygen demand (BOD_5)	6	22.88 kg	46 mg/L	3.86 kg	18.7 mg/	
Total suspended solids (TSS)	6	53.72 kg	108 mg/L	9.43 kg	52.8 mg/	
Oil and grease	6	5.32 kg	10.7 mg/L	1.08 kg	4.6 mg/L	
Ammonia (as N)						
Discharge flow	5	0.13 MGD				
pH (report as range)	6	7.3 - 8.0				
Temperature (winter)	3	10.3 °C				
Temperature (summer)	5	25.3 °C				

[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).

RECEIVED
OCT 20 2022
INDUSTRIAL SECTION

***Re-sampling will be conducted during the next qualifying storm event.

Effluent Characteristics Continued

4.3 Is fecal coliform believed present, or is sanitary waste discharged (or will it be discharged)?

☐ Yes ☑ No ➔ SKIP to Item 4.5.

4.4 Provide data as requested in the table below.[1] (See instructions for specifics.)

Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (Use codes per Instructions.)
		Mass	Conc.	Mass	Conc.	
Fecal coliform						
E. coli						
Enterococci						

4.5 Is chlorine used (or will it be used)?

☐ Yes ☑ No ➔ SKIP to Item 4.7.

4.6 Provide data as requested in the table below.[1] (See instructions for specifics.)

Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (use codes per instructions)
		Mass	Conc.	Mass	Conc.	
Total Residual Chlorine						

4.7 Is non-contact cooling water discharged (or will it be discharged)?

☑ Yes ☐ No ➔ SKIP to Section 5.

4.8 Provide data as requested in the table below.[1] (See instructions for specifics.)

Parameter or Pollutant	Number of Analyses (if actual data reported)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source (use codes per instructions)
		Mass	Conc.	Mass	Conc.	
Chemical oxygen demand (COD)						
Total organic carbon (TOC)						

SECTION 5. FLOW (40 CFR 122.21(h)(5))

Flow

5.1 Except for stormwater water runoff, leaks, or spills, are any of the discharges you described in Sections 1 and 3 of this application intermittent or seasonal?

☐ Yes ➔ Complete this section. ☑ No ➔ SKIP to Section 6.

5.2 Briefly describe the frequency and duration of flow.

SECTION 6. TREATMENT SYSTEM (40 CFR 122.21(h)(6))

Treatment System

6.1 Briefly describe any treatment system(s) used (or to be used).

Discharge to surface water - pond creek

[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).

***Re-sampling will be conducted during the next qualifying storm event.

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	

SECTION 7. OTHER INFORMATION (40 CFR 122.21(h)(7))

Other Information

7.1 Use the space below to expand upon any of the above items. Use this space to provide any information you believe the reviewer should consider in establishing permit limitations. Attach additional sheets as needed.

Discharge from Outfall 001 only occurs during overflow from significant rainfall events which overwhelm the pump.

SECTION 8. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

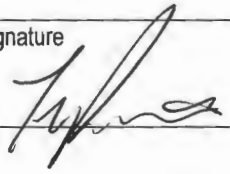
Checklist and Certification Statement

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

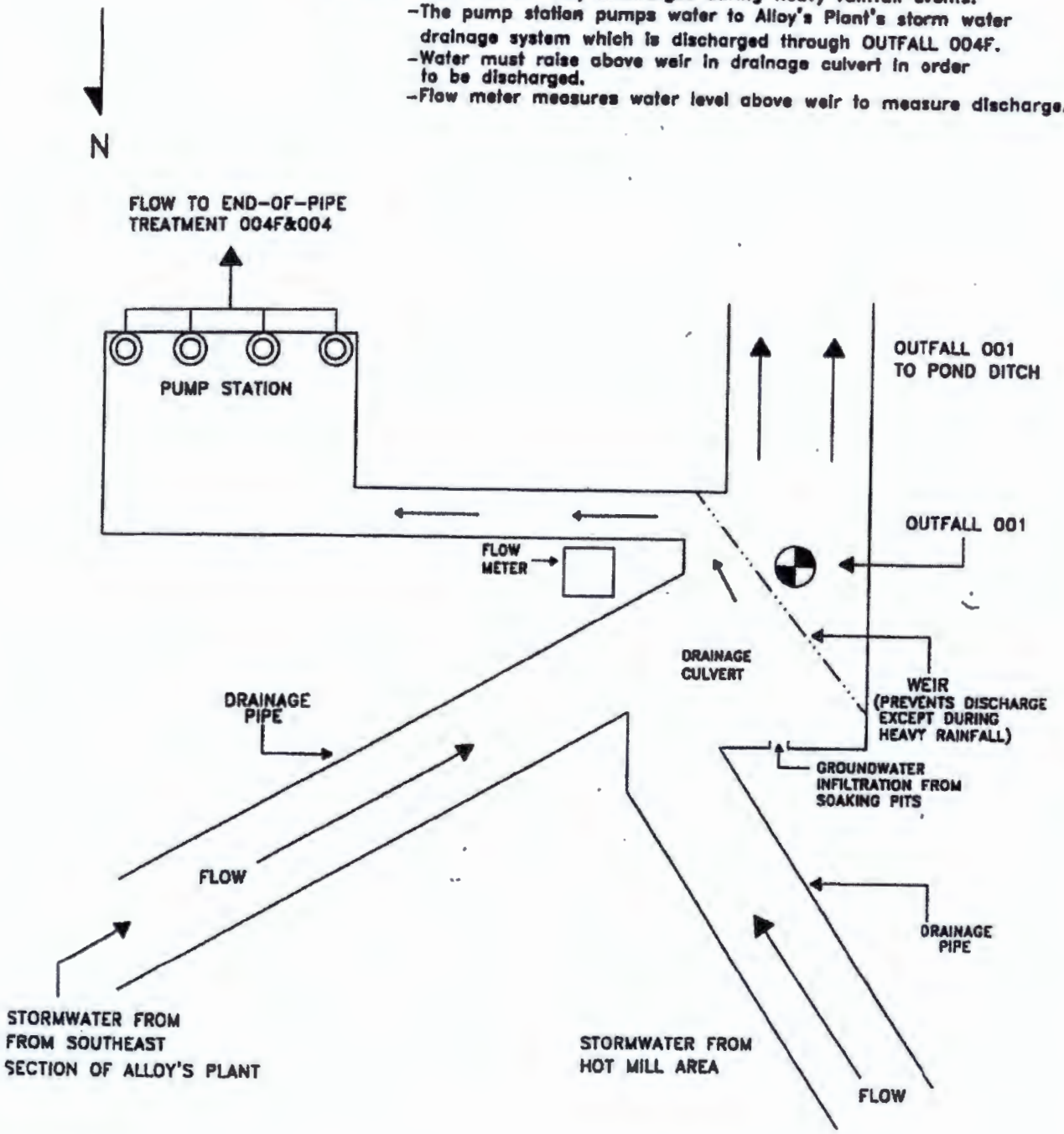
Column 1	Column 2
☑ Section 1: Outfall Location	☐ w/ attachments (e.g., responses for additional outfalls)
☑ Section 2: Discharge Date	☐ w/ attachments
☑ Section 3: Waste Types	☑ w/ attachments
☑ Section 4: Effluent Characteristics	☐ w/ attachments
☑ Section 5: Flow	☐ w/ attachments
☑ Section 6: Treatment System	☐ w/ attachments
☑ Section 7: Other Information	☐ w/ attachments
☑ Section 8: Checklist and Certification Statement	☐ w/ attachments

8.2 **Certification Statement**

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

Name (print or type first and last name)	Official title
Fred Pearson III	Director - Environmental & Sustainability
Signature	Date signed
	10-19-22

NOTES: -OUTFALL 001 only discharges during heavy rainfall events.
-The pump station pumps water to Alloy's Plant's storm water drainage system which is discharged through OUTFALL 004F.
-Water must raise above weir in drainage culvert in order to be discharged.
-Flow meter measures water level above weir to measure discharge.



NOT TO SCALE

TTL

2743B Gunter Park Drive West | Montgomery, AL 36109
334.244.0766 | www.ttlusa.com

CONSTELLIUM SID PERMIT RENEWAL

CONSTELLIUM MUSCLE SHOALS, LLC

4805 SECOND STREET
MUSCLE SHOALS, COLBERT COUNTY, ALABAMA

Drawn By	T C C
Checked By	J H F
Date	12/03/18
Proj. No.:	000180100295.00
File Name:	0295 Details.dwg

Figure 3-1

OUTFALL 001

United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA Form 3510-2F Revised March 2019

Water Permits Division

Application Form 2F
Stormwater Discharges Associated with Industrial Activity

NPDES Permitting Program

Note: Complete this form ***and*** Form 1 if you are a new or existing facility whose discharge is composed entirely of stormwater associated with industrial activity, excluding discharges from construction activity under 40 CFR 122.26(b)(14)(x) or (b)(15). If your discharge is composed of stormwater *and* non-stormwater, you must complete Forms 1 and 2F, *and* you must complete Form 2C, 2D, or 2E, as appropriate. See the "Instructions" inside for further details.

EPA Identification Number	NPDES Permit Number	Facility Name
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC

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
006	Tennessee River via Pond	34° 46′ 32″ N	87° 35′ 52″ 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

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	

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)	
006	Approximately 1.6	*specify units* acres	Approximately 19.1	*specify units* acres
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*

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

Impervious surfaces include concrete pads, paved roadways, employee parking lot and building roof. Pervious surfaces are primarily gravel and/or sodded for erosion control. Pesticides, herbicides, soil conditioners, and fertilizers are not applied in any capacity. Exposed materials are primarily baled aluminum cans (raw material) stored on an exterior concrete pad.

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)
006	Best Management Practices, good housekeeping, and a large grass-covered drainage area th	4-A

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	

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
Fred Pearson III	Director - Environmental & Sustainability
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
006	Visual Inspections performed during dry weather period	09/01/2022	006

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.

N/A

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

Discharge Information Continued

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

Discharge Information Continued

Used or Manufactured Toxics

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

☑ Yes ☐ No ➔ SKIP to Section 8.

7.19 List the pollutants below, including TCDD if applicable.

1. Beryllium	4. Lead	7.
2. Chromium (alloying agents)	5. Zinc	8.
3. Copper	6. Chromium (coil coating)	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	
		☐ 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	Southern Environmental Testing, Inc.	Waypoint Analytical	
Laboratory address	3103 Northington Court Florence, AL 35630	2790 Whitten Road Memphis, TN 38133	
Phone number	(256) 740-5532	(901) 213-2400	
Pollutant(s) analyzed			

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	

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

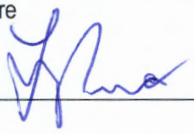
Checklist and Certification Statement

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

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

10.2 **Certification Statement**

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

Name (print or type first and last name)	Official title
Fred Pearson III	Director - Environmental & Sustainability
Signature	Date signed
	10-19-22

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	006

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	<1.4 mg/L		<1.4 mg/L		5	
2.	Biochemical oxygen demand (BOD_5)						
3.	Chemical oxygen demand (COD)	32.2 mg/L		28.43 mg/L		4	
4.	Total suspended solids (TSS)	68 mg/L		42.25 mg/L		4	
5.	Total phosphorus	<0.1 mg/L				1	
6.	Total Kjeldahl nitrogen (TKN)						
7.	Total nitrogen (as N)	1.16 mg/L				1	
8.	pH (minimum)			6.95		4	
	pH (maximum)			8		4	

[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).

NOTE: Re-sampling shall be conducted with the next qualifying storm event and the information will be updated and resubmitted at that time.

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	006

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		
Cyanide (57-12-5)	0.0043 mg/L		0.0028 mg/L		5	
Lead (7439-92-1)	0.00882 mg/L				1	
Chromium (7440-47-3)	<0.005 mg/L				1	

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

NOTE: Re-sampling shall be conducted with the next qualifying storm event and the information will be updated and resubmitted at that time.

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	006

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		
N/A						

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

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EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number
ALD095687679	AL0000035	Constellium Muscle Shoals, LLC	006

Form Approved 03/05/19
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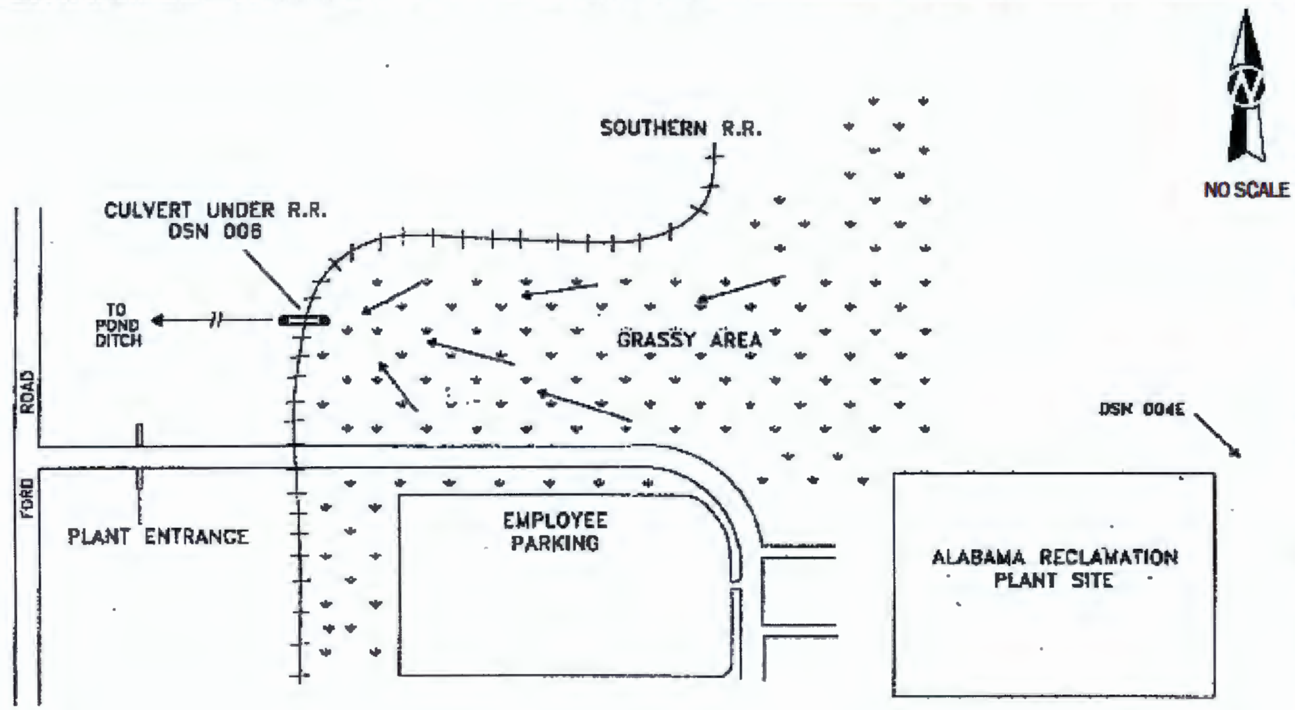
TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

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)
03/15/2021		0.29			

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

NOTE: Re-sampling shall be conducted with the next qualifying storm event and the information will be updated and resubmittedat that time.



DRAWING SOURCE: "FIGURE 3-1: SKETCH OF OUTFALL 006" AS PROVIDED BY GARVER, DATED 10/2011.

TTL

CONSTELLIUM SID PERMIT RENEWAL

CONSTELLIUM MUSCLE SHOALS, LLC
4805 SECOND STREET
MUSCLE SHOALS, COLBERT COUNTY, ALABAMA

Drawn By: T L R
Checked By: J H F
Date: 12/21/16
Proj. No.:
File Name:

Figure 4
OUTFALL 006

Legend

DSN 006 Drainage Map
Constellium Muscle Shoals, LLC.
4805 Second Street
Muscle Shoals, Alabama 35661

Geosyntec consultants

TXW7524 | September 2022

Figure 3