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June 30, 2023

Mr. Vojin Janjic, Manager Tennessee Department of Environment and Conservation Division of Water Resources William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 11th Floor Nashville, Tennessee 37243-1102

Dear Mr. Janjic:

OAK RIDGE NATIONAL LABORATORY (ORNL) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TN0002941 RENEWAL APPLICATION

The purpose of this correspondence is to submit the ORNL NPDES Permit Application. This application is submitted to meet the permit and statutory requirement to reapply no later than 180 days prior to the permit expiration date. An electronic file of the signed application is available at the link below. The Department of Energy looks forward to collaboration with you and your staff in the development of the new permit for ORNL.

If there are any questions or additional information required, please contact Walt Doty at (865) 576-7321.

Sincerely,

Johnny O. Moore, Manager

O M

ORNL Site Office

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United States Department of Energy Oak Ridge National Laboratory National Pollutant Discharge Elimination System Permit Renewal Application

for

Wastewater, Non-process Wastewater, Storm Water NPDES Permit No. TN0002941

Prepared—May 2023

Prepared by:
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Acronyms

AEA Atomic Energy Act

AEC Atomic Energy Commission

AOC Areas of Concern

ARAP Aquatic Resource Alteration Permit

AWQC aquatic water quality criteria

Bdwn Blowdown BC Bearden Creek

BMP best management practice
BOD biochemical oxygen demand

CAA Clean Air Act

CCC criterion continuous concentration

CCS chlorine control strategy CCTV closed-circuit television

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CFR Code of Federal Regulations

CH Contact-Handled

CMC criterion maximum concentration

COD chemical oxygen demand

Cond condensate
Cs¹³⁷ Cesium 137
CT cooling tower
Cu Copper

CWA Clean Water Act

D&D Decontamination and Demolition

Deg degree

DMF dual media filters

DMRs Discharge Monitoring Reports
DOE United States Department of Energy
DSWM Division of Solid Waste Management

DWR Division of Water Resources

ECR Environmental Compliance Representative

EGCR Experimental gas-cooled reactor
EISA Energy Independence and Security Act

ELG Effluent Limit Guideline

EPA United States Environmental Protection Agency

EPO environmental protection officer

EPSC erosion prevention and sedimentation control

FCK First Creek kilometer FFA Federal Facility Agreement FFK Fifth Creek kilometer

GAC granular activated carbon filters
GIS Geographical Information System

gpm gallons per minute

H³ Tritium

HMMP Hazardous Materials Management Program

Hp horsepower

HVAC heating, ventilating, and air-conditioning

Irrigatn irrigation

kg/day kilograms per day

K-25 Gaseous Diffusion Plant (now called East Tennessee Technology Park/ETTP)

LLW Low-Level Waste
LLLW low-level liquid waste

LSS laboratory shift superintendent
MEK Melton Branch kilometer
MGD million gallons per day
mg/L milligrams per liter
Mod modification

mS/cm milliSiemens per centimeter MVST Melton Valley Storage Tanks

N/A not applicable

NAICS North American Industrial Classification System

NEPA National Environmental Policy Act

NESHAPs National Emissions Standards for Hazardous Air Pollutants

NHD National Hydrologic Dataset

NPDES National Pollutant Discharge Elimination System

NPL National Priorities List

NTRC National Transportation Research Center

NTU nephelometric turbidity units

NWT Northwest Tributary

OF outfall

OLCF ORNL Leadership Computing Facility

OREM DOE Oak Ridge Office of Environmental Management

ORNL Oak Ridge National Laboratory

ORR Oak Ridge Reservation

ORPS Occurrence Reporting and Processing System

OTCW once thru cooling water
PCBs polychlorinated biphenyls
PM Preventative Maintenance

PWTC Process Waste Treatment Complex
RCRA Resource Conservation and Recovery Act

RAs Remedial Actions RH remote-handled

RFID radio frequency identification

RO reverse osmosis
ROD Record of Decision
SDS Safety Data Sheets

SIC Standard Industrial Classification

SIPRC Stable Isotope Production and Research Center

SLLW Solid Low-Level Waste SME Subject matter expert

SOP Standard Operating Procedure

SPCC Spill Prevention, Control, and Countermeasure

SPMDs semi-permeable membrane devices SPP Strategic Partnership Projects SSTM sufficiently sensitive test methods

Sr⁹⁰ Strontium 90 StdUnit Standard Unit STI Steel Tank Institute STP Sewage Treatment Plant STS Second Target Station

SWMU Solid Waste Management Unit

SWP3 storm water pollution prevention plan

TDEC Tennessee Department of Environment and Conservation

TN Tennessee

TN-IPC Tennessee Invasive Plant Council

TN HW Tennessee Hazardous Waste Corrective Action Permit

TOC total organic carbon
TRC total residual chlorine
TRO total residual oxidant

TRC Translational Research Capability

TRU transuranic waste
TSS total suspended solids

TWPC Transuranic Waste Processing Center
TWRA Tennessee Wildlife Resources Agency
TWRF Transuranic Waste Remediation Facility

UCOR United Cleanup Oak Ridge US United States of America

UT-B UT-Battelle, LLC

UV Ultraviolet

VOCs Volatile organic compounds
WAC Waste Acceptance Criteria
WCK White Oak Creek kilometer
WET whole effluent toxicity
WOC White Oak Creek
WOL White Oak Lake

WQC water quality criteria/TN
WQPP Water Quality Protection Plan
WWTU wastewater treatment unit
X-01 Outfall number for the STP
X-10 original ORNL site name
X-12 Outfall number of the PWTC
Y-12 National Security Complex

7500RB 7500 Road Bridge

Executive Summary

ORNL History

The Oak Ridge National Laboratory (ORNL) is the largest science and energy national laboratory in the United States Department of Energy (DOE) system. ORNL is one of three DOE facilities that compose the 34,434-acre Oak Ridge Reservation (ORR) in Anderson and Roane Counties, Tennessee. The ORR, including ORNL, lies in the valley and ridge physiographic region of East Tennessee. ORNL occupies approximately 4,400 acres in Bethel and Melton Valleys and on Chestnut Ridge, with the main campus area occupying approximately 1,100 acres. ORNL is situated on portions of the secured federal ORR in the Clinch River drainage basin.

Originally, Clinton National Laboratory (then named X-10 and now named ORNL) was operated in concert with two other facilities, K-25 and Y-12, the three of which comprised the Clinton Engineer Works (current day ORR). These three facilities on the ORR were originally built during World War II as part of the Manhattan Project. Formerly code-named X-10, ORNL was built in 1943 and its research centered around the Graphite Reactor. Following World War II, the United States (US) Atomic Energy Commission (AEC) was formed and management of the ORR, including the X-10/ORNL installation, began to be contracted to private companies and the work being done at all three sites became more independent of one another, each having separate individual AEC missions. In 1948 the X-10 site formally became named "Oak Ridge National Laboratory, or ORNL." From an early focus on chemical technology and reactor development, ORNL's research and development broadened to include programs supporting AEC, the Energy Research and Development Administration, then later DOE missions in scientific discovery and innovation, clean energy, and nuclear security.

Today, ORNL has grown to be the largest DOE Office of Science multidisciplinary science and energy laboratory in the US, capable of advanced research in a wide variety of scientific disciplines with the ability to conduct research in 23 of DOE's 24 core capabilities. ORNL is an international leader in a wide range of areas that support the DOE mission. ORNL employs over 6,000 staff, and the laboratory's extensive capabilities in scientific discovery and innovation are applied to the delivery of mission outcomes for DOE. ORNL researchers are focused on conducting research in biology and the environment, materials, clean energy, national security, fusion and fission, neutron science, isotopes, and supercomputing. ORNL is world renowned for its scientific discoveries and technical breakthroughs needed to realize solutions in energy and national security and providing economic benefit to the nation.

DOE ORNL NPDES Permit

The DOE ORNL NPDES permit regulates industrial wastewater, sanitary wastewater, non-process wastewater, and stormwater discharges into the environment from ORNL for those constituents not already regulated by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or the Federal Atomic Energy Act (AEA). Receiving waters for the NPDES permit discharges are White Oak Creek, Northwest Tributary, First Creek, Fifth Creek, Melton Branch, Clinch River and other unnamed tributaries. DOE has two wastewater treatment facilities (the Sanitary Treatment Plant/X01 and the Process Waste Treatment Complex/X12), in addition to seventy (70) non-process wastewater outfalls, and one-hundred and thirty-two (132) stormwater outfalls that are located throughout ORNL that are included in this NPDES permit application. These facilities and their corresponding permit

applications are described in more detail and are included in the following sections of this permit application.

The last DOE NPDES permit for ORNL became effective on June 1, 2019, with an expiration date of December 31, 2023. The permit was issued by the Tennessee Department of Environment and Conservation (TDEC) for a 5-year period. However, this permit was appealed on May 30, 2019, and a revised permit draft was submitted for public comment in June 2021. The NPDES permit modification to resolve this 2019 permit appeal was submitted to DOE on December 15, 2022. The December 2022 Permit Modification was appealed on January 13, 2023. TDEC then submitted the February 24, 2023, NPDES Minor Modification of the permit to resolve the appeal, which was appealed again by DOE on March 24, 2023. Within this NPDES permitting cycle (2019 – 2023), a NPDES Permit Application was also submitted by DOE on December 21, 2020, for the design and construction of a new wastewater treatment plant, called the Sewage Treatment Plant Modernization Project. Since that time, DOE has been closely working with the TDEC Division of Water Resources (DWR) Engineering Department throughout the design/construction process by following TDEC's Design Criteria for Sewage Works Guidance, and by obtaining TDEC's required approvals at different phases in the planning, design, and construction process. Construction of the new sewage treatment plant (STP) is on-going and is expected to be completed in 2024.

In accordance with TDEC Rules 0400-04-05-.05 and 40 Code of Federal Regulations (CFR) 122.21(d), this DOE ORNL NPDES permit renewal application is being submitted by DOE to the TDEC DWR.

Chapter 1 – Introduction

DOE's ORNL NPDES Permit No. TN0002941 regulates the discharge of industrial wastewater, sanitary wastewater, non-process wastewater, and storm water runoff from the developed areas of the DOE ORNL site. Receiving waters for the discharges being permitted under this application are White Oak Creek, Northwest Tributary, First Creek, Fifth Creek, Melton Branch, Clinch River, and other unnamed tributaries. The DOE ORNL is in the Lower Clinch River watershed.

The current NPDES Permit TN 0002941 for DOE's ORNL became effective on June 1, 2019, and then was modified on December 15, 2022, and then modified again on February 24, 2023 (though appealed on March 24, 2023) and expires on December 31, 2023. In accordance with TDEC Rule 0400-40-05 and 40 CFR 122.21(d), this NPDES permit application is being submitted by the permittee to the TDEC Division of Water Resources to renew NPDES Permit TN 0002941. This application meets the requirements of Part II.A.1 of the General Provisions, Duty to Reapply, of the current permit, and is consistent with the General Regulations (0400-40-1) of the Tennessee Water Quality Control Board. This permit renewal application contains narrative information on the following:

- Executive Summary
- Chapter 2 NPDES Permit History at ORNL
- Chapter 3 Water-Related Monitoring Programs at ORNL
- General Descriptions EPA Form1, EPA Form 2C, EPA Form 2E, and EPA Form 2F

The TDEC Form CN-1090 – Permit Contact Information is also attached immediately following this chapter. This form lists the official permit contact, permit billing address, facility location, and the official authorized for permit reporting. Along with the TDEC form, a Form Certification Signature Page is also included immediately following this chapter, which includes signatures pertaining to each permit section.

In addition, this application contains analytical data for the discharge of treated sanitary wastewater, treated industrial wastewater, non-process wastewater, and storm water from ORNL. These data are presented on standard United States Environmental Protection Agency (EPA) forms that are required to be submitted as part of an application for an NPDES permit. The following EPA forms are included in this document:

- EPA Application Form 1 General Information NPDES Permitting Program (1 form)
- EPA Application Form 2C Existing Manufacturing, Commercial, Mining, and Silvicultural Operations NPDES Permitting Program (2 forms)
- EPA Application Form 2E Manufacturing, Commercial, Mining, and Silvicultural Facilities which Discharge Non-process Wastewater NPDES Permitting Program (70 forms)
- EPA Application Form 2F Stormwater Discharges Associated with Industrial Activity NPDES Permitting Program (8 forms)

In addition to the information outlined above, supplemental information describing approaches taken in planning and preparing this application will also be included in each section of the application where appropriate.

This NPDES permit application includes treated sanitary and treated industrial wastewater, non-process wastewater, and stormwater discharges that discharge to different outfalls that require different NPDES permit application forms. Therefore, for reference a summary table of the ORNL "active" outfalls needing an NPDES permit and their corresponding NPDES permit application forms that are included in this permit application is provided for reference in Appendix A Table A-1 – Outfall Summary & Corresponding Permit Forms. Also, in conformance with TDEC's Antidegradation regulations, DOE has included an Antidegradation Statement for those outfalls that are "new" and have "increased" flow that are expected to be active, and it is provided in Appendix B – ORNL Antidegradation Statement. In addition to the outfalls listed in Appendix A Table A-1, there are several other outfalls located at ORNL that discharge from areas under CERCLA remediation control only, which is a separate regulatory authority governing legacy environmental cleanup on-site. Therefore, those outfalls are designated "CERCLA Only Outfalls" and are not permitted or regulated under the NPDES permit program and they are listed for reference only in Appendix C Table C-1 - CERCLA Outfalls. Finally, there are also many other outfalls located on-site for which NPDES permit application are not being submitted. These outfalls and the corresponding reasons that applications are no longer being submitted are included in **Appendix** D Table D-1 – Outfalls Not Needing a NPDES Permit.



STATE OF TENNESSEE **DEPARTMENT OF ENVIRONMENT AND CONSERVATION DIVISION OF WATER RESOURCES**

Water-Based Systems William R. Snodgrass - Tennessee Tower 312 Rosa L. Parks Avenue, 11th Floor Nashville, TN 37243-1102

PERMIT CONTACT INFORMATION

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U.S. Department of Energy Oak Ridge National Laboratory 2023 National Pollutant Discharge Elimination System Permit Application EPA Identification No. TN0002941

Certification Sheet

The following certification applies, where applicable, to the attached application forms.

Form 1 Chapter 4

"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."

Forms 2C Chapter 5

"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."

Forms 2E Chapter 6

"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."

Forms 2F Chapter 7

"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."

Forms 2F Chapter 7

"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."

Johnny O. Moore	U.S. Department of Energy, ORNL Site Office Manager
Name (print or type first and last name)	Official Title
Sog am	Date: 2023.06.30 08:24:58 -04'00'
Signature	Date Signed

Chapter 2 – NPDES Permit History at ORNL

History of the NPDES Permit at ORNL

ORNL is a DOE research facility located in Oak Ridge, Tennessee that discharges treated wastewaters and some un-treated non-process wastewaters and stormwaters to several bodies of surface water, therefore, is required to have a NPDES permit. DOE was issued its first NPDES permit for ORNL on February 15, 1975, by the EPA following EPA's revision and reauthorization of the Water Pollution Control Act/Clean Water Act in 1972. This permit included covered discharges of four outfalls, one of which was the ORNL STP. This permit established technology-based effluent limitations for these outfalls.

The EPA granted the state of Tennessee primacy for administration of the NPDES permitting program on December 28, 1977, with the understanding that EPA would continue to administer permits issued prior to this date. However, several years later the DOE ORNL NPDES permit was reissued by EPA in 1986. This permit was issued to DOE at the time when EPA began developing more comprehensive permits. The 1986 DOE ORNL NPDES permit covered approximately 150 individual outfalls, including the STP, Coal Yard Runoff Treatment Facility, Process Waste Treatment Plant, and numerous other outfalls categorized based on their known constituents (e.g., storm water, cooling water, process wastewaters from site operations, or process wastewaters from research and development activities). The permit included technology-based, numeric effluent limits for most of the individual outfalls identified in the permit based on effluent characteristics and toxicity monitoring for the wastewater treatment facilities. The 1986 NPDES permit also included a compliance schedule which required: the elimination of a few outfalls that were found to discharge effluent constituents of concern, such as those from a handful of process-waste settling ponds on-site; the rerouting several of these ponds into a new wastewater treatment facility required to be constructed by 1990; requirements for storm-water-pollution-prevention; monitoring biological status; monitoring of mercury and polychlorinated biphenyls (PCBs); and a compliance schedule of projects, including construction of a new wastewater treatment facility now known as the Process Waste Treatment Complex (PWTC) was to begin in 1990. In March 1990, TDEC issued DOE a modified ORNL NPDES permit which included ORNL's first numeric, water-quality based effluent limits based on EPA's recently developed water quality criteria, which reflected the trend toward considering the effects of industrial discharges on the quality of the receiving streams.

The DOE ORNL NPDES permit was next renewed by TDEC in December 1996. The renewal acknowledged the extensive CERCLA remedial actions that were planned or being implemented at ORNL and addressed the distinction between pollutants regulated under the CWA versus legacy pollutants appropriately regulated under CERCLA. Discharges of chlorinated water were strictly limited based on water quality criteria and were required to be assessed under a chlorine control strategy. This was the first permit to include EPA's stormwater requirements and the development of a stormwater pollution prevention plan (SWP3) was required to assess the impact of storm water runoff from activities at the ORNL facility to receiving streams. In 1997, DOE appealed several permit conditions of the 1996 NPDES permit, including numeric effluent limits on mercury and selenium. The permit appeal was never resolved, and the permit expired unchanged. DOE submitted the application for renewal of the ORNL NPDES permit within the required 180 days of the expiration date of the permit in 2001. DOE operated under the expired 1996 permit until 2008. Around this same time there was a separate NPDES permit

issued to DOE for the Spallation Neutron Source (SNS) project outfalls also located on-site at ORNL. However, this permit was later combined in 2008 with the primary DOE NPDES permit at ORNL.

In July 2008, the DOE ORNL NPDES permit was reissued by TDEC and included the new SNS outfalls. While the 2008 NPDES permit contained many similar elements to the previous version, it also included a new provision for a Water Quality Protection Plan (WQPP), which was a new collaborative program concept developed between DOE and TDEC. The WQPP included dynamic requirements for monitoring and investigation intended to best-determine ORNL's most significant sources of aquatic pollutants and appropriate mitigation methods. Two important guiding principles were incorporated into ORNL's WQPP: (1) adaptive management and (2) the EPA Stressor Identification Process. The WQPP allowed DOE to integrate and build on the findings of the monitoring efforts of the CWA NPDES and CERCLA programs during the previous permit cycles in an effort to gain a more complete, consolidated information base, and to help identify sources of contaminants, as well as to mitigate the presence of these contaminants collaboratively with TDEC.

A few years later, TDEC issued a modification of the 2008 permit in February 2010 that included a new outfall (#585). This DOE ORNL NPDES permit was set to expire in July 2013. The DOE submitted an application for renewal of the ORNL permit within the required 180 days of the expiration date of the permit in 2013. The DOE ORNL NPDES permit was next reissued by TDEC in March 2014. This permit was quite similar in content to the 2010 revision of the permit as most NPDES-based programs including effluent monitoring and WQPP requirements were to continue as they were. A permit modification was submitted to DOE by TDEC in April 2015 which included two new outfalls and was set to expire on October 31, 2018. Before the permit expired, DOE requested a change to the disinfection processes at the STP to peracetic acid (PAA) and was issued a permit modification in October 2018. Also in 2018, DOE applied for renewal of the ORNL NPDES permit within the required 180 days of the expiration date of the permit. TDEC then reissued the DOE ORNL NPDES permit in May 2019. On May 30, 2019, DOE appealed several permit conditions, primarily those related to the regulation of CERCLA legacy and radiological pollutants (AEA). This resulted in TDEC's issuance of a modified NPDES permit on December 15, 2022, that is set to expire December 31, 2023. Several conditions in the permit were appealed on January 13, 2023. Therefore, a permit modification was issued to DOE on February 24, 2023. DOE appealed the permit modification again on March 24, 2023, and is waiting on resolution of the permit with TDEC.

Thousands of samples and field readings are collected annually as part of the DOE ORNL NPDES permit programs required under the current NPDES permit. The information and data generated under the industrial wastewater, sanitary wastewater, non-process wastewater, and stormwater investigative programs support this NPDES permit renewal application. Since the DOE ORNL NPDES permit became effective on June 1, 2019, the ORNL has maintained a > 99% compliance rate.

ORNL - CERCLA and AEA

The mission-critical work on the ORR since the 1940s through today has resulted in releases of pollutants into the environment. Some of these pollutants include radionuclides, volatile solvents, and metals. Since the 1970s, state and federal environmental regulations, and numerous site-wide environmental permits have monitored and controlled/limited these releases into the environment. There can be overlapping regulations of wastewater discharges at times, which pose a unique challenge for regulatory CWA

NPDES permitting. Therefore, following paragraphs are meant to help to clarify the distinction between them.

In 1989, the ORR (including ORNL) was placed on the EPA National Priorities List (NPL) that is part of the legacy contamination cleanup program being conducted in accordance with CERCLA. CERCLA regulates and controls potential remediation projects associated with releases or potential releases of legacy hazardous substances. In 1992, the ORR Federal Facility Agreement (FFA) was executed between EPA, TDEC, and DOE and established the framework and schedule for developing, implementing, and monitoring CERCLA remedial actions (RAs) to address legacy contamination on the ORR. The FFA governs the cleanup of the ORR NPL site and, through FFA protocols and agreements, has developed and prioritized potential remediation projects and the scheduling thereof. Therefore, the CERLA and the FFA specifically govern the remediation and removal of legacy contamination at the ORR. CERCLA states that "[n]o Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely onsite, where such remedial action is selected and carried out in compliance with this [CERCLA cleanup standards]." 42 USC § 9621(e)(1). Therefore, the imposition of permit limits for CERCLA discharges from CERCLA RA projects is not appropriate. However, DOE's CWA NPDES permit WQPP adaptive management approach to monitoring showcases DOE's willingness to investigate and mitigate these contaminants collaboratively with TDEC, within competing regulatory frameworks.

While the CERCLA remediation efforts of legacy pollutants are on-going at ORNL, so are the current DOE mission-critical research and operations of the laboratory, which pose unique regulatory challenges. TDEC has acknowledged this directly in the most recent December 15, 2022, NPDES permit rationale which stated, "The complicated intersection of current activities and legacy pollutants at the site has always presented itself as a challenge for all parties." As a part of current day DOE missions at ORNL, there can be discharges of radioactive materials into the environment. However, the AEA vests sole regulatory authority to DOE over source, special nuclear, and by product material discharges. The AEA delegates authority to DOE to self-regulate radioactive materials on the ORR, including ORNL. Therefore, DOE Order 458.1, Radiation Protection of the Public and the Environment, provides the regulatory requirements for the release and monitoring of radioactive materials from DOE facilities and activities. The AEA precludes other federal, state, and local agencies from regulating radioactive discharges from DOE activities at ORNL and elsewhere on the ORR.

Chapter 3 – Water-Related Monitoring Programs at ORNL

There is a significant amount of water-related monitoring and surveillance done throughout the ORR, and specifically at ORNL. Surface water monitoring, stormwater monitoring, treatment plant effluent monitoring, biological monitoring, and groundwater monitoring are the main types of water related monitoring that take place at ORNL at different locations on campus. Some water monitoring is specific to the CWA NPDES permit requirements, and others are driven by other regulations, on-site research and investigations, required by various DOE directives/orders, or required by CERCLA RAs legacy pollutant monitoring/remediation efforts that are on-going. At times the water monitoring/analysis done under these programs may have separate and/or different requirements than the other monitoring done as a part of the CWA NPDES permit and/or the NPDES permit renewal application. Therefore, care should be taken prior to utilizing the results. A summary of the water monitoring required by the DOE ORNL CWA NPDES Permit is listed below.

CWA NPDES Permit Water-Related Monitoring

The water-related monitoring that takes place on-site at ORNL specific to the DOE NPDES Permit (No. TN0002941) requirements are located not only at the two wastewater treatment facilities located on-site, but at many other locations/outfalls located throughout campus and more specifically include the following:

- STP and PWTC discharge monitoring of various pollutants included in monthly TDEC Discharge Monitoring Report (DMR) submissions as required by the NPDES permit.
- Annual WQPP water-related monitoring includes year-long monitoring with some data sets submitted monthly or quarterly in the TDEC DMR and other data summarized in the annual WQPP report. The WQPP is a collaboration between TDEC and DOE that includes special investigations that are dynamic and are more directly focused on the end goal of mitigating stream impairments. The WQPP incorporates and aligns the goals of several plans established under previous permit cycles: Biological Monitoring and Abatement Program, Chlorine Control Strategy, SWP3, the non-storm-water best management practices plan, the radiological monitoring plan, the PCB monitoring plan, and the mercury monitoring plan. The WQPP provides flexibility to integrate and build on the findings of the monitoring efforts of NPDES and CERCLA programs during the previous permit cycles in an effort to gain a more complete, consolidated information base. The WQPP helps facilitate the gathering of information regarding the presence and sources of various pollutants on the ORNL site and their effects on water quality and in-stream biota. The WQPP was designed to provide an effective level of ongoing assessment and to be as efficient, insightful, adaptive, and reactive as possible. The information gained from the dynamic WQPP provides a solid overall assessment of the status of ORNL's receiving-stream watersheds and helps strengthen efforts to protect and restore those watersheds. The WQPP has a decreased emphasis on monitoring for the sake of meeting reporting requirements and an increased emphasis on interpreting results, finding sources of water quality impairment, and identifying opportunities to implement management actions that have real and measurable effects. Though some of the water monitoring activities contained in the WQPP are long term monitoring efforts (biological community and habitat monitoring, bioaccumulation monitoring, etc.), other

components for the WQPP are meant to be adaptive and investigatory in nature, so as research/DOE missions at ORNL change so may the investigations being done as a part of the WQPP. The water monitoring locations change as more information is learned through the WQPP process. Any planned WQPP investigation changes are included in the WQPP from the previous year. Please note that the mercury and PCB stormwater monitoring/data and results that are captured as a part of the WQPP requirements and submission is referenced on the NPDES permit application 2F forms. The most recent WQPP investigations and corresponding data/results for these parameters do not conform to the NPDES permit application 2F forms requirements, so are only referenced on the NPDES permit application and can be found in the most recent WQPP submission. Currently, the DOE ORNL WQPP water-related monitoring includes the following:

- Mercury monitoring (CERCLA legacy)
- o PCB monitoring (CERCLA legacy)
- Biological monitoring (biological communities/bioaccumulation in-stream bioassessments)
- O Cooling Tower monitoring (temperature and metals)
- Chlorine control monitoring
- Nutrient monitoring
- Stormwater monitoring mercury (CERCLA legacy)
- Fish population studies
- Background stream monitoring (also included here for ease of reference in Appendix E –
 Table E-1 Background Stream Data)
- NPDES permit application various monitoring required by the NPDES permit application renewal every 5 years.
- Nutrient study and short-term nutrient monitoring study required/submitted by 2019 NPDES permit, in addition to monitoring done to support the new STP (short term duration)
- Biological toxicity monitoring required by NPDES permit and submitted to TDEC annually with TDEC DMR submission.

Chapter 4 – EPA Application Form 1

The DOE ORNL is considered a major industrial facility wastewater discharger, and therefore the General Information EPA NPDES Application Form 1 has been included in this application package. Information that requires additional explanation, or would not fit on the form, has been supplied in attachments that are referenced below.

- EPA Form 1 Section 6 Existing Environmental Permits This is a comprehensive list of ORNL's environmental permits and can be found in in Appendix F Table F-1 Existing Environmental Permits
- *EPA Form 1 Section 7 Map* A topographic map of the area is located in **Appendix G Topographic Map** for reference.

Please find EPA Form 1 attached immediately following this section.

Form Approved 03/05/19 OMB No. 2040-0004 Facility Name Oak Ridge National Laboratory

Form 1 NPDES

TN1890090003

\$EPA

NPDES Permit Number

TN0002941

EPA Identification Number

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

INI DEG		GENERAL INFORMATION									
SECTIO	N 1. ACT	IVITIES REQUIRING AN NPDES PE	RMIT (40 CFR 12	2.21(f) an	d (f)(1))						
	1.1	Applicants Not Required to Submit Form 1									
	1.1.1	Is the facility a new or existing publi treatment works? If yes, STOP. Do NOT complete Form 1. Complete Form 2A.		1.1.2	Is the facility a treating dome If yes, STOP. I complete Form Form 2S.	Do NOT ✓ No					
	1.2	Applicants Required to Submit Fo	rm 1								
Activities Requiring an NPDES Permit	1.2.1	Is the facility a concentrated anima operation or a concentrated aquat production facility? ☐ Yes → Complete Form 1 and Form 2B.	l feeding	1.2.2	commercial, mil currently disch ✓ Yes → (existing manufacturing, ning, or silvicultural facility that is narging process wastewater? Complete Form No and Form 2C.					
	1.2.3	Is the facility a new manufacturing, or mining, or silvicultural facility that hat commenced to discharge ? ☐ Yes → Complete Form 1 and Form 2D.		1.2.4	Is the facility a commercial, midischarges on Yes	new or existing manufacturing, ning, or silvicultural facility that ly nonprocess wastewater? Complete Form No 1 and Form 2E.					
	1.2.5	Is the facility a new or existing faci discharge is composed entirely of st associated with industrial activity discharge is composed of both stor non-stormwater? ✓ Yes → Complete Form 1 and Form 2F unless exempted by 40 CFR 122.26(b)(14)(x) or (b)(15).	ormwater or whose								
SECTIO	N 2. NAN	ME, MAILING ADDRESS, AND LOCA	TION (40 CFR 12	2.21(f)(2))						
	2.1	Facility Name Oak Ridge National Laboratory									
u o	2.2	EPA Identification Number									
Name, Mailing Address, and Location		TN1890090003									
an	2.3	Facility Contact									
\ddress,		Name (first and last) Johnny O. Moore	Title ORNL Site Office Ma	anager		Phone number (865) 576-3536					
lailing A		Email address moorejo@ornl.gov									
je, ⊾	2.4	Facility Mailing Address									
Nam		Street or P.O. box P.O. Box 2008									
		City or town Oak Ridge	State TN			ZIP code 37831					

EPA Identification Number TN1890090003		tion Number	NPDES Permit Number TN0002941		Facility Name Oak Ridge National Laboratory	Form Approved 03/05/19 OMB No. 2040-0004				
	2.5	Facility Lagreti			Oak Muge National Laboratory					
Name, Mailing Address, and Location Continued	2.5	Facility Location Street, route number, or other specific identifier								
Add		1 Bethel Valley Road								
ling on C		County name		County code (i	f known)					
Mai		Roane		145						
ame, ıd Lc		City or town		State		ZIP code				
		Oak Ridge		TN		37831				
SECTIO		AND NAICS CO			antion all					
	3.1		Code(s)	Description (
		8733		Noncommercial Re	esearch Organization					
les										
Coc										
AICS										
N p	3.2	NAICS	Code(s)	Description (, ,					
SIC and NAICS Codes		541715		Research and Dev and Biotechnology	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)					
S		541713			Research and Development in Biotechnology (except Nanobiotechnology)					
		541714		Research and Dev	elopment in Nanotechnology					
SECTIO		RATOR INFOR	<u> </u>	FR 122.21(f)(4))						
	4.1	Name of Oper								
_		United States Department of Energy								
formation	4.2	Is the name you listed in Item 4.1 also the owner?								
form		✓ Yes □	No							
or Inf	4.3	Operator Stati	us							
Operator In		✓ Public—fe	deral	☐ Public—state	☐ Other	public (specify)				
O	4.4	Private Other (specify) Phone Number of Operator								
	4.4	(865) 576-3536	er of Operator							
lon	4.5	Operator Add								
Operator Information Continued		Post Office Box 20								
ator Inform Continued		City or town		State		ZIP code				
ator Con		Oak Ridge		TN		37831				
Oper		Email address	of operator							
		moorejo@ornl.gov								
		AN LAND (40 C								
Indian Land	5.1	Is the facility lo		Land?						
_ 1	I	☐ Yes 🗸	No							

EPA Identification Number TN1890090003			NPDES Permit N TN0002941	umber	Oak Ridg	Facility Name e National Laboratory		Form Approved 03/05/19 OMB No. 2040-0004		
SECTIO	N 6. EXIS	STING ENVIRON	IMENTAL PERMITS	(40 CFR 122	.21(f)(6))				
	6.1					<u> </u>	respo	onding permit number for each)		
ment			scharges to surface	✓ RCRA	(hazard	ous wastes)		UIC (underground injection of		
rironı nits		water) Appendix F at	tached	Appendix	F attache	ed		fluids)		
Existing Environmental Permits		☐ PSD (air er	nissions)	□ Nonatta	ainment	program (CAA)	✓	NESHAPs (CAA) Appendix F attached		
Exist		Ocean dun	nping (MPRSA)	☐ Dredge	or fill (CWA Section 404)	✓	Other (specify) Appendix F attached		
SECTIO	N 7. MAF	(40 CFR 122.2 ⁻	1(f)(7))							
Мар	7.1	Have you attac specific require		p containing	all requ	ired information to this	appl	ication? (See instructions for		
					See red	uirements in Form 2B	.)			
SECTIO			ESS (40 CFR 122.21)							
	8.1		ature of your business		artmont of	Energy (DOE) science and	opora	y laboratory in the United States. ORNL		
S		was originally estab	lished in 1943 as a part of t	the Manhattan P	roject and	continues to be the world's	premi	er research institution today. ORNL		
Nature of Business		researchers engage in diverse activities that support the DOE mission of ensuring America's security and prosperity by addressing its energy, environmental, and security challenges. ORNL researchers are focused on conducting research in biology and the environment, materials, clear energy, national security, fusion and fission, neutron science, isotopes, and supercomputing. ORNL is world renowned for its scientific discovery								
Bus						ational security and providing				
re of										
Natu										
SECTIO			NTAKE STRUCTURE	<u> </u>	22.21(f	(9))				
	9.1	,	ity use cooling water?							
er Ires		✓ Yes	No → SKIP to Item							
Water	9.2							se structure as described at FR 122.21(r). Consult with your		
Cooling Water Intake Structures		NPDES permitt	ting authority to deterr	mine what spe	ecific inf	ormation needs to be		. ,		
Coo		Cooling water intak	te supply water is from City	of Oak Ridge W	ater Trea	tment Facility				
SECTIO	N 10. VA	RIANCE REQUE	ESTS (40 CFR 122.21	l(f)(10))						
	10.1	Do you intend t	o request or renew or	ne or more of				R 122.21(m)? (Check all that		
sts		apply. Consult when.)	with your NPDES peri	mitting author	rity to de	etermine what informat	ion n	eeds to be submitted and		
Reque		,	entally different factor 301(n))	s (CWA		Water quality related 302(b)(2))	efflue	ent limitations (CWA Section		
Variance Requests		☐ Non-con	ventional pollutants ((301(c) and (g))	CWA		Thermal discharges (CWA	Section 316(a))		
		✓ Not appl	icable							
	. '									

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SECTIO	<u>N</u> 11. CH	<u>IECKLIS</u>	T AND CERTIFICATION STATEMENT (40 CFR 12	22.22(a)) and (d))				
	11.1	For ea		have completed and are submitting with your application. at you are enclosing to alert the permitting authority. Note					
			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				
ent		•	Section 6: Existing Environmental Permits	•	w/ attachments				
tateme		•	Section 7: Map	•	w/ topographic w/ additional attachments				
ion St		V	Section 8: Nature of Business		w/ attachments				
rtifica		✓	Section 9: Cooling Water Intake Structures		w/ attachments				
nd Ce		•	Section 10: Variance Requests		w/ attachments				
dist a		•	Section 11: Checklist and Certification Statement		w/ attachments				
Checklist and Certification Statement	11.2	I certify in acco informa directly belief,	cation Statement y under penalty of law that this document and all atta- ordance with a system designed to assure that qualitation submitted. Based on my inquiry of the person of y responsible for gathering the information, the information, accurate, and complete. I am aware that there ng the possibility of fine and imprisonment for knowing	fied per or perso mation s are sig	rsonnel properly gather and evaluate the ons who manage the system, or those persons submitted is, to the best of my knowledge and initiant penalties for submitting false information,				
		Name (print or type first and last name) Johnny O. Moore			Official title Manager, ORNL Site Office				
	Signature				Date signed				

Chapter 5 – EPA Form 2C Summary

National Pollutant Discharge Elimination System (NPDES) Permit No. TN0002941 regulates the discharge of industrial wastewater, sanitary wastewater, non-process wastewater, and storm water runoff from the 4,400-acre DOE ORNL site. The ultimate receiving water for the discharges is the Clinch River. White Oak Creek is the main receiving stream onsite within ORNL Campus. First Creek, Fifth Creek, the Northwest Tributary, and Melton Branch, in addition to several unnamed tributaries feed into White Oak Creek and then ultimately into the Clinch River. All of these receiving water bodies are located in the Lower Clinch River watershed. EPA Application Form 2C is required to be submitted for any existing facility that currently discharges process wastewaters.

ORNL has two (2) separate wastewater treatment facilities on-site: the STP and the PWTC. ORNL has included an EPA Form 2C for both wastewater treatment facilities (EPA Form 2C – STP/X01 and EPA Form 2C – PWTC/X12) immediately following this section. Both on-site wastewater treatment facilities are operated 24 hours per day 7 days a week. ORNL has been utilizing an internal Waste Acceptance Criteria (WAC) process (that has been on-going for over 30 years) which is used to determine which wastewaters are acceptable for treatment at which on-site wastewater treatment facility (or for what process treatment train at the PWTC) and to exclude wastewaters for on-site treatment that are unsuitable for treatment and discharge. As research and development operations at ORNL change over time, driven by different DOE missions, and as ORNL grows and expands as a result, these internal WAC processes are refined. ORNL research and development staff are trained regularly on these wastewater acceptance processes. The STP and the PWTC are both briefly discussed in more detail below.

STP-Outfall X01

The STP was originally designed to treat predominantly domestic sanitary wastewater generated onsite, though the STP also has the capability to treat some other biologically degradable wastewaters typically generated from research and development activities taking place at ORNL. The treated effluent from STP is discharged through Outfall - X01, which discharges into White Oak Creek (WOC). The current STP flow diagram and water balance, corresponding to the requirement in the *NPDES Permit Form 2C* - *Section 2 Line Drawing* of the permit application can be found in **Appendix H** - **Section 2 Line**Drawing – STP. Since 2020, ORNL has been working on the design and construction of a new STP and all required approvals have been provided by TDEC through the department's pre-design and design/construction permitting process. At this time, the new STP design is completed, and construction of the new STP is currently well underway and expected to be completed sometime in 2024. The details/data in this NPDES permit application apply to the existing STP since it may still be in operation during the next 5-year permit cycle. The new STP NPDES permit application was previously submitted to TDEC on December 21, 2020 and approved November 7, 2022 and then was incorporated in the modified permit in December 2022. It is the intent of DOE that this NPDES permit application will cover both the existing STP and the new STP.

PWTC – Outfall X12

The PWTC was designed to treat industrial process wastewaters of varying strength for a wide variety of contaminants. The treated effluent from PWTC is discharged through Outfall – X12, which discharges into WOC. The current PWTC flow diagram and water balance, corresponding to the requirement in the **NPDES Permit Form 2C Section 2 Line Drawing** of the permit application can be found in **Appendix I**

- Section 2 Line Drawing - PWTC. The PWTC has three (3) different treatment process trains that handle different compositions of wastewaters, which include radiological treatment/Building 3608, nonradiological treatment/Building 3608, and low-level waste (LLLW) evaporator/Building 2531. The PWTC has the ability to divert the wastewater flows through different process trains depending on the expected contaminants in the wastewaters it is receiving. The PWTC treats wastewaters predominantly generated from on-going CERCLA legacy cleanup operations taking place on-site at ORNL and on the ORR, in addition to some process wastewaters from normal ORNL laboratory research and development activities that cannot be treated at the STP. The wastewaters typically treated at the PWTC contain heavy metals, wide variety/higher strength organics, and varying levels and types of radioactive constituents (note: most all of the heavy metals/radiological contaminants treated here are from legacy contamination currently regulated under CERCLA, and any newly generated radiological contaminants as a result of ORNL research and operations are self-regulated by DOE under the AEA). Currently, there are a handful of projects that are on-going at the PWTC for which Quarterly Report Updates are required by TDEC. These PWTC status updates to TDEC are expected to continue until project completion. The PWTC is a facility that is also able to treat some acceptable Resource Conservation and Recovery Act (RCRA) hazardous wastewaters. Due to overlapping regulations, facilities operating under CWA requirements are exempt from complying with certain RCRA requirements, due to the Permit By Rule, or Wastewater Treatment Unit exemption, which is discussed in more detail in Appendix J – Permit By Rule.

Additional Information

ORNL does not fall under a typical Effluent Limit Guideline (ELG) for either the STP or PWTC discharges, since it is a research and development DOE national laboratory, whose research processes change as DOE research missions change, etc. So, testing is not necessarily required for EPA Form 2C other than Table A for any of the contaminants listed. The EPA 2C Form does require an assessment of believed absent/believed present for the contaminants listed in tables B-E and Exhibit 2C-4. ORNL has developed an internal "believed absent/believed present" process for what parameters to test for in Tables B, C, D, E, and for those constituents listed in Exhibit 2C-4. ORNL conducted a very thorough and conservative analysis of available current and historical data for determining whether a contaminant was "believed absent" or "believed present" in either the STP or PWTC discharge. Each treatment facility was analyzed individually in this process, therefore if something is "believed present" at the PWTC it may not be "believed present" at the STP, etc. Please note that "believed present" having been indicated for a contaminant listed on EPA Form 2C Tables B – E and Exhibit 2C-4 does not necessarily mean the contaminant is ever present at a detectable concentration in the wastewater discharge; it may be that the STP or PWTC processes removes this contaminant entirely, it is diluted to below detection level prior to treatment, or the contaminant never actually entered the system, etc.

The data utilized in the completion of the EPA 2C Forms for both the STP and the PWTC were obtained from January 4, 2019, to February 1, 2023. In addition, the data reported on the 2C forms used consistent data qualifiers to those in the ORNL NPDES monthly discharge monitoring reports (DMRs): where >, <, and J (estimated value) are used. For some of the constituents on Table D or included on Exhibit 2C-4, ORNL does not have access to an analytical method which can measure its concentration. In these cases, and where a contaminant is believed to potentially be present in the discharge, no analytical data are provided on the form; instead, a summary of the reason it may be present in the discharge is noted on the form as allowed by the EPA Form 2C instructions. For the ORNL STP, instead of providing fecal

coliform concentration on Table C, data for E. Coli are provided, which is consistent with current ORNL NPDES permit requirements.

For sampling and analysis of volatile organic compounds at outfalls X01 and X12, consistent with permit instructions, at each location four (4) grab samples were collected at approximately equal intervals over a 24-hour period. Rather than instructing the analytical laboratory to manually composite the samples immediately prior to analysis, and then perform a single analysis for each location, ORNL elected to have each grab sample analyzed separately. This extra effort was taken to eliminate the possibility that organic compounds could be introduced to or eliminated from the samples during the sample compositing process, and to provide more information than the minimum required.

In addition, there were a few instances from evaluating sampling/analysis of data results of three (3) parameters listed on *EPA Form 2C Table B – Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants* at both outfalls X01 and X12, that due to analysis of multiple test results from different laboratories using the same sufficiently sensitive test method (SSTM), the value reported as the maximum concentration on the EPA 2C Form was undetected at a higher report level, when actually a lower detectable concentration of the parameter was measured. In these instances, the maximum less than detected concentrations are reported on the EPA 2C Forms, and then are also listed below along with the lower detectable data for those parameters. See **Table 5-1 – Summary of Maximum Detected Data** below for more details. The values provided in the table below present a more accurate picture of the treatment plant effluent characteristics for these few parameters; being that there is a vast difference in report levels at different laboratories using the same approved SSTM EPA method.

Table 5-1 – Summary of Maximum Detected Data									
Maximum	Daily	Reported Daily	Parameter	Location					
Monthly	Maximum	Maximum							
Concentration	Detected	Concentration Table							
	Concentration	В							
(mg/L)	(mg/L)	(mg/L)							
0.000379	0.000379	0.000379	Cd	X01					
0.00148	0.00162	< 0.073	Ni	X01					
0.0000508	0.0000508	<0.0006	Tl	X01					
0.0000388	0.0000388	< 0.000782	Cd	X12					
0.00412	0.0118	< 0.073	Ni	X12					
0.0000238	0.0000238	< 0.000831	T1	X12					
	Maximum Monthly Concentration (mg/L) 0.000379 0.00148 0.0000508 0.0000388 0.000412	Daily Maximum Monthly Detected Concentration Monthly Concentration 0.000379 0.000379 0.000508 0.0000508 0.000388 0.0000388 0.0118 0.00412	Reported Daily Daily Maximum Monthly	Parameter Reported Daily Maximum Maximum Concentration Table B Detected Concentration Concentration Maximum Monthly Concentration Cd 0.000379 0.000379 0.000379 Ni <0.073					

NPDES Permit Form 2C Section 6. Improvements (40 CFR 122.21(g)(6))

The instructions in this section of the form say to list/describe compliance projects or any other projects/programs affecting your discharge. Therefore, please see **Appendix K - EPA Form 2C Section 6.2-6.3 Improvements** for more details regarding these form requirements for the STP/X01 and the PWTC/X12.

EPA Form 2C

STP/Outfall X01 &
PWTC/Outfall X12

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EPA Identification Number

TN1890090003

							41						
Form 2C	ΩΙ	EDΛ	U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS										
NPDES		EPA											
SECTION	ECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))												
	1.1		rmation on each of the facility's	outfalls in the	e table b	elow.							
ation		Outfall Number	Receiving Water Name		Latitu	de			Long	itude			
Outfall Location		X01	White Oak Creek	35 °	55 ′	20.15 "	N	84°	19 ′	3.86 "	W		
	N 2. LINE	DRAWING (40 CFR 122.21(g)(2))										
Line Drawing	2.1	Have you at	tached a line drawing to this ap ee instructions for drawing requ										
SECTION	N 3. AVE	RAGE FLOW	S AND TREATMENT (40 CFR	122.21(g)(3))								
	3.1	For each out	tfall identified under Item 1.1, p	rovide averaç	ge flow a	and treatr	nent informat	ion. Add	d additio	nal sheets	s if		
		necessary. **Outfall Number** X01											
		Operations Contributing to Flow											
			Operation		Average Flow								
		Primarily sanitar	ry wastewaters, cooling water,	0.2	0.2 mgd								
tment		infiltration/inflow	of stormwater, and those wastewater		mgd								
d Trea		research/develo	pment, and other operations that are		mgd				mgd				
ws an		compatible with	biological treatment.		mgd				mgd				
Floor			Description	Treat	ment U	nits		Fin	al Dian	and of Ca	lid as		
Average Flows and Treatment		(include	Description size, flow rate through each tre retention time, etc.)	atment unit,			e from e 2C-1		uid Was	osal of So ites Other ischarge			
		Aerated lagoons Grit removal	5		3B 1M								
		Bar screening Activated sludge	9		1T 3A								
		Ozone disinfecti			2G	1G, 1Q							
		Discharge to su Aerobic digest.	rface water heat drvina. drvina beds		4A 5A.	5M. 5H		Offsite	Landfill SI	udge Dispos	sal 5Q		

EPA Identification Number NPDES Permit Number Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 3.1 **Outfall Number** cont. **Operations Contributing to Flow** Operation **Average Flow** mgd mgd mgd mgd **Treatment Units** Description Final Disposal of Solid or Code from (include size, flow rate through each treatment unit, **Liquid Wastes Other Than** Table 2C-1 by Discharge retention time, etc.) **Average Flows and Treatment Continued** **Outfall Number** **Operations Contributing to Flow** Operation **Average Flow** mgd mgd mgd mgd **Treatment Units** Description Final Disposal of Solid or Code from Liquid Wastes Other Than (include size, flow rate through each treatment unit, Table 2C-1 by Discharge retention time, etc.) 3.2 Are you applying for an NPDES permit to operate a privately owned treatment works? System Users No → SKIP to Section 4. 3.3 Have you attached a list that identifies each user of the treatment works? Yes No

EPA Identification Number NPDES Permit Number Facility Name Form Approved 03/05/19
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SECTIO	N 4. INTE	RMITTENT	FLOWS (40 CFR 122.2	1(g)(4))				
	4.1	Except for	storm runoff, leaks, or s	pills, are any discha	•			sonal?
		Yes				SKIP to Section 5		
	4.2	Provide inf	formation on intermittent		or each applicable out Juency	fall. Attach additi Flow		ecessary. I
		Outfall Number	Operation (list)	Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	Duration
				days/week	months/year	mgd	mgd	days
Flows				days/week	months/year	mgd	mgd	days
Intermittent Flows				days/week	months/year	mgd	mgd	days
nterm				days/week	months/year	mgd	mgd	days
_				days/week	months/year	mgd	mgd	days
				days/week	months/year	mgd	mgd	days
				days/week	months/year	mgd	mgd	days
				days/week	months/year	mgd .	mgd	days
				days/week	months/year	mgd	mgd	days
SECTIO			40 CFR 122.21(g)(5))	- (FL Os)	ordby FDA words Occ	the 201 et the 0	10/0 b - t	f:!!!h. O
	5.1	So any em	luent limitation guideline	s (ELGs) promuigat		SKIP to Section 6		ir facility?
S	5.2		e following information o					
H)		El	LG Category		ELG Subcategory		Regulatory	Citation
Applicable ELGs								
Арр								
	5.3	Are any of	the applicable ELGs exp	oressed in terms of	production (or other m	neasure of opera	tion)?	
tions		☐ Yes				SKIP to Section 6		
mita	5.4	Outfall	actual measure of daily	<u> </u>				Unit of
ed Li		Number	Opera	tion, Product, or M	laterial	Quantity p	or Hav	leasure
on-Bas								
Production-Based Limitations								
Ā								

EPA Identification Number NPDES Permit Number Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 SECTION 6. IMPROVEMENTS (40 CFR 122.21(g)(6)) 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? No → SKIP to Item 6.3. 6.2 Briefly identify each applicable project in the table below. Jpgrades and Improvements Affected **Final Compliance Dates** Outfalls Source(s) of Brief Identification and Description of **Project** (list outfall **Discharge Projected** Required number) See Appendix K - Improvements 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 Nο Not applicable SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(g)(7)) 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 Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of vour 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 Effluent and Intake Characteristics requested and attached the results to this application package? No; a waiver has been requested from my NPDES ✓ Yes permitting authority for all pollutants at all outfalls. Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories 7.4 listed in Exhibit 2C-3? (See end of instructions for exhibit.) **✓** 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? 76 List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3. Required GC/MS Fraction(s) **Primary Industry Category** (Check applicable boxes.) ∇olatile Acid Base/Neutral Pesticide Volatile Acid Base/Neutral Pesticide Volatile Acid Base/Neutral Pesticide

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	7.7	GC/MS fracti	ecked "Testing Required" for all re ions checked in Item 7.6?	equired pollutants		5 of Table B for each of the					
		☐ Yes ☐ No									
	7.8	Have you checked "Believed Present" or "Believed Absent" for all pollutants listed in Sections 1 through 5 of Tat where testing is not required? Yes No									
	7.9	required or (2	ovided (1) quantitative data for the 2) quantitative data or other require "Believed Present" in your discha	red information fo							
	7.10	Does the apr	olicant qualify for a small business	s exemption unde	r the criteria specified	in the instructions?					
þe	7.10		Note that you qualify at the top of then SKIP to Item 7.12.	•	No No	in the mediations.					
Effluent and Intake Characteristics Continued	7.11	determined to	ovided (1) quantitative data for the esting is required or (2) quantitation under the indicated are "Believed Pr	ve data or an exp	anation for those Sec						
teris	Table C	. Certain Con	ventional and Non-Convention	al Pollutants							
Charact	7.12	for all outfalls	dicated whether pollutants are "Be s?	lieved Present" o		r all pollutants listed on Table C					
ake		✓ Yes			No						
t and Intal	7.13	indirectly in a "Believed Pre	mpleted Table C by providing (1) an ELG and/or (2) quantitative dat esent"?								
<u>ne</u>		✓ Yes			No						
Eff	Table D). Certain Haz	ardous Substances and Asbest	tos							
	7.14	Have you inc all outfalls? Yes	licated whether pollutants are "Be	lieved Present" o		r all pollutants listed in Table D for					
					No						
	7.15		mpleted Table D by (1) describing oviding quantitative data, if availa		applicable pollutants a	are expected to be discharged					
	Table F		achlaradihanna n Diavin (2.2.7)	P TCDD)	INO						
	7.16		achlorodibenzo-p-Dioxin (2,3,7,	•	TCDD congoners lists	ad in the instructions, or do you					
	7.10	know or have	ility use or manufacture one or mo e reason to believe that TCDD is o	or may be presen	in the effluent?						
		□ Yes →	Complete Table E.	✓	No → SKIP to Se	ction 8.					
	7.17	Have you co	mpleted Table E by reporting <i>qua</i>	litative data for To	DDD? No						
SECTIO	N 8. USE	D OR MANUF	ACTURED TOXICS (40 CFR 122	2.21(g)(9))							
	8.1	Is any polluta	ant listed in Table B a substance of ate or final product or byproduct?		a substance used or	manufactured at your facility as					
ţ		✓ Yes			No → SKIP to S	ection 9.					
ufac s	8.2	List the pollu	tants below.								
Used or Manufactured Toxics			tants are listed as "believed		7.						
Jsed o		2.	5.		8.						
_		3.	6.		9.						

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SECTIO	NA PIOI	OCICAL TOYICITY TEST	C /40 CED 122 21/a\/11\\							
SECTIO	N 9. BIOLOGICAL TOXICITY TESTS (40 CFR 122.21(g)(11)) 9.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been within the last three years on (1) any of your discharges or (2) on a receiving water in relation to your discharges. ✓ Yes No → SKIP to Section 10.									
Biological Toxicity Tests										
	9.2	Identify the tests and thei	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted					
		IC25 Static Renewal 7 Day Chronic Ceriodaphnia and	NPDES Permit requirement	✓ Yes □ No	1/28/2020					
Biolog		IC25 Static Renewal 7 Day Chronic Pimephalas promelas	NPDES Permit requirement - Required re-test	✓ Yes □ No	7/26/2020					
		IC25 Static Renewal 7 Day Chronic Ceriodaphnia,	NPDES Permit requirement - See Attachments	✓ Yes	1/29/2021					
SECTIO	DN 10. CONTRACT ANALYSES (40 CFR 122.21(g)(12))									
	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						
Contract Analyses			Eurofins Environment Testing Northwest, LLC	GEL Laboratories LLC						
		Laboratory address	5755 8th St E, Tacoma, WA 98424	2040 Savage Road Charleston, SC (USA) 29407						
		Phone number	(253) 922-2310	(843) 556-8171						
		Pollutant(s) analyzed	Mercury	Alpha Radium, Ammonia, Anions, BOD, COD, Cyanide, Phenol, PCBs, Nitrate/nitrite, Nitrogen, Oil & Grease, Surfactants, TOC, TSS, VOCs/SVOCs, Metals						
SECTIO	N 11. AD	DITIONAL INFORMATION	(40 CFR 122.21(g)(13))							
	11.1	, GA II								
Additional Information		☐ Yes		✓ No → SKIP to Section 12.						
	11.2	List the information requested and attach it to this application.								
		1. 4.								
		2. 5.								
•		3. 6.								

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SECTIO			IST AND CERTIFICATION STATEM			a al a una accidentati	(i.e., ith	
	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			
Checklist and Certification Statement		•	Section 1: Outfall Location		□ w/ attachments			
		V	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			
		V	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 exemptior request	V	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/ attachr		w/ attachments	chments		
	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) Johnny O. Moore				Official title Manager, ORNL Site Office		
		Signature			Date signed			

TAE	BLE A. CONVENTIONAL AND N	ON CONVEN	TIONAL POLLUTA	NTS (40 CI	FR 122.21(a)(7)(i	ii)) ¹				
					(3)(1)(1)		fluent		Intal (Option	
	Pollutant	Waiver Requested (if applicable)	Units (specify)		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 NPDE	S permitting author	ity for a wa	iver for <i>all</i> of the p	oollutants listed on	this table for the no	oted outfall.		
1.	Biochemical oxygen demand		Concentration	mg/L	< 4	< 4	< 4	1		
1.	(BOD₅)		Mass	kg/day	< 2	< 2	< 2			
2.	Chemical oxygen demand		Concentration	mg/L	35.3	35.3	35.3	1		
2.	(COD)		Mass	kg/day	19.8	19.8	19.8			
,	T. (1 (TOO)		Concentration	mg/L	2.72	2.71	2.42	5		
3.	Total organic carbon (TOC)		Mass	kg/day	2.39	2	1			
	T-4-1 d- d li-d- (TOO)		Concentration	mg/L	52	< 10	< 2.3	213		
4.	Total suspended solids (TSS)		Mass	kg/day	56	< 13	< 1.72			
_	A		Concentration	mg/L	1.66	0.6423	J 0.2313	213		
5.	Ammonia (as N)		Mass	kg/day	1.09	0.5063	J 0.1649			
6.	Flow		Rate	mgd	0.7404	0.3434	0.1994	274		
7	Temperature (winter)		°C	°C	21.3	18.6	15.08	113		
7.	Temperature (summer)		°C	°C	29.2	28.28	24.45	107		
	pH (minimum)		Standard units	s.u.	6.1			213		
8.	pH (maximum)		Standard units	s.u.	8.2	7.8		213		

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).

OMB No. 2040-0004 TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))1 Presence or Absence Intake (check one) **Effluent** (optional) **Testing** Pollutant/Parameter Units Long-Term Maximum Maximum Long-**Believed** Believed Number Number Required (and CAS Number, if available) (specify) Average Term Daily Monthly **Absent** Present Daily of of Discharge Discharge **Average** Analyses **Analyses** Discharge (if available) Value (required) (if available) 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, Cvanide, and Total Phenols ma/L 1.13E-03 1.13E-03 < 8.79E-04 44 Concentration Antimony, total **v** 1.1 < 2E-03 < 1E-03 < 6.3F-04 (7440-36-0) kg/day Mass < 2F-03 < 2E-03 < 1.89E-03 44 mg/L Concentration Arsenic, total П 1.2 **V** < 3E-03 < 3E-03 < 1.3E-03 (7440-38-2) kg/day Mass < 2E-04 < 2E-04 < 1.90E-04 44 mg/L Concentration Beryllium, total П **V** 1.3 kg/day < 3E-04 < 2.3E-04 < 1.3E-04 (7440-41-7)Mass 3.79E-04 3.79E-04 < 2.92E-04 mg/L 44 See Chapter 5 Concentration Cadmium, total 1.4 **✓** 6.18E-04 6.18E-04 < 2.1E-04 (7440-43-9)kg/dav Mass < 0.01 < 0.01 < 3.56E-03 44 ma/L Concentration Chromium, total **v** 1.5 (7440-47-3)< 0.02 < 0.02 < 2.7E-03 kg/day Mass 44 mg/L 0.0574 0.0574 0.0117 Concentration Copper, total 1.6 **V** (7440-50-8) 0.027 0.027 8.0E-03 Mass kg/day < 5.73E-04 44 mg/L < 1.5E-03 < 1.5E-03 Concentration See Chapter 5 Lead. total **✓** 1.7 (7439-92-1)< 2 4F-03 < 2 4F-03 < 4 20F-04 kg/day Mass 4 58F-05 4 58F-05 7 82F-06 17 mg/L Concentration Mercury, total **v** 1.8 3 45F-05 (7439-97-6)kg/day 3 45F-05 5.84F-06 Mass < 0.073 < 0.073 <J 8 35F-03 44 mg/L Concentration Nickel, total 1.9 **✓** < 0.12 < 0.12 <J 6.8E-03 (7440-02-0)kg/day Mass 44 < 3.1E-03 < 3.1E-03 < 1.93E-03 mg/L Concentration Selenium, total **✓** 1.10 < 1.4E-03 < 5.1E-03 < 5.1E-03 (7782-49-2)kg/day Mass 8.79E-04 < 2.99E-04 44 8.79E-04 mg/L Concentration Silver, total **✓** 1.11 (7440-22-4)< 2.1E-04 kg/day < 5E-04 4.1E-04 Mass

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TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE	NOLS, AND	ORGANIC T	OXIC POLLUTAN	ITS (40 CF	R 122.21(g)(7)	(v)) ¹				
				or Absence ck one)				Effl	uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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		✓		Concentration	mg/L	< 6E-04	< 6E-04	< 5.05E-04	44	See Chapter	5
1.12	(7440-28-0)				Mass	kg/day	< 1E-03	< 6E-04	< 3.6E-04			
1.13	Zinc, total		✓		Concentration	mg/L	0.0603	0.0603	< 0.0348	44		
1.15	(7440-66-6)				Mass	kg/day	< 0.07	< 0.07	< 0.0248			
1.14	Cyanide, total			✓	Concentration	mg/L	< 1.67E-03	< 1.67E-03	< 1.67E-03	35		
1.14	(57-12-5)				Mass	kg/day	< 2.70E-03	< 1.75E-03	< 1.15E-03			
1.15	Phenols, total		✓		Concentration	mg/L	6.81E-03	6.81E-03	6.81E-03	1		
1.10	THEIIOIS, total				Mass	kg/day	3.81E-03	3.81E-03	3.81E-03			
Section	on 2. Organic Toxic Pollutants (0	C/MS Fract	ion—Volatil	e Compound	ls)							
2.1	Acrolein			✓	Concentration	ug/L	< 5	< 5	< 5	9		
۷.۱	(107-02-8)				Mass	kg/day	< 5E-03	< 3.7E-03	< 3.0E-03			
2.2	Acrylonitrile		✓		Concentration	ug/L	< 5	< 5	< 5	9		
2.2	(107-13-1)				Mass	kg/day	< 5E-03	< 3.7E-03	< 3.0E-03			
2.3	Benzene		✓		Concentration	ug/L	< 1	< 1	<1	9		
2.5	(71-43-2)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.4	Bromoform			✓	Concentration	ug/L	<1	<1	<1	9		
2.4	(75-25-2)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.5	Carbon tetrachloride			✓	Concentration	ug/L	<1	<1	<1	9		
2.0	(56-23-5)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.6	Chlorobenzene			✓	Concentration	ug/L	< 1	<1	<1	9		
2.0	(108-90-7)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.7	Chlorodibromomethane			✓	Concentration	ug/L	< 1	< 1	<1	9		
۷.۱	(124-48-1)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.8	Chloroethane			✓	Concentration	ug/L	< 1	< 1	<1	9		
2.0	(75-00-3)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			_

Facility Name Outfall Number
Oak Ridge National Laboratory X01

EPA Identification Number

TN1890090003

NPDES Permit Number

TN0002941

				or Absence ok one)				EffI	uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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			>	Concentration	ug/L	< 5	< 5	< 5	9		
2.5	(110-75-8)				Mass	kg/day	< 5E-03	< 3.7E-03	< 3.0E-03			
2.10	Chloroform (67-66-3)		✓		Concentration	ug/L	<1	<1	J< 0.68	9		
2.10					Mass	kg/day	< 7E-04	< 6.0E-04	J< 3.8E-04			
2.11	Dichlorobromomethane			>	Concentration	ug/L	< 1	<1	<1	9		
2.11	(75-27-4)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.12	1,1-dichloroethane				Concentration	ug/L	< 1	< 1	< 1	9		
2.12	(75-34-3)			✓	Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.13	1,2-dichloroethane			✓	Concentration	ug/L	<1	<1	<1	9		
2.13	(107-06-2)			V	Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.14	1,1-dichloroethylene				Concentration	ug/L	<1	<1	<1	9		
2.14	(75-35-4)			✓	Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.15	1,2-dichloropropane				Concentration	ug/L	<1	<1	<1	9		
2.15	(78-87-5)			✓	Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.40	1,3-dichloropropylene			✓	Concentration	ug/L	< 2	< 2	< 2	9		
2.16	(542-75-6)			•	Mass	kg/day	< 2E-03	< 2E-03	< 1E-03			
2.47	Ethylbenzene				Concentration	ug/L	<1	<1	<1	9		
2.17	(100-41-4)		✓		Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.40	Methyl bromide			>	Concentration	ug/L	<1	<1	<1	9		
2.18	(74-83-9)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.42	Methyl chloride				Concentration	ug/L	< 1	< 1	<1	9		
2.19	(74-87-3)			✓	Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.00	Methylene chloride				Concentration	ug/L	J 2.06	<j 2.02<="" td=""><td><j 2.01<="" td=""><td>9</td><td></td><td></td></j></td></j>	<j 2.01<="" td=""><td>9</td><td></td><td></td></j>	9		
2.20	(75-09-2)		✓		Mass	kg/day	< 2E-03	<j 1e-03<="" td=""><td><j 1e-03<="" td=""><td></td><td></td><td></td></j></td></j>	<j 1e-03<="" td=""><td></td><td></td><td></td></j>			
	1,1,2,2- tetrachloroethane				Concentration	ug/L	< 1	< 1	<1	9		
2.21	(79-34-5)			✓	Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			

TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE	Presence	ORGANIC T or Absence ok one)	OXIC POLLUTAN	1S (40 CF	R 122.21(g)(7)		uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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			✓	Concentration	ug/L	< 1	<1	< 1	9		
	(127-18-4)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.23	Toluene		✓		Concentration	ug/L	<1	<1	<j 0.919<="" td=""><td>9</td><td></td><td></td></j>	9		
	(108-88-3)				Mass	kg/day	< 1E-03	< 7E-04	<j 6e-04<="" td=""><td></td><td></td><td></td></j>			
2.24	1,2-trans-dichloroethylene			✓	Concentration	ug/L	<1	<1	<1	9		
	(156-60-5)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.25	1,1,1-trichloroethane			✓	Concentration	ug/L	<1	<1	<1	9		
	(71-55-6)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.26	1,1,2-trichloroethane			✓	Concentration	ug/L	<1	< 1	<1	9		
2.20	(79-00-5)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.27	Trichloroethylene		✓		Concentration	ug/L	<1	<1	<1	9		
2.21	(79-01-6)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
2.28	Vinyl chloride				Concentration	ug/L	<1	< 1	<1	9		
	(75-01-4)				Mass	kg/day	< 1E-03	< 7E-04	< 6E-04			
Section	on 3. Organic Toxic Pollutants (G	C/MS Fract	on—Acid C	ompounds)	T	I a	1 . 40	l . 40	1 . 40	14	1	
3.1	2-chlorophenol				Concentration	ug/L	< 10	< 10	< 10	1		
	(95-57-8)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.2	2,4-dichlorophenol			✓	Concentration	ug/L	< 10	< 10	< 10	1		
0.2	(120-83-2)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.3	2,4-dimethylphenol			✓	Concentration	ug/L	< 10	< 10	< 10	1		
	(105-67-9)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.4	4,6-dinitro-o-cresol			✓	Concentration	ug/L	< 10	< 10	< 10	1		<u> </u>
0	(534-52-1)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.5	2,4-dinitrophenol				Concentration	ug/L	< 20	< 20	< 20	1		
0.0	(51-28-5)				Mass	kg/day	< 0.01	< 0.01	< 0.01			

	E B. TOXIC METALS, CYANIDE,		Presence	or Absence ck one)					uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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			✓	Concentration	ug/L	< 10	< 10	< 10	1		
0.0	(88-75-5)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.7	4-nitrophenol			✓	Concentration	ug/L	< 10	< 10	< 10	1		
0.7	(100-02-7)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.8	p-chloro-m-cresol			✓	Concentration	ug/L	< 10	< 10	< 10	1		
	(59-50-7)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.9	Pentachlorophenol			✓	Concentration	ug/L	< 10	< 10	< 10	1		
0.0	(87-86-5)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.10	Phenol		✓		Concentration	ug/L	< 10	< 10	< 10	1		
3.10	(108-95-2)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
3.11	2,4,6-trichlorophenol			✓	Concentration	ug/L	< 10	< 10	< 10	1		
3.11	(88-05-2)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
Secti	on 4. Organic Toxic Pollutants (G	C/MS Fract	on—Base /	Neutral Com	pounds)							
4.1	Acenaphthene			v	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.1	(83-32-9)				Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.2	Acenaphthylene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.2	(208-96-8)				Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.3	Anthracene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.5	(120-12-7)				Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.4	Benzidine			✓	Concentration	ug/L	< 10	< 10	< 10	1		
4.4	(92-87-5)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.5	Benzo (a) anthracene		✓		Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.5	(56-55-3)				Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.6	Benzo (a) pyrene		>		Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.0	(50-32-8)	🗀	•		Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			

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TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE			OXIC POLLUTAN	TS (40 CF	R 122.21(g)(7)	(v)) ¹				
				or Absence ok one)				Effl	uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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		✓		Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.7	(205-99-2)				Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.8	Benzo (ghi) perylene		✓		Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.0	(191-24-2)				Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.9	Benzo (k) fluoranthene		✓		Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.9	(207-08-9)		.		Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.10	Bis (2-chloroethoxy) methane				Concentration	ug/L	< 10	< 10	< 10	1		
4.10	(111-91-1)			>	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.11	Bis (2-chloroethyl) ether			>	Concentration	ug/L	< 10	< 10	< 10	1		
4.11	(111-44-4)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.12	Bis (2-chloroisopropyl) ether			✓	Concentration	ug/L	< 10	< 10	< 10	1		
4.12	(102-80-1)	"			Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.13	Bis (2-ethylhexyl) phthalate		✓		Concentration	ug/L	<1	< 1	<1	1		
4.13	(117-81-7)	"			Mass	kg/day	< 5E-04	< 5E-04	< 5E-04			
4.14	4-bromophenyl phenyl ether			V	Concentration	ug/L	< 10	< 10	< 10	1		
4.14	(101-55-3)			V	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.15	Butyl benzyl phthalate				Concentration	ug/L	<1	<1	<1	1		
4.15	(85-68-7)			✓	Mass	kg/day	< 5E-04	< 5E-04	< 5E-04			
4.16	2-chloronaphthalene			y	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.16	(91-58-7)	⊔			Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.47	4-chlorophenyl phenyl ether			✓	Concentration	ug/L	< 10	< 10	< 10	1		
4.17	(7005-72-3)			V	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.40	Chrysene		✓		Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.18	(218-01-9)				Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.40	Dibenzo (a,h) anthracene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.19	(53-70-3)		✓		Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))1 Presence or Absence Intake (check one) Effluent (optional) **Testing** Pollutant/Parameter Units Long-Term Maximum Maximum Long-**Believed** Believed Number Number Required (and CAS Number, if available) (specify) **Average** Term Daily Monthly **Present** Absent of of Daily Discharge **Discharge** Average **Analyses Analyses** Discharge (if available) Value (required) (if available) < 1 < 1 < 1 ug/L Concentration 1,2-dichlorobenzene 4.20 **✓** (95-50-1) < 7E-04 < 6.0E-04 < 6 0F-04 kg/day Mass < 1 < 1 < 1 ug/L Concentration 1,3-dichlorobenzene 4.21 **V** (541-73-1)< 7E-04 < 6.0E-04 < 6.0E-04 kg/day Mass < 1 < 1 < 1 ug/L Concentration 1,4-dichlorobenzene **✓** 4.22 (106-46-7)kg/day < 7E-04 < 6.0E-04 < 6.0E-04 Mass < 10 < 10 < 10 ug/L Concentration 3,3-dichlorobenzidine 4.23 **✓** (91-94-1)< 5E-03 < 5E-03 < 5E-03 kg/day Mass < 1 < 1 < 1 ug/L Concentration Diethyl phthalate **v** 4.24 < 5E-04 < 5E-04 < 5E-04 (84-66-2)kg/day Mass ug/L < 1 < 1 < 1 Concentration Dimethyl phthalate П 4.25 ✓ < 5E-04 (131-11-3)kg/day < 5E-04 < 5E-04 Mass < 1 < 1 < 1 uq/L Concentration Di-n-butyl phthalate 4.26 **✓** < 5E-04 < 5E-04 kg/day < 5E-04 (84-74-2)Mass < 10 < 10 < 10 ug/L 2,4-dinitrotoluene Concentration **v** 4.27 П < 5E-03 < 5E-03 < 5E-03 (121-14-2)kg/day Mass ug/L < 10 < 10 < 10 2,6-dinitrotoluene Concentration П 4.28 **✓** < 5E-03 < 5E-03 < 5E-03 (606-20-2)kg/day Mass < 1 < 1 < 1 ug/L Concentration Di-n-octyl phthalate 4.29 П **V** < 5E-04 < 5E-04 < 5E-04 kg/day (117-84-0)Mass < 10 < 10 < 10 ug/L Concentration 1,2-Diphenylhydrazine **~** П 4.30 kg/day < 5E-03 < 5E-03 < 5E-03 (as azobenzene) (122-66-7) Mass ug/L < 0.1 < 0.1 < 0.1 Concentration Fluoranthene **✓** П 4.31 < 5E-05 < 5E-05 < 5E-05 (206-44-0)kg/day Mass < 0.1 < 0.1 < 0.1 ug/L Concentration Fluorene

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4.32

(86-73-7)

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V

Mass

kg/day

< 5E-05

< 5E-05

< 5E-05

TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE			OXIC POLLUTAN	TS (40 CF	R 122.21(g)(7)	(v)) ¹				
				or Absence ck one)				Effl	uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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			✓	Concentration	ug/L	< 10	< 10	< 10	1		
4.55	(118-74-1)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.34	Hexachlorobutadiene			✓	Concentration	ug/L	< 10	< 10	< 10	1		
7.07	(87-68-3)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.35	Hexachlorocyclopentadiene			✓	Concentration	ug/L	< 10	< 10	< 10	1		
4.55	(77-47-4)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.36	Hexachloroethane				Concentration	ug/L	< 10	< 10	< 10	1		
4.30	(67-72-1)			✓	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.07	Indeno (1,2,3-cd) pyrene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.37	(193-39-5)	⊔	✓		Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
4.00	Isophorone				Concentration	ug/L	< 10	< 10	< 10	1		
4.38	(78-59-1)			✓	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
4.00	Naphthalene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.39	(91-20-3)		✓		Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
	Nitrobenzene				Concentration	ug/L	< 10	< 10	< 10	1		
4.40	(98-95-3)			<u>~</u>	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
	N-nitrosodimethylamine				Concentration	ug/L	< 10	< 10	< 10	1		
4.41	(62-75-9)			✓	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
	N-nitrosodi-n-propylamine				Concentration	ug/L	< 10	< 10	< 10	1		
4.42	(621-64-7)			✓	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
	N-nitrosodiphenylamine				Concentration	ug/L	< 10	< 10	< 10	1		
4.43	(86-30-6)			•	Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
	Phenanthrene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.44	(85-01-8)			✓	Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			
	Pyrene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.45	(129-00-0)			•	Mass	kg/day	< 5E-05	< 5E-05	< 5E-05			

				or Absence ok one)				Effl	uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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			V	Concentration	ug/L	< 10	< 10	< 10	1		
	(120-82-1)				Mass	kg/day	< 5E-03	< 5E-03	< 5E-03			
Section	on 5. Organic Toxic Pollutants (G	C/MS Fract	on—Pestic	ides)		1//	< 0.0203	< 0.0203	< 0.0203	T1	I	
5.1	Aldrin			✓	Concentration	ug/L	< 1.37E-05	< 1.37E-05	< 1.37E-05			
	(309-00-2)				Mass	kg/day	< 0.0203	< 0.0203	< 0.0203	1		
5.2	α-BHC			✓	Concentration	ug/L	1		I			
	(319-84-6)				Mass	kg/day	< 1.37E-05	< 1.37E-05	< 1.37E-05			
5.3	β-ВНС			✓	Concentration	ug/L	< 0.0203	< 0.0203	< 0.0203	1		
	(319-85-7)				Mass	kg/day	< 1.37E-05	< 1.37E-05	< 1.37E-05			
5.4	ү-ВНС			✓	Concentration	ug/L	< 0.0203	< 0.0203	< 0.0203	1		
	(58-89-9)				Mass	kg/day	< 1.37E-05	< 1.37E-05	< 1.37E-05			
5.5	δ-BHC			✓	Concentration	ug/L	< 0.0203	< 0.0203	< 0.0203	1		
0.0	(319-86-8)				Mass	kg/day	< 1.37E-05	< 1.37E-05	< 1.37E-05			
5.6	Chlordane			✓	Concentration	ug/L	< 0.254	< 0.254	< 0.254	1		
0.0	(57-74-9)				Mass	kg/day	< 1.72E-04	< 1.72E-04	< 1.72E-04			
5.7	4,4'-DDT			✓	Concentration	ug/L	< 0.0406	< 0.0406	< 0.0406	1		
5.1	(50-29-3)				Mass	kg/day	< 2.74E-05	< 2.74E-05	< 2.74E-05			
5.8	4,4'-DDE			✓	Concentration	ug/L	< 0.0406	< 0.0406	< 0.0406	1		
0.0	(72-55-9)				Mass	kg/day	< 2.74E-05	< 2.74E-05	< 2.74E-05			
5.9	4,4'-DDD			✓	Concentration	ug/L	< 0.0406	< 0.0406	< 0.0406	1		
3.0	(72-54-8)				Mass	kg/day	< 2.74E-05	< 2.74E-05	< 2.74E-05			
5.10	Dieldrin			✓	Concentration	ug/L	< 0.0406	< 0.0406	< 0.0406	1		
0.10	(60-57-1)				Mass	kg/day	< 2.74E-05	< 2.74E-05	< 2.74E-05			
5.11	α-endosulfan			✓	Concentration	ug/L	< 0.0406	< 0.0406	< 0.0406	1		
0.11	(115-29-7)	"			Mass	kg/day	< 2.74E-05	< 2.74E-05	< 2.74E-05			

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))1 Presence or Absence Intake (check one) Effluent (optional) **Testina** Pollutant/Parameter Units Long-Term Long-Maximum Maximum **Believed** Believed Number Required Number (and CAS Number, if available) (specify) **Average** Term Daily Monthly **Present** Absent of of Daily Discharge **Discharge** Average **Analyses Analyses** Discharge (if available) Value (required) (if available) < 0.0203 < 0.0203 < 0.0203 Concentration ug/L β-endosulfan 5.12 **✓** (115-29-7)< 1.37F-05 < 1.37E-05 < 1.37F-05 kg/day Mass < 0.0406 < 0.0406 < 0.0406 ug/L Concentration Endosulfan sulfate 5.13 **V** (1031-07-8)< 2.74E-05 < 2.74E-05 < 2.74E-05 kg/day Mass < 0.0406 < 0.0406 < 0.0406 ug/L Concentration Endrin **✓** 5.14 < 2.74E-05 < 2.74E-05 < 2.74E-05 (72-20-8)kg/day Mass < 0.0406 < 0.0406 < 0.0406 ug/L Concentration Endrin aldehyde 5.15 **V** (7421-93-4)kg/day < 2.74E-05 < 2.74E-05 < 2.74E-05 Mass < 0.0203 < 0.0203 < 0.0203 ug/L Concentration Heptachlor **v** 5.16 < 1.37E-05 < 1.37E-05 < 1.37E-05 (76-44-8)kg/day Mass < 0.0203 < 0.0203 < 0.0203 Heptachlor epoxide ug/L Concentration П 5.17 ✓ (1024-57-3)< 1.37E-05 < 1.37E-05 < 1.37E-05 kg/day Mass < 0.507 < 0.507 < 0.507 PCB-1242 uq/L Concentration П **✓** 5.18 (53469-21-9) < 3.42E-04 < 3.42E-04 < 3.42E-04 kg/day Mass < 0.507 < 0.507 < 0.507 PCB-1254 ug/L Concentration **v** П 5.19 (11097-69-1)< 3.42E-04 < 3.42E-04 < 3.42E-04 kg/day Mass PCB-1221 ug/L < 0.507 < 0.507 < 0.507 Concentration П **✓** 5.20 (11104-28-2) < 3.42E-04 < 3.42E-04 < 3.42E-04 kg/day Mass < 0.507 < 0.507 < 0.507 ug/L PCB-1232 Concentration **V** П 5.21 (11141-16-5) < 3.42E-04 < 3.42E-04 < 3.42E-04 kg/day Mass < 0.507 < 0.507 < 0.507 PCB-1248 ug/L Concentration **~** П 5.22 (12672-29-6) < 3.42E-04 < 3.42E-04 < 3.42E-04 kg/day Mass ug/L < 0.507 < 0.507 < 0.507 PCB-1260 Concentration **✓** П 5.23 (11096-82-5) < 3.42E-04 < 3.42E-04 < 3.42E-04 kg/day Mass < 0.507 < 0.507 < 0.507 ug/L PCB-1016 Concentration **V** 5.24 (12674-11-2)< 3.42E-04 < 3.42E-04 < 3.42E-04 kg/day Mass

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		TN0002941	ermit Number		Facility Name lidge National Laborato	,	X01	utfall Number				ved 03/05/19 b. 2040-0004
TABL	E B. TOXIC METALS, CYANII	DE, TOTAL PHE	Presence	ORGANIC T or Absence ok one)	OXIC POLLUTAN	TS (40 CF)	R 122.21(g)(7)		uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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
E 25	Toxaphene				OOHOOHII diloh	< 0.507	< 0.507	< 0.507	1			
5.25	(8001-35-2)			~		kg/day	< 3.42E-04	< 3.42E-04	< 3.42E-04			

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).

	SLE C. CERTAIN CO	Presence o	r Absence				Efflu	ent		Intal	
	Pollutant	Believed	Believed	Units (specify		Maximum Daily	Maximum	Long-Term		(Option	nal)
		Present	Absent	(4,000)		Discharge (required)	Monthly Discharge (if available)	Average Daily Discharge (if available)	Number of Analyses	Average Value	Number of Analyses
	Check here if you be each pollutant.	elieve all polluta	ants on Table (C to be <i>present</i> in	your discha	rge from the noted	outfall. You need	<i>not</i> complete the "F	Presence or Abse	ence" column of T	able C for
	Check here if you be each pollutant.	elieve all polluta	ants on Table (C to be absent in y	our dischar	ge from the noted	outfall. You need n	ot complete the "Pr	resence or Abse	nce" column of Ta	ble C for
_	Bromide	✓		Concentration	mg/L	J 0.123	J 0.123	J 0.123	1		
1.	(24959-67-9)			Mass	kg/day	J 0.0688	J 0.0688	J 0.0688			
2.	Chlorine, total		•	Concentration	mg/L	< 0.05	< 0.05	< 0.05	3		
۷.	residual			Mass	kg/day	< 0.03	< 0.03	< 0.03			
3.	Color		✓	Concentration					0		
Э.	Coloi			Mass							
4.	Fecal coliform	✓		Concentration					0	See attachments	
4.	1 ecai comorm			Mass							
5.	Fluoride	✓		Concentration	mg/L	0.578	0.578	0.578	1		
<u>. </u>	(16984-48-8)			Mass	kg/day	0.324	0.324	0.324			
6	Nitrate-nitrite	/		Concentration	mg/L	44.3	40.78	18.29	166		
_	THE GLO THE ICO			Mass	kg/day	25.4	22.6	12.03			
7.	Nitrogen, total	✓		Concentration	mg/L	1.04	0.733	<j 0.358<="" td=""><td>56</td><td></td><td></td></j>	56		
	organic (as N)	•		Mass	kg/day	1.07	0.573	<j 0.2648<="" td=""><td></td><td></td><td></td></j>			
8.	Oil and grease	✓		Concentration	mg/L	J 4.88	J 4.88	J 4.88	1		
	-			Mass	kg/day	J 2.73	J 2.73	J 2.73	50		
9.	Phosphorus (as			Concentration	mg/L	4.83	4.83	2.27	56		
	P), total (7723-14-0)			Mass	kg/day	3.96 37.9	2.51 37.9	1.6 37.9			
10.	Sulfate (as SO ₄) (14808-79-8)	✓		Concentration	mg/L kg/day	21.2	21.2	21.2	1		
	(14008-79-8)			Mass	ng/uay	21.2	21.2	21.2	0		
11.	Sulfide (as S)		✓	Concentration					, , , , , , , , , , , , , , , , , , ,		
				Mass							

TAB	LE C. CERTAIN CO	NVENTIONAL	AND NON CO	NVENTIONAL PO	LLUTANT	S (40 CFR 122.21(g)(7)(vi)) ¹				
		Presence o					Efflu	ıent		Inta (Optio	
	Pollutant	Believed Present	Believed Absent	Units (specify))	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 SO₃)	V		Concentration					0		
12.	(14265-45-3)			Mass							
13.	Surfactants	✓		Concentration	mg/L	0.0885	0.0885	0.0885	1		
10.	Gariadianio	•		Mass	kg/day	0.0495	0.0495	0.0495			
14.	Aluminum, total	✓		Concentration	mg/L	0.0789	0.0762	< 0.0311	40		
14.	(7429-90-5)			Mass	kg/day	< 0.12	< 0.12	< 0.022			
15.	Barium, total	✓		Concentration	mg/L	0.0284	0.0273	0.022	40		
15.	(7440-39-3)	•		Mass	kg/day	0.036	0.0284	0.015			
16.	Boron, total	✓		Concentration	mg/L	0.556	0.556	0.0683	40		
10.	(7440-42-8)			Mass	kg/day	0.906	0.906	0.0582			
17.	Cobalt, total			Concentration	mg/L	< 3E-04	< 3E-04	< 2.91E-04	40		
17.	(7440-48-4)			Mass	kg/day	< 5E-04	3.1E-04	< 2.1E-04			
18.	Iron, total	✓		Concentration	mg/L	< 0.22	< 0.22	< 0.0594	42		
10.	(7439-89-6)			Mass	kg/day	< 0.36	< 0.36	< 0.0442			
19.	Magnesium, total			Concentration	mg/L	12.2	12.2	9.95	44		
19.	(7439-95-4)	✓		Mass	kg/day	18.3	18.3	7.02			
	Molybdenum,	✓		Concentration	mg/L	0.282	0.247	0.0635	42		
20.	total (7439-98-7)	V		Mass	kg/day	0.288	0.288	0.0439			
	Manganese, total			Concentration	mg/L	6.11E-03	4.54E-03	< 1.94E-03	42		
21.	(7439-96-5)	✓		Mass	kg/day	5.58E-03	< 4.6E-03	< 1.4E-03			
	Tin total			Concentration	mg/L	< 2E-03	< 2E-03	< 1.1E-03	40		
22.	Tin, total (7440-31-5)		Mass	kg/day	< 3E-03	< 3E-03	< 7.9E-04				
	Titanium, total			Concentration	mg/L	0.0378	0.0378	< 5.10E-03	40		
23.	(7440-32-6)	✓		Mass	kg/day	0.0616	0.0616	< 4.10E-03			

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
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TAB	LE C. CERTAIN CO			NVENTIONAL PO	LLUTANTS	(40 CFR 122.21(c	g)(7)(vi)) ¹				
		Presence o		Units (specify)			Efflu		Intake (Optional)		
	Pollutant	Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24.	Radioactivity										
	Alpha total	•		Concentration	pCi/L	8.3	8.3	3.44	49		
	Alpha, total			Mass							
	Data total	✓		Concentration	pCi/L	530	530	214.1	49		
	Beta, total	V		Mass							
	Dadium tatal	✓		Concentration	pCi/L	< 0.0242	< 0.0242	< 0.0242	1		
	Radium, total	•		Mass							
	Dadium 200 tatal			Concentration	pCi/L	< 0.278	< 0.278	< 0.278	1		
	Radium 226, total	✓		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).

EPA Identif	ication Number	NPDES Permit Number	Facility	Outfall Number	7			
TN1890090003		TN0002941	Oak Ridge National Laboratory	X01				
ATTACHM	ENTS							
Section		Description		Information				
Table C	4. Fecal coliform (tes	st results presented here are E. Coli)	Results for Escherichia coli Max daily discharge: >2420 col/100mL Max monthly discharge: >30 col/100mL Long-term average: <>4 col/100mL No. of analyses: 213					
9.2	Biological Toxicity Tests		,	IC25 Static Renewal 7 Day Chronic Ceriodaphnia and Pimephales promelas, NPDES Permit requirement, Yes, Submitted 1/28/2022; IC25 Static Renewal 7 Day Chronic Ceriodaphnia and Pimephales promelas, NPDES Permit requirement, Yes, Submitted 1/31/2023				

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TAB	LE D. CERTAIN HAZARDOUS SUBSTANC			.21(g)(7)(vii))¹	
	Dellistent	Presence of (check			Available Quantitative Data
	Pollutant	Believed Believed Present Absent		Reason Pollutant Believed Present in Discharge	(specify units)
1.	Asbestos	7		Occasional acceptance of trace amounts in STP influent	None
2.	Acetaldehyde		V		
3.	Allyl alcohol		V		
4.	Allyl chloride		V		
5.	Amyl acetate		V		
6.	Aniline		V		
7.	Benzonitrile		V		
8.	Benzyl chloride		V		
9.	Butyl acetate		V		
10.	Butylamine				
11.	Captan		V		
12.	Carbaryl		V		
13.	Carbofuran		✓		
14.	Carbon disulfide	V		Occasional acceptance of trace amounts in STP influent	Below detection level n = 9 (ND)
15.	Chlorpyrifos		V		
16.	Coumaphos		V		
17.	Cresol	V		Occasional acceptance of trace amounts in STP influent	Below detection level n = 1 (ND)
18.	Crotonaldehyde		V		
19.	Cyclohexane	7		Occasional acceptance of trace amounts in STP influent	Below detection level n = 4 (ND)

EPA Identification Number NPDES Permit Number Facility Name Outfall Number Form Approved 03/05/19
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TAB	LE D. CERTAIN HAZARDOUS SUBSTANC			.21(g)(7)(vii))¹	
	D.II. ((Presence or (check			Available Quantitative Data
	Pollutant	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge	(specify units)
20.	2,4-D (2,4-dichlorophenoxyacetic acid)		7		
21.	Diazinon		V		
22.	Dicamba		✓		
23.	Dichlobenil		V		
24.	Dichlone				
25.	2,2-dichloropropionic acid		V		
26.	Dichlorvos				
27.	Diethyl amine	V		Occasional acceptance of trace amounts in STP influent	None
28.	Dimethyl amine				
29.	Dintrobenzene				
30.	Diquat				
31.	Disulfoton				
32.	Diuron		✓		
33.	Epichlorohydrin				
34.	Ethion		✓		
35.	Ethylene diamine		7		
36.	Ethylene dibromide				
37.	Formaldehyde	7		Occasional acceptance of trace amounts in STP influent	None
38.	Furfural		V		

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TAB	LE D. CERTAIN HAZARDOUS SUBSTANC			.21(g)(7)(vii))¹	
	D.II. (. (Presence or (check			Available Quantitative Data
	Pollutant	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge	(specify units)
39.	Guthion		7		
40.	Isoprene		V		
41.	Isopropanolamine		7		
42.	Kelthane		V		
43.	Kepone		7		
44.	Malathion		V		
45.	Mercaptodimethur		V		
46.	Methoxychlor		V		
47.	Methyl mercaptan		V		
48.	Methyl methacrylate		V		
49.	Methyl parathion		V		
50.	Mevinphos		V		
51.	Mexacarbate		V		
52.	Monoethyl amine			Occasional acceptance of trace amounts in STP influent	None
53.	Monomethyl amine		V		
54.	Naled		V		
55.	Naphthenic acid		V		
56.	Nitrotoluene		V		
57.	Parathion		V		

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	Pollutant	Presence o (check	one)	Decem Dellutent Delieued Dresent in Dischause	Available Quantitative Data
	i ollatalit	Believed Believed Present Absent		Reason Pollutant Believed Present in Discharge	(specify units)
58.	Phenolsulfonate		V		
59.	Phosgene				
60.	Propargite		V		
61.	Propylene oxide		V		
62.	Pyrethrins		V		
63.	Quinoline		Ø		
64.	Resorcinol		V		
65.	Strontium	7		Daily maximum 0.137 mg/L, Long-term average 0.115 mg/L	n = 40, all detects
66.	Strychnine		V		
67.	Styrene		V		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)		V		
69.	TDE (tetrachlorodiphenyl ethane)		V		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]		V		
71.	Trichlorofon		V		
72.	Triethanolamine				
73.	Triethylamine	V		Occasional acceptance of trace amounts in STP influent	None
74.	Trimethylamine	V		Occasional acceptance of trace amounts in STP influent	None
75.	Uranium	7		Daily maximum <0.001 mg/L, Long-term average <0.0002 mg/L	n = 39 (mix of prefixes)
76.	Vanadium	V		Detected before/within last 10 years STP	Below detection level n = 40 (ND

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TAB	TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii)) ¹										
	Pollutant	Presence or (check		David Dilla (Dilla I David (1 Dilla I	Available Quantitative Data (specify units)						
	i onutunt	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge							
77.	Vinyl acetate		7								
78.	Xylene	7		Occasional acceptance of trace amounts in STP influent	Below detection level n = 9 (ND)						
79.	Xylenol										
80.	Zirconium	7		Detected before/within last 10 years STP	Below detection level n = 40 (ND)						

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 TN1890090003	NPDES Permit Number TN0002941		Oak I	Facility Name Ridge National Laboratory	Form Approved 03/05/19 OMB No. 2040-0004						
TABLE E. 2,3,7,8 TETRACHLORO	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	Preser Abse (check Believed Present	nce		Results of Screening Proc	edure					
2,3,7,8-TCDD			V								

EPA Form 3510-2C (Revised 3-19)

Form 2C	Ω	CDΛ	U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater									
NPDES		EPA	EXISTING MANUFACTU				-			OPERATION	ONS	
SECTIO	N 1. OUT	FALL LOCAT	TON (40 CFR 122.21(g)(1))									
	1.1		mation on each of the facility's	outfalls in th	e table l	below.		,				
Outfall Location		Outfall Number	Receiving Water Name		Latitu	ıde			Longitude			
Loc		X12	White Oak Creek	35 °	55 ′	29.21 "	N	84	84° 18′ 53.54″ W			
utfall												
ō												
CECTIO	N O LINE	DD AVAIING (40 OED 422 24(-)(2))									
	N 2. LINE 2.1		40 CFR 122.21(g)(2)) tached a line drawing to this ap	nlication that	chowe	the water	r flow thro	yuah you	r facility w	ith a water		
Line Drawing	2.1		ee instructions for drawing requ									
Li Drav		✓ Yes	□ No									
SECTIO	N 3. AVE	RAGE FLOW	S AND TREATMENT (40 CFR	122.21(g)(3))							
	3.1	For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if										
		necessary.		**Outfall Number** X12								
			Outfall Number <u>^12</u> Operations Contributing to Flow									
			Operation	riow	Averag	e Flow						
		Industrial waster	waters generated from various researc	ch and	0.2	0.2505					mgd	
ent		development, or	perations, and CERLA remediation ac	tivities.	 							
eatm					+						mgd	
d Tr											mgd	
/s an											mgd	
Flow				Trea	tment l	Jnits						
Average Flows and Treatment		(include :	Description size, flow rate through each tre- retention time, etc.)	atment unit,			le from le 2C-1		Final Disposal of Solid or Liquid Wastes Other Than by Discharge			
		Coagulation, flo	cculation, sedimentation, multimedia fi	Itration, ion	2D,	1G, 1U, 1	Q, 2J					
		Chemical precip	itation, multimedia filtration, carbon ac eated effluent	Isorption,	2C, 1Q, 2A, 4C							
		Discharge to sur	rface water, pressure filtration, landfill		4A,	5R, 5Q						

EPA Identification Number NPDES Permit Number Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 3.1 **Outfall Number** cont. **Operations Contributing to Flow** Operation **Average Flow** mgd mgd mgd mgd **Treatment Units** Description Final Disposal of Solid or Code from (include size, flow rate through each treatment unit, **Liquid Wastes Other Than** Table 2C-1 by Discharge retention time, etc.) **Average Flows and Treatment Continued** **Outfall Number** **Operations Contributing to Flow** Operation Average Flow mgd mgd mgd mgd **Treatment Units** Description Final Disposal of Solid or Code from Liquid Wastes Other Than (include size, flow rate through each treatment unit, Table 2C-1 by Discharge retention time, etc.) 3.2 Are you applying for an NPDES permit to operate a privately owned treatment works? System Users No → SKIP to Section 4. 3.3 Have you attached a list that identifies each user of the treatment works? Yes No

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SECTIO	N 4. INTE	RMITTENT	FLOWS (40 CFR 122.2	1(g)(4))						
	4.1	Except for	storm runoff, leaks, or s	pills, are any discha	•			sonal?		
		Yes				SKIP to Section 5				
	4.2	Provide inf	formation on intermittent		or each applicable out Juency	fall. Attach additi Flow		ecessary. I		
		Outfall Number	Operation (list)	Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	Duration		
				days/week	months/year	mgd	mgd	days		
Flows				days/week	months/year	mgd	mgd	days		
Intermittent Flows				days/week	months/year	mgd	mgd	days		
				days/week	months/year	mgd	mgd	days		
				days/week	months/year	mgd	mgd	days		
				days/week	months/year	mgd	mgd	days		
				days/week	months/year	mgd	mgd	days		
				days/week	months/year	mgd .	mgd	days		
				days/week	months/year	mgd	mgd	days		
SECTIO			40 CFR 122.21(g)(5))	- (FL Os)	ordby FDA words Occ	the 201 et the 0	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	f:!!!h. O		
	5.1	Do any effluent limitation guidelines (ELGs) promulgated by EPA under Section 304 of the CWA apply to yo ✓ No → SKIP to Section 6.								
S	5.2			ollowing information on applicable ELGs.						
H)		El	LG Category		ELG Subcategory		Regulatory Citation			
Applicable ELGs										
Арр										
	5.3	Are any of	the applicable ELGs exp	oressed in terms of	production (or other m	neasure of opera	tion)?			
tions		☐ Yes				SKIP to Section 6				
mita	5.4	Outfall	actual measure of daily	<u> </u>				Unit of		
ed Li		Number	Opera	or Hav	leasure					
on-Bas										
Production-Based Limitations										
Ā										

EPA Identification Number NPDES Permit Number Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 SECTION 6. IMPROVEMENTS (40 CFR 122.21(g)(6)) 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? No → SKIP to Item 6.3. 6.2 Briefly identify each applicable project in the table below. Jpgrades and Improvements Affected **Final Compliance Dates** Brief Identification and Description of Outfalls Source(s) of **Project** (list outfall **Discharge Projected** Required number) See Appendix K - Improvements 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 Nο Not applicable SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(g)(7)) 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 Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of vour 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 Effluent and Intake Characteristics requested and attached the results to this application package? No; a waiver has been requested from my NPDES ✓ Yes permitting authority for all pollutants at all outfalls. Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories 7.4 listed in Exhibit 2C-3? (See end of instructions for exhibit.) **✓** 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? 76 List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3. Required GC/MS Fraction(s) **Primary Industry Category** (Check applicable boxes.) ∇olatile Acid Base/Neutral Pesticide Volatile Acid Base/Neutral Pesticide Volatile Acid Base/Neutral Pesticide

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	7.7		ecked "Testing Required" fo ons checked in Item 7.6?	or all requi	red pollutants ir	Sections 2 through	5 of Table B for each of the
		Yes				No	
	7.8	,	ecked "Believed Present" o g is not required?	r "Believed	d Absent" for all		Sections 1 through 5 of Table B
	7.0	100		f 41 (Darker 4 Table	No	dele con de esce de alte ete el teretione de
	7.9	required or (2		required i	nformation for t		nich you have indicated testing is le B, pollutants that you have
	7.10		olicant qualify for a small bu	ısiness exe	emption under t		in the instructions?
pe	1.10		Note that you qualify at the then SKIP to Item 7.12.		•	No No	
Effluent and Intake Characteristics Continued	7.11	determined to	ovided (1) quantitative data esting is required or (2) qua u have indicated are "Belie	antitative d	ata or an expla	nation for those Sec	
eris	Table C		ventional and Non-Conve	entional P	ollutants		
ract	7.12					Believed Absent" for	r all pollutants listed on Table C
ke Cha		for all outfalls Yes	6?			No	
nt and Inta	7.13	indirectly in a "Believed Pre	n ELG and/or (2) quantitati				at are limited either directly or for which you have indicated
iluei		✓ Yes				No	
<u>=</u>			ardous Substances and A		I Dun 47 4	D - L'	a all a alla tanta llata dia Tabla Dita
	7.14	all outfalls?	ilicated whether pollutants a	are "Belleve	ed Present or "	No No	r all pollutants listed in Table D for
	7.15		mnleted Table D by (1) des	cribing the	reasons the ar		are expected to be discharged
	7.15		oviding quantitative data, if			phicable politicants t	ile expected to be discribinged
		✓ Yes				No	
			achlorodibenzo-p-Dioxin (•		
	7.16		ility use or manufacture one e reason to believe that TCl				ed in the instructions, or do you
		☐ Yes →	Complete Table E.		✓	No → SKIP to Se	ction 8.
	7.17	Have you co	mpleted Table E by reportir	ng <i>qualitati</i>	ve data for TCI	DP? No	
SECTIO	N 8 LISE		ACTURED TOXICS (40 CF	FR 122 21	(a) (9))	140	
0201101	8.1		<u> </u>		.=, , ,,	substance used or	manufactured at your facility as
2 6	0.1		ate or final product or bypro		oon ponone or o		manaratar ou at your raomty ao
cture		✓ Yes				No → SKIP to S	ection 9.
ufac cs	8.2	List the pollu					
Used or Manufactured Toxics		1. These pollut Present" in	ants are listed as "Believed Fable B	4.		7.	
peg (2.		5.		8.	
Ü		3.		6.		9.	

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SECTIO	N 9 BIOI	LOGICAL TOXICITY TEST	S (40 CFR 122 21(a)(11))					
SECTIO	9.1	Do you have any knowled	dge or reason to believe that a	ny biological test for acute or chro or (2) on a receiving water in rela				
S		✓ Yes		No → SKIP to Section	on 10.			
Test	9.2	Identify the tests and thei	ir purposes below.					
oxicity		Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted			
Biological Toxicity Tests		IC25 Static Renewal 7 Day Chronic Ceriodaphnia and	NPDES Permit requirement	✓ Yes □ No	1/28/2020			
Biolog		IC25 Static Renewal 7 Day Chronic Ceriodaphnia and	NPDES Permit requirement	✓ Yes □ No	1/29/2021			
		IC25 Static Renewal 7 Day Chronic Ceriodaphnia	NPDES Permit - Required retest - See attachments	✓ Yes ☐ No	7/22/2021			
SECTIO	N 10. CO	NTRACT ANALYSES (40	CFR 122.21(g)(12))					
	10.1	Were any of the analyses	reported in Section 7 perform	ed by a contract laboratory or con	sulting firm?			
		✓ Yes		□ No → SKIP to Section	on 11.			
	10.2	Provide information for ea	ach contract laboratory or cons	sulting firm below.				
			Laboratory Number 1	Laboratory Number 2 Laboratory Number				
Ø		Name of laboratory/firm	Eurofins Environment Testing Northwest, LLC	GEL Laboratories, LLC				
Contract Analyses		Laboratory address	5755 8th St E, Tacoma, WA 98424	2040 Savage Road Charleston, SC (USA) 29407				
Cont		Phone number	(253) 922-2310	(843) 556-8171				
		Pollutant(s) analyzed	Mercury	Alpha Radium, Ammonia, Anions, BOD, COD, Cyanide, Phenol, PCBs, Nitrate/nitrite, Nitrogen, Oil & Grease, Surfactants, TOC, TSS, VOCs/SVOCs, Metals				
SECTIO	N 11. AD	I DITIONAL INFORMATION	I (40 CFR 122.21(g)(13))					
	11.1		ng authority requested addition	al information?				
lon		☐ Yes		✓ No → SKIP to Section	on 12.			
rmati	11.2	List the information reque	ested and attach it to this applic	cation.				
al Info		1.		4.				
Additional Information		2.		5.				
,		3.		6.				

SECTIO	N 12. CH	ECKL	IST AND CERTIFICATION STATEM	ENT (4	40 CFR 122.22(a) and (d))		
	12.1	For	olumn 1 below, mark the sections of fleach section, specify in Column 2 any not all applicants are required to com	y attacl	hments that you are enclosing	to alert the p	
			Column 1		·	olumn 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
ıţ					w/ request for a waiver and supporting information		w/ explanation for identical outfalls
ıtemer			Continue 7: Efficient and Intole		w/ small business exemption request	V	w/ other attachments
on Sta		V	Section 7: Effluent and Intake Characteristics	~	w/ Table A	✓	w/ Table B
ificati				✓	w/ Table C	✓	w/ Table D
d Cert				•	w/ Table E	✓	w/ analytical results as an attachment
ist and		•	Section 8: Used or Manufactured Toxics		w/ attachments		
Checklist and Certification Statement		V	Section 9: Biological Toxicity Tests	•	w/ attachments		
0		V	Section 10: Contract Analyses		w/ attachments		
		V	Section 11: Additional Information		w/ attachments		
		•	Section 12: Checklist and Certification Statement		w/ attachments		
	12.2	Cert	ification Statement				
		acco subi resp acco poss	tify under penalty of law that this doctordance with a system designed to as mitted. Based on my inquiry of the peronsible for gathering the information, urate, and complete. I am aware that is sibility of fine and imprisonment for kn	sure the rson or the int there a	nat qualified personnel proper r persons who manage the sys formation submitted is, to the i are significant penalties for sub	ly gather and stem, or those best of my kn omitting false	evaluate the information e persons directly owledge and belief, true,
		ı	ne (print or type first and last name) y O. Moore			Official title Manager, ORN	IL Site Office
		Sign	ature			Date signed	

TAE	BLE A. CONVENTIONAL AND N	ON CONVEN	TIONAL POLLUTA	NTS (40 CE	FR 122.21(a)(7)(i	ii)) ¹				
						Eff		Intake (Optional)		
	Pollutant	Waiver Requested (if applicable)	Units (specify)		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									
1.	Biochemical oxygen demand		Concentration	mg/L	< 4	< 4	< 4	1		
١.	(BOD₅)		Mass	kg/day	< 5	< 5	< 5			
2.	Chemical oxygen demand		Concentration	mg/L	J 10.3	J 10.3	J 10.3	1		
۷.	(COD)		Mass	kg/day	J 7.37	J 7.37	J 7.37			
_	Total consideration (TOO)		Concentration	mg/L	1.31	1.24	1.18	5		
3.	Total organic carbon (TOC)		Mass	kg/day	1.76	1.29	1.14			
	T-4-1 d- d li-d- (TOO)		Concentration	mg/L	< 2	< 2	< 2	17		
4.	Total suspended solids (TSS)		Mass	kg/day	< 3	< 3	< 2			
_	A		Concentration	mg/L	0.198	0.198	J 0.101	16		
5.	Ammonia (as N)		Mass	kg/day	0.238	0.238	J 0.104			
6.	Flow		Rate	mgd	0.5217	0.4124	0.2585	309		
7	Temperature (winter)		°C	°C	22.8	19.5	16.64	109		
7.	Temperature (summer)		°C	°C	27.9	27.23	24.78	105		
	pH (minimum)		Standard units	s.u.	6.4			212		
8.	pH (maximum)		Standard units	s.u.	8.5	7.9		212		

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).

TARI	E B. TOXIC METALS, CYANIDE,	TOTAL PHE	NOLS AND	ORGANIC T	OXIC POLLUTAN	TS (40 CE	 R 122 21(a)(7)	1(v))1				
IADL	EB. TOXIO METALO, OTAMBE,	TOTAL TIL	Presence	or Absence ck one)	Units (specify)			Effl		1	ake ional)	
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	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 sn 2 through 5 of this table. Note, h											
Section	on 1. Toxic Metals, Cyanide, and	Total Pheno	ols									
1.1	Antimony, total		•		Concentration	mg/L	< 1E-03	< 1E-03	< 8.76E-04	45		
1.1	(7440-36-0)				Mass	kg/day	< 2E-03	< 1E-03	< 8.5E-04			
1.2	Arsenic, total				Concentration	mg/L	0.0114	< 4.39E-03	< 2.25E-03	45		
1.2	(7440-38-2)		✓		Mass	kg/day	9.57E-03	< 4.4E-03	< 2.3E-03			
1.3	Beryllium, total		✓		Concentration	mg/L	< 6.86E-04	< 6.86E-04	< 2.01E-04	45		
1.5	(7440-41-7)				Mass	kg/day	< 4E-04	< 3.55E-04	< 2.0E-04			
1.4	Cadmium, total				Concentration	mg/L	< 7.82E-04	< 7.82E-04	< 2.95E-04	45	See Chapter	5
1.4	(7440-43-9)		✓		Mass	kg/day	< 6E-04	< 6.0E-04	< 3.03E-04			
1.5	Chromium, total				Concentration	mg/L	< 0.01	< 0.01	< 3.50E-03	45		
1.5	(7440-47-3)				Mass	kg/day	< 0.02	< 0.02	< 3.6E-03			
1.6	Copper, total				Concentration	mg/L	0.0121	0.0121	J< 2.54E-03	45		
1.0	(7440-50-8)				Mass	kg/day	< 0.02	< 0.02	J< 2.59E-03			
1.7	Lead, total				Concentration	mg/L	< 1.5E-03	< 1.5E-03	< 5.86E-04	45		
1.7	(7439-92-1)				Mass	kg/day	< 2.7E-03	< 2.7E-03	< 5.84E-04			
1.8	Mercury, total		✓		Concentration	mg/L	2.19E-04	2.19E-04	5.28E-05	17		
1.0	(7439-97-6)				Mass	kg/day	1.62E-04	1.62E-04	5.3E-05			
1.9	Nickel, total				Concentration	mg/L	< 0.073	< 0.073	< 8.13E-03	45	See Chapter	5
1.3	(7440-02-0)				Mass	kg/day	< 0.13	< 0.13	< 7.2E-03			
1.10	Selenium, total			✓	Concentration	mg/L	< 3.1E-03	< 3.1E-03	< 1.93E-03	45		
1.10	(7782-49-2)				Mass	kg/day	< 5.7E-03	< 5.7E-03	< 2.0E-03			
1.11	Silver, total		✓		Concentration	mg/L	< 6.19E-04	< 6.19E-04	< 2.88E-04	45		
	(7440-22-4)				Mass	kg/day	< 6E-04	< 4.52E-04	< 2.99E-04			

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TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTAN	ITS (40 CF	R 122.21(g)(7)		uent		Intake (optional)	
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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		✓		Concentration	mg/L	< 8.31E-04	< 8.31E-04	< 5.12E-04	45	See Chapter	5
1.12	(7440-28-0)				Mass	kg/day	< 1E-03	< 9E-04	< 5.4E-04			
1.13	Zinc, total		✓		Concentration	mg/L	0.228	0.0762	< 0.0176	45		
1.10	(7440-66-6)				Mass	kg/day	0.158	< 0.07	< 0.015			
1.14	Cyanide, total			✓	Concentration	mg/L	< 1.67E-03	< 1.67E-03	< 1.67E-03	36		
1.14	(57-12-5)				Mass	kg/day	< 3.15E-03	< 2.38E-03	< 1.77E-03			
1 15	Phenols, total		✓		Concentration	mg/L	0.0159	0.0159	0.0159	1		
1.15	Prieriois, total	"			Mass	kg/day	0.0114	0.0114	0.0114			
Section	on 2. Organic Toxic Pollutants (GC/MS Fract	ion—Volatil	e Compound	is)							
2.1	Acrolein			•	Concentration	ug/L	< 5	< 5	< 5	10		
2.1	(107-02-8)				Mass	kg/day	< 8E-03	< 6.0E-03	< 4.8E-03			
0.0	Acrylonitrile				Concentration	ug/L	< 5	< 5	< 5	10		
2.2	(107-13-1)			✓	Mass	kg/day	< 8E-03	< 6.0E-03	< 4.8E-03			
	Benzene				Concentration	ug/L	< 1	< 1	<1	10		
2.3	(71-43-2)			✓	Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
	Bromoform				Concentration	ug/L	J 2.9	J 2.9	J< 1.23	10		
2.4	(75-25-2)		✓		Mass	kg/day	J 2.8E-03	J 2.8E-03	J< 1E-03			
	Carbon tetrachloride				Concentration	ug/L	< 1	< 1	<1	10		
2.5	(56-23-5)			✓	Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
	Chlorobenzene				Concentration	ug/L	<1	<1	<1	10		
2.6	(108-90-7)			✓	Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
0.7	Chlorodibromomethane		✓		Concentration	ug/L	J 1.14	J 1.14	J 0.9816	10		
2.7	(124-48-1)				Mass	kg/day	J 1.58E-03	J 1.21E-03	J 9.17E-04			
	Chloroethane				Concentration	ug/L	< 1	< 1	<1	10		
2.8	(75-00-3)			✓	Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			

NPDES Permit Number Facility Name Outfall Number
41 Oak Ridge National Laboratory X12

EPA Identification Number

TN0002941

TN1890090003

TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE			OXIC POLLUTAN	TS (40 CF	R 122.21(g)(7)	(v)) ¹				
				or Absence ok one)				Effl	uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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			✓	Concentration	ug/L	< 5	< 5	< 5	10		
2.9	(110-75-8)				Mass	kg/day	< 8E-03	< 6.0E-03	< 4.8E-03			
2.10	Chloroform (67-66-3)		✓		Concentration	ug/L	J 7.96	J 7.77	J 7.08	10		
2.10	Officioloff (07-00-3)				Mass	kg/day	J 0.0108	J 8.47E-03	J 6.46E-03			
2.11	Dichlorobromomethane		>		Concentration	ug/L	J 1.96	J 1.8	J 1.56	10		
2.11	(75-27-4)				Mass	kg/day	J 2.67E-03	J 1.99E-03	J 1.44E-03			
2.12	1,1-dichloroethane				Concentration	ug/L	< 1	< 1	< 1	10		
2.12	(75-34-3)		✓		Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
2.13	1,2-dichloroethane			✓	Concentration	ug/L	<1	< 1	<1	10		
2.13	(107-06-2)				Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
0.44	1,1-dichloroethylene			✓	Concentration	ug/L	<1	< 1	<1	10		
2.14	(75-35-4)				Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
0.45	1,2-dichloropropane				Concentration	ug/L	<1	<1	<1	10		
2.15	(78-87-5)			✓	Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
0.40	1,3-dichloropropylene			✓	Concentration	ug/L	< 2	< 2	< 2	10		
2.16	(542-75-6)				Mass	kg/day	< 3E-03	< 2E-03	< 1.8E-03			
0.47	Ethylbenzene				Concentration	ug/L	<1	<1	<1	10		
2.17	(100-41-4)			✓	Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
0.40	Methyl bromide			✓	Concentration	ug/L	< 1	<1	<1	10		
2.18	(74-83-9)				Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
0.40	Methyl chloride				Concentration	ug/L	< 1	< 1	< 1	10		
2.19	(74-87-3)			✓	Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
0.00	Methylene chloride		✓		Concentration	ug/L	J 5.86	<j 3.29<="" td=""><td><j 2.48<="" td=""><td>10</td><td></td><td></td></j></td></j>	<j 2.48<="" td=""><td>10</td><td></td><td></td></j>	10		
2.20	(75-09-2)		~		Mass	kg/day	J 8.90E-03	<j 4.0e-03<="" td=""><td><j 2.5e-03<="" td=""><td></td><td></td><td></td></j></td></j>	<j 2.5e-03<="" td=""><td></td><td></td><td></td></j>			
0.04	1,1,2,2- tetrachloroethane				Concentration	ug/L	<1	< 1	<1	10		
2.21	(79-34-5)			✓	Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			

	E B. TOXIC METALS, CYANIDE,	Pr					(Effluent				
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	(specity)		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			✓	Concentration	ug/L	<1	<1	< 1	10		
	(127-18-4)				Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
2.23	Toluene		✓		Concentration	ug/L	<1	<1	<j 0.9766<="" td=""><td>10</td><td></td><td></td></j>	10		
	(108-88-3)				Mass	kg/day	< 2E-03	< 1E-03	<j 9e-04<="" td=""><td>10</td><td></td><td></td></j>	10		
2.24	1,2-trans-dichloroethylene			✓	Concentration	ug/L	<1	<1	<1	10		
	(156-60-5)				Mass	kg/day	< 2E-03	< 1E-03	< 1E-03	10		
2.25	1,1,1-trichloroethane			✓	Concentration	ug/L	<1	<1	<1	10		
	(71-55-6)				Mass	kg/day	< 2E-03	< 1E-03	< 1E-03	40		
2.26	1,1,2-trichloroethane			✓	Concentration	ug/L	< 1	<1	< 1	10		
	(79-00-5)				Mass	kg/day	< 2E-03	< 1E-03	< 1E-03	10		
2.27	Trichloroethylene		✓		Concentration	ug/L	<1	<1	<1	10		
	(79-01-6)				Mass	kg/day	< 2E-03	< 1E-03	< 1E-03	40		
2.28	Vinyl chloride			✓	Concentration	ug/L	< 1	<1	<1	10		
0	(75-01-4)	-			Mass	kg/day	< 2E-03	< 1E-03	< 1E-03			
Section	on 3. Organic Toxic Pollutants (G	C/IVIS Fract	on—Acia C	ompounas)	Concentration	ug/L	< 10.7	< 10.7	< 10.7	<u> </u>	Ι	
3.1	2-chlorophenol (95-57-8)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
	,				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
3.2	2,4-dichlorophenol (120-83-2)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
	,				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
3.3	2,4-dimethylphenol (105-67-9)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
	4,6-dinitro-o-cresol				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
3.4	(534-52-1)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
	2,4-dinitrophenol				Concentration	ug/L	< 21.4	< 21.4	< 21.4	1		
3.5	(51-28-5)			✓	Mass	kg/day	< 0.0176	< 0.0176	< 0.0176			

	B. TOXIC METALS, CYANIDE, TOTAL PHEN		Presence	or Absence ck one)					ake ional)			
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	(specify)		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			>	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
0.0	(88-75-5)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
3.7	4-nitrophenol			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
0.7	(100-02-7)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
3.8	p-chloro-m-cresol			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
	(59-50-7)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
3.9	Pentachlorophenol			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
0.0	(87-86-5)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
3.10	Phenol		✓		Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
3.10	(108-95-2)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
3.11	2,4,6-trichlorophenol			>	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
3.11	(88-05-2)			•	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
Section	on 4. Organic Toxic Pollutants (G	C/MS Fract	on—Base /	Neutral Com	pounds)							
4.1	Acenaphthene		✓		Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.1	(83-32-9)				Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.2	Acenaphthylene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.2	(208-96-8)				Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.3	Anthracene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.5	(120-12-7)				Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.4	Benzidine			>	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.4	(92-87-5)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.5	Benzo (a) anthracene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.5	(56-55-3)			✓	Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.6	Benzo (a) pyrene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.0	(50-32-8)			_	Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			

NPDES Permit Number Facility Name Outfall Number
TN0002941 Oak Ridge National Laboratory X12

EPA Identification Number

TN1890090003

IABL	E B. TOXIC METALS, CYANIDE,	TOTALTIL	Presence	or Absence ck one)	Units (specify)			Intake (optional)				
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	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			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.7	(205-99-2)				Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.8	Benzo (ghi) perylene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.0	(191-24-2)				Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.9	Benzo (k) fluoranthene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.5	(207-08-9)		<u>.</u>		Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.10	Bis (2-chloroethoxy) methane			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.10	(111-91-1)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.11	Bis (2-chloroethyl) ether			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.11	(111-44-4)			•	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.12	Bis (2-chloroisopropyl) ether			•	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.12	(102-80-1)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.13	Bis (2-ethylhexyl) phthalate		\		Concentration	ug/L	< 1.07	< 1.07	< 1.07	1		
4.13	(117-81-7)				Mass	kg/day	< 8.79E-04	< 8.79E-04	< 8.79E-04			
4.14	4-bromophenyl phenyl ether			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.14	(101-55-3)			V	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.45	Butyl benzyl phthalate				Concentration	ug/L	< 1.07	< 1.07	< 1.07	1		
4.15	(85-68-7)			✓	Mass	kg/day	< 8.79E-04	< 8.79E-04	< 8.79E-04			
4.16	2-chloronaphthalene			y	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.16	(91-58-7)				Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.47	4-chlorophenyl phenyl ether				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.17	(7005-72-3)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.40	Chrysene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.18	(218-01-9)				Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.46	Dibenzo (a,h) anthracene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.19	(53-70-3)			✓	Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			

Facility Name Outfall Number
Oak Ridge National Laboratory X12

EPA Identification Number

TN1890090003

NPDES Permit Number

TN0002941

TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE	NOLS, AND	ORGANIC T	OXIC POLLUTAN	TS (40 CF	R 122.21(g)(7)	(v)) ¹				
	,		Presence	or Absence ck one)					uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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		>		Concentration	ug/L	<1	< 1	<1	4		
4.20	(95-50-1)				Mass	kg/day	< 8E-04	< 7.0E-04	< 7.0E-04			
4.21	1,3-dichlorobenzene			✓	Concentration	ug/L	<1	< 1	<1	4		
4.21	(541-73-1)				Mass	kg/day	< 8E-04	< 7.0E-04	< 7.0E-04			
4.22	1,4-dichlorobenzene			✓	Concentration	ug/L	<1	<1	<1	4		
4.22	(106-46-7)				Mass	kg/day	< 8E-04	< 7.0E-04	< 7.0E-04			
4.23	3,3-dichlorobenzidine			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.23	(91-94-1)			>	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.24	Diethyl phthalate		>		Concentration	ug/L	< 1.07	< 1.07	< 1.07	1		
4.24	(84-66-2)		•		Mass	kg/day	< 8.79E-04	< 8.79E-04	< 8.79E-04			
4.25	Dimethyl phthalate		✓		Concentration	ug/L	< 1.07	< 1.07	< 1.07	1		
4.25	(131-11-3)	"	•		Mass	kg/day	< 8.79E-04	< 8.79E-04	< 8.79E-04			
4.26	Di-n-butyl phthalate				Concentration	ug/L	< 1.07	< 1.07	< 1.07	1		
4.26	(84-74-2)	"	✓		Mass	kg/day	< 8.79E-04	< 8.79E-04	< 8.79E-04			
4.27	2,4-dinitrotoluene			V	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.27	(121-14-2)			V	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.00	2,6-dinitrotoluene				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.28	(606-20-2)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.29	Di-n-octyl phthalate				Concentration	ug/L	< 1.07	< 1.07	< 1.07	1		
4.29	(117-84-0)			✓	Mass	kg/day	< 8.79E-04	< 8.79E-04	< 8.79E-04			
4.00	1,2-Diphenylhydrazine				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.30	(as azobenzene) (122-66-7)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.24	Fluoranthene		✓		Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.31	(206-44-0)		•		Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.00	Fluorene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.32	(86-73-7)		✓		Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			

NPDES Permit Number Facility Name **EPA Identification Number** Outfall Number Oak Ridge National Laboratory X12 TN0002941

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TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE			OXIC POLLUTAN	TS (40 CF	R 122.21(g)(7)	(v)) ¹				
				or Absence ok one)				Effl	uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.55	(118-74-1)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.34	Hexachlorobutadiene			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.04	(87-68-3)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.35	Hexachlorocyclopentadiene			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.55	(77-47-4)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.36	Hexachloroethane				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.50	(67-72-1)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.37	Indeno (1,2,3-cd) pyrene			✓	Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.37	(193-39-5)				Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.38	Isophorone			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.30	(78-59-1)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.39	Naphthalene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.39	(91-20-3)	"		✓	Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4.40	Nitrobenzene			✓	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.40	(98-95-3)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4 44	N-nitrosodimethylamine				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.41	(62-75-9)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
4.40	N-nitrosodi-n-propylamine				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.42	(621-64-7)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
	N-nitrosodiphenylamine				Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
4.43	(86-30-6)			✓	Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
	Phenanthrene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.44	(85-01-8)			✓	Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			
4 45	Pyrene				Concentration	ug/L	< 0.1	< 0.1	< 0.1	1		
4.45	(129-00-0)		✓		Mass	kg/day	< 8E-05	< 8E-05	< 8E-05			

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				or Absence ok one)				Effl	uent			ake ional)
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		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			V	Concentration	ug/L	< 10.7	< 10.7	< 10.7	1		
	(120-82-1)				Mass	kg/day	< 8.79E-03	< 8.79E-03	< 8.79E-03			
Section	on 5. Organic Toxic Pollutants (G	C/MS Fract	ion—Pestici	ides)	l	ug/L	< 0.0202	< 0.0202	< 0.0202	T1	Ι	
5.1	Aldrin (309-00-2)			✓	Concentration	kg/day	< 1.27E-05	< 1.27E-05	< 1.27E-05			
	,		_		Mass	ug/L	< 0.0202	< 0.0202	< 0.0202	1		
5.2	α-BHC (319-84-6)			✓	Concentration	kg/day	< 1.27E-05	< 1.27E-05	< 1.27E-05	'		
	,				Mass	ug/L	< 0.0202	< 0.0202	< 0.0202	1		
5.3	β-BHC (319-85-7)			1 I 🕡 🗕	Concentration	kg/day	< 1.27E-05	< 1.27E-05	< 1.27E-05	'		
	, ,				Mass Concentration	ug/L	< 0.0202	< 0.0202	< 0.0202	1		
5.4	γ-BHC (58-89-9)				Mass	kg/day	< 1.27E-05	< 1.27E-05	< 1.27E-05			
	δ-BHC				Concentration	ug/L	< 0.0202	< 0.0202	< 0.0202	1		
5.5	(319-86-8)			✓	Mass	kg/day	< 1.27E-05	< 1.27E-05	< 1.27E-05			
	Chlordane				Concentration	ug/L	< 0.252	< 0.252	< 0.252	1		
5.6	(57-74-9)			✓	Mass	kg/day	< 1.58E-04	< 1.58E-04	< 1.58E-04			
	4,4'-DDT				Concentration	ug/L	< 0.0403	< 0.0403	< 0.0403	1		
5.7	(50-29-3)			✓	Mass	kg/day	< 2.53E-05	< 2.53E-05	< 2.53E-05			
- O	4,4'-DDE				Concentration	ug/L	< 0.0403	< 0.0403	< 0.0403	1		
5.8	(72-55-9)			>	Mass	kg/day	< 2.53E-05	< 2.53E-05	< 2.53E-05			
5.9	4,4'-DDD			✓	Concentration	ug/L	< 0.0403	< 0.0403	< 0.0403	1		
J.3	(72-54-8)				Mass	kg/day	< 2.53E-05	< 2.53E-05	< 2.53E-05			
5.10	Dieldrin		✓		Concentration	ug/L	< 0.0403	< 0.0403	< 0.0403	1		
0.10	(60-57-1)				Mass	kg/day	< 2.53E-05	< 2.53E-05	< 2.53E-05			
5.11	α-endosulfan			✓	Concentration	ug/L	< 0.0403	< 0.0403	< 0.0403	1		
J. 1 1	(115-29-7)	"			Mass	kg/day	< 2.53E-05	< 2.53E-05	< 2.53E-05			

Facility Name Outfall Number
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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 Presence or Absence Intake (check one) Effluent (optional) **Testina** Pollutant/Parameter Units Long-Term Maximum Maximum Long-**Believed** Believed Number Required Number (and CAS Number, if available) (specify) **Average** Term Daily Monthly **Present** Absent of of Daily Discharge **Discharge** Average **Analyses Analyses** Discharge (if available) Value (required) (if available) < 0.0202 < 0.0202 < 0.0202 Concentration ug/L β-endosulfan 5.12 **✓** (115-29-7)< 1 27F-05 < 1.27E-05 < 1 27F-05 kg/day Mass < 0.0403 < 0.0403 < 0.0403 ug/L Concentration Endosulfan sulfate 5.13 **V** (1031-07-8)< 2.53E-05 < 2.53E-05 < 2.53E-05 kg/day Mass < 0.0403 < 0.0403 < 0.0403 ug/L Concentration Endrin **✓** 5.14 < 2.53E-05 < 2.53E-05 < 2.53E-05 (72-20-8)kg/day Mass < 0.0403 < 0.0403 < 0.0403 ug/L Concentration Endrin aldehyde 5.15 **V** (7421-93-4)kg/day < 2.53E-05 < 2.53E-05 < 2.53E-05 Mass < 0.0202 < 0.0202 < 0.0202 ug/L Concentration Heptachlor **v** 5.16 < 1.27E-05 < 1.27E-05 < 1.27E-05 (76-44-8)kg/day Mass < 0.0202 < 0.0202 < 0.0202 Heptachlor epoxide ug/L Concentration П 5.17 **✓** (1024-57-3)< 1.27E-05 < 1.27E-05 < 1.27E-05 kg/day Mass < 0.504 < 0.504 < 0.504 PCB-1242 uq/L Concentration П **✓** 5.18 (53469-21-9) < 3.16E-04 < 3.16E-04 < 3.16E-04 kg/day Mass < 0.504 < 0.504 < 0.504 PCB-1254 ug/L Concentration **v** П 5.19 (11097-69-1)< 3.16E-04 < 3.16E-04 < 3.16E-04 kg/day Mass ug/L < 0.504 < 0.504 < 0.504 PCB-1221 Concentration П **✓** 5.20 (11104-28-2) < 3.16E-04 < 3.16E-04 < 3.16E-04 kg/day Mass < 0.504 < 0.504 < 0.504 ug/L PCB-1232 Concentration **V** П 5.21 (11141-16-5) < 3.16E-04 < 3.16E-04 < 3.16E-04 kg/day Mass < 0.504 < 0.504 < 0.504 PCB-1248 ug/L Concentration **V** П 5.22 (12672-29-6)< 3.16E-04 < 3.16E-04 < 3.16E-04 kg/day Mass ug/L < 0.504 < 0.504 < 0.504 PCB-1260 Concentration **✓** 5.23 (11096-82-5) < 3.16E-04 < 3.16E-04 < 3.16E-04 kg/day Mass < 0.504 < 0.504 < 0.504 ug/L PCB-1016 Concentration **V** 5.24 (12674-11-2)< 3.16E-04 < 3.16E-04 < 3.16E-04 kg/day Mass

EPA Identification Number

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NPDES Permit Number

TN0002941

	EPA Identification Number NPDES Permit Number 190090003 NPDES Permit Number TN0002941 LE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND OR			Facility Name	,	X12	utfall Number				ved 03/05/19 b. 2040-0004	
IABL	Pres			or Absence ck one)	osence		Effluent				Intake (optional)	
	Pollutant/Parameter (and CAS Number, if available)	, 110941104 = = -		Believed Absent	Units (specify)		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			✓	Concentration	ug/L	< 0.504	< 0.504	< 0.504	1		
5.25	(8001-35-2)			>	Mass	kg/day	< 3.16E-04	< 3.16E-04	< 3.16E-04			

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).

EPA Identification Number NPDES Permit Number Facility Name Outfall Number
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TAE	BLE C. CERTAIN CO	NVENTIONAL	AND NON CO	NVENTIONAL PO	LLUTANTS	S (40 CFR 122.21(g)(7)(vi)) ¹				
		Presence o					Efflu	ent		Inta (Optio	
	Pollutant	Believed Present	Believed Absent	Units (specify)		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 be each pollutant.	elieve all polluta	ants on Table (Presence or Abse	ence" column of T	able C for					
	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.										
_	Bromide	✓		Concentration	mg/L	J 0.111	J 0.111	J 0.111	1		
1.	(24959-67-9)	•		Mass	kg/day	J 0.0794	J 0.0794	J 0.0794			
2.	Chlorine, total	✓		Concentration	mg/L	< 0.05	< 0.05	< 0.05	3		
۷.	residual	•		Mass	kg/day	< 0.04	< 0.04	< 0.04			
3.	Color			Concentration					0		
٥.	Coloi			Mass							
4.	Fecal coliform			Concentration					0		
4.	recar comorm			Mass							
5.	Fluoride	✓		Concentration	mg/L	0.44	0.44	0.44	1		
J.	(16984-48-8)	•		Mass	kg/day	0.31	0.31	0.31			
6	Nitrate-nitrite	✓		Concentration	mg/L	20.1	20.1	3.97	16		
	TVIII CIC TIII IIC			Mass	kg/day	21.2	21.2	4.02			
7.	Nitrogen, total			Concentration	mg/L	1.14	1.14	J< 0.1973	16		
<u> </u>	organic (as N)	✓		Mass	kg/day	0.948	0.948	J< 0.1903			
8.	Oil and grease	✓		Concentration	mg/L	1.9	1.9	< 1.71	19		
<u> </u>	Oil dild grodoo			Mass	kg/day	< 2.5	< 2.5	< 1.71			
9.	Phosphorus (as	✓		Concentration	mg/L	0.202	0.202	0.1155	6		
<u> </u>	P), total (7723-14-0)			Mass	kg/day	0.173	0.173	0.11			
10.	Sulfate (as SO ₄)	✓		Concentration	mg/L	172	172	172	1		
	(14808-79-8)			Mass	kg/day	123	123	123			<u> </u>
11.	Sulfide (as S)		✓	Concentration					0		
	Camao (ao o)			Mass							

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		Presence o					Efflu	ient		Inta (Optio	
	Pollutant	Believed Present	Believed Absent	Units (specify)		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					0		
13.	Surfactants	✓		Concentration	mg/L	J 0.0175	J 0.0175	J 0.0175	1		
13.	ouriaciants	•		Mass	kg/day	J 0.0125	J 0.0125	J 0.0125			
14.	Aluminum, total	✓		Concentration	mg/L	0.305	< 0.1136	< 0.0644	40		
14.	(7429-90-5)	•		Mass	kg/day	0.211	< 0.14	< 0.0655			
15.	Barium, total	✓		Concentration	mg/L	0.0221	0.0221	0.01	40		
15.	(7440-39-3)	•		Mass	kg/day	0.0203	0.0203	0.01			
,	Boron, total			Concentration	mg/L	0.219	0.151	0.0885	40		
16.	(7440-42-8)	✓	<u> </u>	Mass	kg/day	0.347	0.146	0.0899			
, ,	Cobalt, total	✓		Concentration	mg/L	4.76E-03	< 1.72E-03	< 4.37E-04	41		
17.	(7440-48-4)	•		Mass	kg/day	3.30E-03	< 1.2E-03	< 4.02E-04			
,	Iron, total			Concentration	mg/L	< 0.22	< 0.22	< 0.0614	43		
18.	(7439-89-6)	✓		Mass	kg/day	< 0.4	< 0.4	< 0.0637			
,,	Magnesium, total			Concentration	mg/L	6.84	6.84	3.44	44		
19.	(7439-95-4)	✓		Mass	kg/day	9.7	9.7	3.49			
	Molybdenum,			Concentration	mg/L	0.0118	0.0118	< 5.97E-03	43		
20.	total (7439-98-7)	✓		Mass	kg/day	0.0168	0.011	< 6.31E-03			
\dashv	Manganese, total			Concentration	mg/L	0.0384	< 0.0127	< 2.28E-03	43		
21.	(7439-96-5)	✓		Mass	kg/day	0.0266	< 8.64E-03	< 1.9E-03			
\neg	Tin, total			Concentration	mg/L	< 2E-03	< 2E-03	< 1.1E-03	40		
22.	(7440-31-5)	✓		Mass	kg/day	< 4E-03	< 4E-03	< 1.1E-03			
	Titanium, total			Concentration	mg/L	0.0247	0.0247	< 3.74E-03	40		
23.	(7440-32-6)			Mass	kg/day	0.0341	0.0341	< 3.54E-03			

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	Presence or Ab (check one)						Efflu	ient		Intake (Optional)								
	Pollutant	Believed Present	Believed Absent	Units (specify)		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses							
24.	Radioactivity																	
	Alpha total	•				Concentration	pCi/L	150	150	23.9	49							
	Alpha, total			Mass														
	Poto total	✓		Concentration	pCi/L	2500	2500	629.31	49									
	Beta, total	V		Mass														
	Dadium tatal	✓									Concentration	pCi/L	< 0.524	< 0.524	< 0.524	1		
	Radium, total	•		Mass														
	Dadi: ::: 200 tatal	dium 226, total		Concentration	pCi/L	< 0.0328	< 0.0328	< 0.0328	1									
	Kadium 226, total			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).

EPA Identification Number TN1890090003		NPDES Permit Number TN0002941	Facility Oak Ridge National Laboratory	Outfall Number X12				
ATTACHMENTS Section		Description		Information				
9.2	9.2 Biological Toxicity Tests		IC25 Static Renewal 7 Day Chronic Ceriodaphnia and Pimephales promelas, NPDES Permit requirement, Yes, Submitted 1/28/2022; IC25 Static Renewal 7 Day Chronic Ceriodaphnia and Pimephales promelas, NPDES Permit requirement, Yes, Submitted 1/31/2023					

TAB	TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii)) ¹												
	Pollutant	Presence or (check			Available Quantitative Data								
	Pollutant	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge	(specify units)								
1.	Asbestos		7										
2.	Acetaldehyde		V										
3.	Allyl alcohol		✓										
4.	Allyl chloride		V										
5.	Amyl acetate												
6.	Aniline		7										
7.	Benzonitrile		V										
8.	Benzyl chloride		7										
9.	Butyl acetate		7										
10.	Butylamine		7										
11.	Captan		7										
12.	Carbaryl		7										
13.	Carbofuran		7										
14.	Carbon disulfide		7										
15.	Chlorpyrifos		7										
16.	Coumaphos		7										
17.	Cresol		7										
18.	Crotonaldehyde		7										
19.	Cyclohexane		7										

TAB	TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii)) ¹												
	D.II. ((Presence or (check			Available Quantitative Data								
	Pollutant	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge	(specify units)								
20.	2,4-D (2,4-dichlorophenoxyacetic acid)		7										
21.	Diazinon		V										
22.	Dicamba		√										
23.	Dichlobenil		V										
24.	Dichlone		V										
25.	2,2-dichloropropionic acid		V										
26.	Dichlorvos		V										
27.	Diethyl amine		V										
28.	Dimethyl amine												
29.	Dintrobenzene												
30.	Diquat												
31.	Disulfoton		7										
32.	Diuron												
33.	Epichlorohydrin		V										
34.	Ethion		V										
35.	Ethylene diamine		7										
36.	Ethylene dibromide		7										
37.	Formaldehyde		7										
38.	Furfural		7										

TAB	ABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii)) ¹												
	Pollutant	Presence or (check			Available Quantitative Data								
	Pollutant	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge	(specify units)								
39.	Guthion		7										
40.	Isoprene		V										
41.	Isopropanolamine		√										
42.	Kelthane		V										
43.	Kepone		V										
44.	Malathion		V										
45.	Mercaptodimethur		V										
46.	Methoxychlor												
47.	Methyl mercaptan												
48.	Methyl methacrylate		V										
49.	Methyl parathion												
50.	Mevinphos												
51.	Mexacarbate		V										
52.	Monoethyl amine												
53.	Monomethyl amine												
54.	Naled		7										
55.	Naphthenic acid		7										
56.	Nitrotoluene		7										
57.	Parathion		7										

	Pollutant	Presence o	one)	Decem Dellutent Deligued Duscout in Dischause	Available Quantitative Data
	i ollutulit	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge	(specify units)
58.	Phenolsulfonate		V		
59.	Phosgene				
60.	Propargite		V		
61.	Propylene oxide		V		
62.	Pyrethrins		V		
63.	Quinoline		V		
64.	Resorcinol		V		
65.	Strontium	V		Daily maximum 0.198 mg/L, Long-term average 0.101 mg/L	n = 41, all detects
66.	Strychnine		V		
67.	Styrene		V		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)		V		
69.	TDE (tetrachlorodiphenyl ethane)				
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]		V		
71.	Trichlorofon		V		
72.	Triethanolamine				
73.	Triethylamine		V		
74.	Trimethylamine		V		
75.	Uranium	V		Daily maximum 0.019 mg/L, Long-term average <0.001 mg/L	n = 40 (mix of prefixes)
76.	Vanadium	V		Daily maximum 0.019 mg/L, Long-term average <0.005 mg/L	n = 40 (mix of prefixes)

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19						
TN1890090003	TN0002941	Oak Ridge National Laboratory	X12 - PWTC	OMB No. 2040-0004						
ARI E.D. CERTAIN HAZARDOUS SURSTANCES AND ASBESTOS (40 CER 122 21(a)(7)(vii))1										

•	TABLE D. CERTAIN HAZARDOUS SUBSTANC	CES AND ASBEST	OS (40 CFR 122.	.21(g)(7)(vii))¹		
	Pollutant	Presence or (check		Dancar Dally to the Dally and Dancard in Disabases	Available Quantitative Data	
	Tonatant	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge	(specify units)	
	77. Vinyl acetate		V			
ŀ	78. Xylene		V			
	79. Xylenol		V			
	80. Zirconium	V		Detected before/within last 10 years PWTC	Below detection level n = 40 (ND)	

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).

EPA Identification Number TN1890090003				Ridge National Laboratory Coutfall Number Form Approved 03/05/19 OMB No. 2040-0004							
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	Preser Abse (check Believed Present	nce		Results of Screening Proc	edure					
2,3,7,8-TCDD			V								

EPA Form 3510-2C (Revised 3-19)

Page 33

EXH	IBIT 2C-4. CWA HAZARDOUS SUBSTANC	ES			
	Dellutent	Presence of (check			Available Quantitative Data
	Pollutant	Believed Present	Believed Absent	Reason Pollutant Believed Present in Discharge	(specify units)
1.	Acetic Acid			Occasional acceptance of trace amounts in STP influent	Common lab substance/No data
2.	Ammonium Bisulfite	7		Occasional acceptance of trace amounts in STP influent	No data
3.	Ammonium Chloride	V		Occasional acceptance of trace amounts in STP & PWTC influent	Common lab substance/No data
4.	Ammonium Hydroxide	V		Occasional acceptance of trace amounts in STP & PWTC influent	Common lab substance/No data
5.	Ammonium Thiosulfate	V		Occasional acceptance of trace amounts in STP influent	No data
6.	Diethylamine	V		Occasional acceptance of trace amounts in STP influent	No data
7.	Ethylene Diaminetetracedic Acid EDTA	✓		Occasional acceptance of trace amounts in STP & PWTC influent	No data
8.	Ferric Nitrate	✓		Occasional acceptance of trace amounts in STP influent	No data
9.	Ferric Sulfate	✓		Occasional acceptance of trace amounts in STP influent	No data
10.	Fumaric Acid			Occasional acceptance of trace amounts in STP influent	No data
11.	Hydrochloric Acid	7		Occasional acceptance of trace amounts in STP & PWTC influent	Common lab substance/No data
12.	Hydrofluoric Acid	7		Occasional acceptance of trace amounts in STP influent	No data
13.	Monoethylamine			Occasional acceptance of trace amounts in STP influent	No data
14.	Monomethylamine	V		Occasional acceptance of trace amounts in STP influent	No data
15.	Nitric Acid	V		Occasional acceptance of trace amounts in STP & PWTC influent	Common lab substance/No data
16.	Phosphoric Acid	V		Occasional acceptance of trace amounts in STP & PWTC influent	Common lab substance/No data
17.	Sodium	7		Occasional acceptant of trace amounts in STP & PWTC influent	
18.	X01: Sodium	7		X01: Daily maximum 50.9 mg/L, Long-term average 34.6 mg/L	n=41
19.	X12: Sodium	7		X12: Daily maximum 219 mg/L, Long-term average 139.3 mg/L	n=41

EXH	IBIT 2C-4 CWA HAZARDOUS SUBSTANCE			
	Pollutant	Presence of (check Believed Present	Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
20.	Sodium Bisulfite	7	Occasional acceptance of trace amounts in STP influent	No data
21.	Sodium Hydroxide	7	Occasional acceptance of trace amounts in STP & PWTC influent	No data
22.	Sodium Hypochlorite	V	Occasional acceptance of trace amounts in STP & PWTC influent	No data
23.	Sodium Phosphate (Dibasic)	V	Occasional acceptance of trace amounts in STP & PWTC influent	No data
24.	Sodium Phosphate (Tribasic)	V	Occasional acceptance of trace amounts in STP influent	No data
25.	Sulfuric Acid	V	Occasional acceptance of trace amounts in PWTC influent	No data
26.	Uranyl Nitrate	V	Occasional acceptance of trace amounts in PWTC influent	No data
27.				
28.				
29.				
30.				
31.				
32.				
33.				
34.				
35.				
36.				
37.				
38.				

Chapter 6 – EPA Form 2E Summary

The EPA Application Form 2E is required for facilities that discharge non-process wastewaters. Non-process discharges at ORNL are comprised of once-thru cooling water, cooling tower blowdown, boiler blowdown, reverse osmosis (RO) reject water, heating ventilating and air conditioning (HVAC) condensates, steam condensates, foundation drains/sump discharges, utility sump discharges, and other facility non-process wastewaters. There are approximately 70 non-process outfalls at ORNL. The EPA 2E forms and associated data for these non-process wastewater outfalls are included immediately following this summary.

In the *General Instructions for Reporting, Sampling, and Analysis* section of the EPA Form 2E instructions, it mentions that existing dischargers "may report quantitative data that you have collected over the past 365 days if they are representative of your current operations." In an October 28, 2021, email from TDEC, TDEC gave ORNL permission to report quantitative data on these 2E forms that has been collected during the past 3 years if needed. ORNL has approximately 70 outfalls categorized as non-process outfalls, which is an unusually large number of outfalls which can make it much more challenging to obtain sampling data for the NPDES permit application in that limited time period. The analytical and field data utilized in the completion of the EPA 2E forms for this section were from sampling data obtained from July 4, 2020, to February 1, 2023. Data from representative outfalls were utilized in cases where no discharge was present at a given outfall during multiple sampling attempts, or where an outfall could not be sampled because it was inaccessible (e.g. some outfalls are below grade because they are located on a culverted reach of the receiving stream), or where the outfall is submerged by the receiving stream at baseflow conditions. In these cases, the representative outfall used for these 2E outfalls is noted in *Section 7 – Other Information* of the EPA 2E forms. In addition, the data reported on the 2E individual application forms uses consistent data qualifiers to those in the ORNL NPDES monthly DMRs: where >, <, and J (estimated value) are used.

Field parameter data (e.g., flow, pH, temperature, and chlorine) that are summarized on the Form 2E data tables were collected at each outfall beginning in 2021. For outfalls that are suspected to have little or no variability in water quality over a 24-hour period, ORNL requested and received permission to collect samples for laboratory analysis by grab sample rather than composite sample (permission was granted in the same October 28, 2021, email mentioned in the previous paragraph). Types of non-process discharges that were sampled by grab sample include condensate and foundation drain water. Types of discharges that were sampled by composite sample are cooling tower blowdown, boiler blowdown, and RO reject water. Per the EPA Form 2E instructions, chemical oxygen demand (COD) and total organic carbon (TOC) were sampled at outfalls where noncontact (once-thru cooling water and cooling tower blowdown) cooling water is discharged. Data on total residual chlorine/total residual oxidant (TRC/TRO) was also collected at those locations.

EPA Form 2E Section 3 – Waste Types

For those outfalls identified in Section 3.2 of the EPA 2E forms as having non-process wastewater discharges which include cooling tower blowdown, any additives that are used are reported in a separate table included in **Appendix L – Form 2E Cooling Water Additives**

EPA Form 2E Section 4 – Effluent Characteristics

There are some 2E outfalls with a potential thermal component (e.g., steam condensate) that discharge to a rock/grassy bank area near the creeks, instead of directly into a receiving stream. These low-flow components often infiltrate or cool significantly before mixing with the receiving stream flow. In addition, the flow rates of

these discharges tend to be very small in comparison to the stream flows. In these instances, in addition to the temperatures measured directly at the source and reported in Section 4.2 of the 2E forms, instream temperatures were monitored directly upstream and downstream of the discharge to demonstrate the negligible impacts on temperature in the receiving stream. This information is specifically noted on the 2E form under **Section 7** – **Other Information** for any outfalls with this configuration.

There may be additional monitoring of non-process outfalls as a part of other water monitoring programs occurring on-site, or even as a part of other NPDES permit requirements. These additional water monitoring efforts are briefly summarized in Chapter 3 – Water-Related Monitoring Programs at ORNL.

EPA Form 2E

Non-Process Outfalls

FORM 2E NPDES

TN1890090003



EPA Identification Number

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

MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH

NPDES			MANUFACTURIN	TURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO	N 1. OU	TFALL LOC	ATION (40 CFR 122.21(h)(1))										
	1.1	Provide inf	ormation on each of the facility	r's outfalls in the tab	le below.								
ation		Outfall Number	Receiving Water Name	Latitude			Long	itude					
Outfall Location		001	White Oak Creek	35 ° 55	20.54	N	84° 19′	4.57	W				
Outfal													
SECTIO	N 2 DIS	CHARGE D	ATE (40 CFR 122.21(h)(2))										
	2.1		new or existing discharger? (C	heck only one respo	nse)								
arge te		│ □ Nev	tina discharae	er -> SKIP to S	Section (3.							
Discharge Date	2.2		ur anticipated discharge date:		Exis								
	N 2 MA	CTE TYPES	//A0 CED 422 24/b\/2\\										
SECTIO	3.1		(40 CFR 122.21(h)(3)) s of wastes are currently being	discharged if you ar	an evicting	n discharger o	or will be discha	raed if	VOLL STA	2			
	0.1		arger? (Check all that apply.)	discriarged ir you ar	e an existing	g discriarger c	JI WIII DE GISCHE	iiged ii	you are	۱			
		☐ San	itary wastes				wastewater (de	escribe/	scribe/explain				
		Restaurant or cafeteria waste directly below) HVAC and steam condensate											
sed		☐ Nor	n-contact cooling water		HVAC	and steam con	densate			_			
Tyl	3.2	Does the fa	acility use cooling water additive	/es?						\neg			
Waste Types		☐ Yes				SKIP to Se	ction 4.						
>	3.3	List the co	oling water additives used and		osition.								
			Cooling Water Additive	S			ition of Additive vailable to you)	/es					
SECTIO			ARACTERISTICS (40 CFR 12		a balaw at a	ach of vour o	utfalla and attac	had tha	rooulto	to			
	4.1		completed monitoring for all pa ation package?	irameters in the table	e delow at ea	ach of your of	ilians and allac	nea trie	results	lo			
		✓ Yes		No; a waiver has									
	4.2		ata as requested in the table be	(attach waiver re			mation) -> SK	IP to Se	ection 5.				
(0	4.2	Provide da	ita as requested in the table be	Number of			Average Da	ilv	Source	-			
stice		Pa	rameter or Pollutant	Analyses	Disc	charge	Discharg	e	(use coo				
Effluent Characteristics				(if actual data reported)	(spec	cify units) Conc.	(specify units	onc.	per instruction	ons)			
lara		Biochemic	al oxygen demand (BOD₅)	1 /	.2 kg/day		< 0.2 kg/day	< 4 mg	/L	N/A			
t C		Total susp	ended solids (TSS)	1 J0	.07 kg/day	J 2.67 mg/L	J 0.07 kg/day	J 2.67	mg/L	N/A			
luen		Oil and gre	ease	1 < 0	.04 kg/day	< 1.63 mg/L	< 0.04 kg/day	< 1.63	mg/L	N/A			
Eff		Ammonia	(as N)	1 < 5	E-04 kg/day	< 0.017 mg/L	< 5E-04 kg/day	< 0.017	7 mg/L	N/A			
		Discharge	flow	8	0.01 mgd	•				N/A			
		pH (report	as range)	1	7.8 - 7.8 Stdl	Jnit				N/A			
		Temperatu	ure (winter)	3	15.6 degC					N/A			
		Temperatu	ıre (summer)	1	24.2 degC					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).

EP/	A Identifica	ation Number NPDES Permit Number		er		Facility Name		Form Approved 03/05/19				
TN1890090	0003		TN0002941		Oak Ridge Na	Oak Ridge National Laboratory OMB No. 2040-0004						
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it b	oe discharge	ed)?				
		☐ Yes			[✓ No →	SKIP to Ite	em 4.5.				
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructions							
				nber of	Maximu	•	Averag		Source			
		Parame	ter or Pollutant	Analyses Discharge (if actual data (specify units)			Disch (specify		(Use codes per			
					oorted)	Mass	Conc.	Mass	Conc.	Instructions.)		
		Fecal coliform										
- D		E. coli										
Effluent Characteristics Continued		Enterococci										
ont	4.5	Is chlorine used	(or will it be used)?									
) နာ		☐ Yes ✓ No → SKIP to Item 4.7.										
isti	4.6	Provide data as requested in the table below.1 (See instructions for specifics.)										
cter				nber of	Maximu		Averag		Source			
ara		Parame		alyses	Disch (specify		Disch		(use codes			
<u>ဂ</u>					tual data oorted)	Mass	Conc.	(specify Mass	Conc.	per instructions)		
nen		Total Residual (Chlorine				001101		001101	,		
E#E	4.7	Is non-contact cooling water discharged (or will it be discharged)?										
		☐ Yes					SKIP to Se	ection 5.				
	4.8	Provide data as	requested in the table be	low.1 (Se	e instructions							
				1	nber of	Maximu	•	Averag		Source		
		Parame	ter or Pollutant		alyses tual data	Disch (specify		Disch (specify		(use codes per		
				, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	n demand (COD)						•			
		Total organic ca	rbon (TOC)									
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))									
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	are any of t	he discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this		
		✓ Yes →	Complete this section.		[□ No →	SKIP to Se	ection 6.				
Flow	5.2		the frequency and duration									
ᇤ		Frequency and rate	e of discharge is variable depen	ding on sea	ason for conder	nsate discharge	s.See Section	4.2 for flowra	ate.			
SECTIO	N 6. TRE		EM (40 CFR 122.21(h)(6))									
E	6.1	1 '	any treatment system(s)	used (or	o be used).							
stel		N/A										
Sy												
nen												
Treatment System												
Ţ												
		I.										

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).

EPA Identification Number			NPDES Permit Number		Facility Name	Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	003		TN0002941	Oak Ridge	National Laboratory	OIVIB 110. 2040-0004			
SECTIO	N 7. OTH	ER INFORMATION	ON (40 CFR 122.21(h)(7))						
Other Information	de any information you believe the needed.								
SECTIO	8.1		ERTIFICATION STATEMENT (40 Colors) Iow, mark the sections of Form 2E is			hmitting with your application			
	0.1	For each section	n, specify in Column 2 any attachm	ents that					
		not all applicant	ts are required to provide attachmen	nts.		- l O			
			Column 1		C	olumn 2			
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)			
		Section 2:	Discharge Date		w/ attachments				
		Section 3:	Waste Types		w/ attachments				
ent		Section 4:	Effluent Characteristics		w/ attachments				
taten	✓ Section !		Section 5: Flow		w/ attachments				
tion S		Section 6:	Treatment System		w/ attachments				
rtifica		Section 7:	Other Information		w/ attachments				
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments				
st al	8.2	Certification S	tatement						
Checklist and 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.							
		. "	type first and last name)		Official title				
		Johnny O. Moore			Manager, ORNL Site Office				
		Signature			Date signed				

FORM ე⊏

TN1890090003



EPA Identification Number

2E NPDES	3	EPA	MANUFACTURIN	IG, COMMERCI DISCHARGE (ITIES V	VHICH		
SECTIO	N 1. OU	TFALL LOCATION	ON (40 CFR 122.21(h)(1))									
	1.1		ation on each of the facility	y's outfalls in the	table be	low.						
ıtion		Outfall Number	Receiving Water Name		Latitude			Long	jitude			
Outfall Location		005 Wh	te Oak Creek	35 °	55 2	1.12	N	84° 19′	0.75	" W		
SECTIO			(40 CFR 122.21(h)(2))									
ge	2.1	I — '	or existing discharger? (C	theck only one re		•						
Discharge Date			scharger		✓	Existi	ng discharge	er → SKIP to S	Section	3.		
Dis	2.2	Specify your a	nticipated discharge date:									
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))									
	3.1	What types of new discharge	wastes are currently being r? (Check all that apply.)	discharged if yo						•		
		—	/ wastes		✓			wastewater (d	escribe	/explain	l	
		Restau	ant or cafeteria waste				y below) oundation drain					
sed		☐ Non-co	ntact cooling water									
Waste Types	3.2	, ,										
aste		☐ Yes			✓	No 🗕	SKIP to Se	ction 4.				
>	3.3	List the cooling	water additives used and		ompositi	on.						
			Cooling Water Additive	es .				tion of Additivaliable to you)				
			()				(1.50					
SECTIO			ACTERISTICS (40 CFR 12									
	4.1	Have you com this application	pleted monitoring for all pa	arameters in the	table be	ow at ea	ch of your ou	itfalls and attac	ched th	e results	s to	
		l ``.	i package:	No: a waive	has bee	en reques	sted from mv	NPDES permi	ittina aı	uthority		
		✓ Yes		(attach waiv	er reque	st and ad	lditional infor	mation) → SK			5.	
	4.2	Provide data a	s requested in the table be					Avenere D	.!!	_		
tics		D		Number o Analyses			ım Daily harge	Average Da Discharg		Sour (use co		
eris		Param	eter or Pollutant	(if actual data		(specif	fy units)	(specify unit	s)	, per		
ract		Dischamical	ungan damand (DOD.)	reported)	0.04 kg/	Mass	Conc.	Mass C 0.04 kg/day	onc. 3.65	instruction	ons) N/A	
Cha			xygen demand (BOD ₅) ed solids (TSS)	1	0.04 kg/ 0.09 kg/	•	•	0.04 kg/day 0.09 kg/day	7.8 m	_	N/A	
Effluent Characteristics		Oil and grease	. ,	1	- 0.09 kg/ < 0.02 kg	-	_	< 0.09 kg/day		ig/L B mg/L	N/A	
Hilu		Ammonia (as		1	J 4E-04		•	J 4E-04 kg/day		63 mg/L	N/A	
		Discharge flow	,	16		-03 mgd		J IL OF NG/day	0.00	.co mg/L	N/A	
		pH (report as i		1		8 StdUnit					N/A	
		Temperature (3		.7 degC					N/A	
		Temperature (,	1		.4 degC					N/A	
1 Sampling	shall he co	' '	surrimer) to sufficiently sensitive test proce	1			SER 136 for the	analysis of nolluta	nte or no	llutant	. 1// 1	

Temperature (summer)

1 22.4 degC

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).

EP/	A Identifica	ation Number NPDES Permit Number				Facility Name		Form Approved 03/05/19				
TN1890090	0003		TN0002941		Oak Ridge N	lational Laborato	ory		OME	3 No. 2040-0004		
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ged (or will it	be discharg	ed)?				
		☐ Yes				✓ No =	SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be	low.1 (Se	.1 (See instructions for specifics.)							
				Number of			ım Daily	Averag		Source		
		Parame	ter or Pollutant		alyses ctual data		harge y units)	Disch		(Use codes per		
					ported)	Mass	Conc.	(specify units) Mass Conc.		Instructions.)		
		Fecal coliform										
pa		E. coli										
Effluent Characteristics Continued		Enterococci										
Con	4.5	Is chlorine used (or will it be used)?										
) so		Yes				✓ No -	SKIP to It	em 4.7.				
risti	4.6	Provide data as	requested in the table be							1		
acte				mber of		ım Daily	Averag		Source			
hara		Parame	ter or Pollutant		alyses ctual data		harge iy units)	Disch (specif	y units)	(use codes per		
ıt C					ported)	Mass	Conc.	Mass	Conc.	instructions)		
lnei		Total Residual Chlorine										
昰	4.7	Is non-contact cooling water discharged (or will it be discharged)?										
		☐ Yes					SKIP to Se	ection 5.				
	4.8	Provide data as	requested in the table be	T				A	- Daile			
		_		1	mber of alyses	1	ım Daily harge	Averag Disch		Source (use codes		
		Parameter or Pollutant			ctual data		y units)	(specif		per		
				re	eported)	Mass	Conc.	Mass	Conc.	instructions)		
			en demand (COD)									
		Total organic ca	, ,									
SECTIO		W (40 CFR 122.2				a P 1	<u> </u>	" 1" 0	· 4	10 (11)		
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any of	the discharge	es you desc	ribed in Se	ections 1 a	ind 3 of this		
		✓ Yes → (Complete this section.			□ No -	SKIP to S	ection 6.				
Flow	5.2		the frequency and duration									
正		This outfall is a four	ndation drain and discharges o	ccur from t	nis outfall infre	quently. See Se	ction 4.2 for flo	owrate.				
SECTIO	N 6. TRE		EM (40 CFR 122.21(h)(6))									
Ε	6.1	1 1	any treatment system(s)	used (or	to be used).							
ste		N/A										
t Sy												
Treatment System												
eatı												
Ė												

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).

	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
0003		TN0002941	Oak Ridge	National Laboratory	OIVIB NO. 2040-0004
N 7. OTH	ER INFORMATION	ON (40 CFR 122.21(h)(7))			
7.1	reviewer should	I consider in establishing permit lim vere made to sample a discharge from this	nitations. A outfall and f	ttach additional sheets as low was not found since prior to	s needed. o 2012 permit application. The data
N 8. CHE	CKLIST AND CE	ERTIFICATION STATEMENT (40 (CFR 122.2	2(a) and (d))	
8.1	In Column 1 be For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm is are required to provide attachme	that you ha	ave completed and are su you are enclosing to alert	the permitting authority. Note that
		Column 1		C	olumn 2
	Section 1:	Outfall Location		w/ attachments (e.g., re	esponses 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 Stateme	ent 🗌	w/ attachments	
8.2	I certify under p accordance with submitted. Base responsible for accurate, and c possibility of fin	enalty of law that this document and he asystem designed to assure that ed on my inquiry of the person or pugathering the information, the information omplete. I am aware that there are e and imprisonment for knowing vice	t qualified persons whe mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,
	N 7. OTH 7.1	N 7. OTHER INFORMATION 7.1 Use the space of reviewer should Multiple attempts we reported on this form of all applicant Section 1: Section 1: Section 2: Section 3: Section 4: Section 5: Section 6: Section 7: Section 7: Section 8: 8.2 Certification S I certify under procured accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted). Based responsible for accurate, and copossibility of fin Name (print or submitted).	N7. OTHER INFORMATION (40 CFR 122.21(h)(7)) 7.1 Use the space below to expand upon any of the al reviewer should consider in establishing permit lim Multiple attempts were made to sample a discharge from this reported on this form for this outfall were collected at represe For each section, specify in Column 2 any attachm not all applicants are required to provide attachmental applicants are required to provide attachmental section 2: Discharge Date Section 1: Outfall Location Section 3: Waste Types Section 4: Effluent Characteristics Section 5: Flow Section 6: Treatment System Section 7: Other Information Section 8: Checklist and Certification Statemental contents of the presence of presponsible for gathering the information, the informaccurate, and complete. I am aware that there are possibility of fine and imprisonment for knowing via Name (print or type first and last name) Johnny O. Moore	N7. OTHER INFORMATION (40 CFR 122.21(h)(7)) 7.1 Use the space below to expand upon any of the above items reviewer should consider in establishing permit limitations. At Multiple attempts were made to sample a discharge from this outfall and freported on this form for this outfall were collected at representative outfall reported on this form for this outfall were collected at representative outfall applicants are required to provide attachments. N8. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.2)	N. OTHER INFORMATION (40 CFR 122.21(h)(7)) 7.1 Use the space below to expand upon any of the above items. Use this space to provice reviewer should consider in establishing permit limitations. Attach additional sheets as Multiple attempts were made to sample a discharge from this outfall and flow was not found since prior to reported on this form for this outfall were collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall most of the collected at representative outfall 085 since this outfall one outfall outfall dependents of the collected at representative outfall 085 since this outfall one since this outfall one at the collected at representative outfall of 085 since this outfall one outfall outfall one at the collected at representative outfall 085 since this outfall one outfall outfall one outfall of 085 since this outfall one outfall outfall one outfall outfall one outfall outfall of 085 since this outfall one outfall

Form Approved 03/05/19 OMB No. 2040-0004 NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER												
SECTIO			TION (40 CFR 122.21(h)(1))												
	1.1	Provide inform	mation on each of the facility	's outfalls in the	table	below.									
ıtion		Number	Receiving Water Name	L	.atitu	ıde			Lon	gitude					
Outfall Location		014 W	/hite Oak Creek	35 °	55 ′	38.03 "	N	84°	18	42.2	7" W				
utfall															
Ō															
SECTIO	N 2. DIS	CHARGE DAT	E (40 CFR 122.21(h)(2))												
ge .	2.1	Are you a ne	w or existing discharger? (C	heck only one re	spon	se.)									
scharç Date		☐ New d	lischarger			✓ Exis	sting discha	rger → S	KIP to	Section	า 3.				
Discharge Date	2.2	Specify your	pecify your anticipated discharge date:												
SECTIO	N 3. WA	STE TYPES (4	10 CFR 122.21(h)(3))												
	3.1		of wastes are currently being	discharged if you	ı are	an existin	g discharge	r or will b	e disch	narged	f you are	e a			
			ger? (Check all that apply.) iry wastes		-	∠ Othe	er nonproce:	ss waste	vater (d	describ	e/explain	,			
			urant or cafeteria waste				ctly below)	oo madaa	, ,	1000110	scribe/explain				
တ္တ			ontact cooling water			cooli	ng tower blow	down, utilit	y sump						
Туре	3.2	Does the facility use cooling water additives?													
Waste Types	0.2	✓ Yes	mry add dodning water additiv			□ No •	→ SKIP to	Section 4							
, X	3.3	List the coolir	ng water additives used and	describe their co	mpos	sition.									
			Cooling Water Additive	s				sition of available to		ives					
		See Appendix L	(not)		Se	e Appendix		r available i	o you,						
SECTIO			RACTERISTICS (40 CFR 12					46 11		1 1 4					
	4.1	this application	mpleted monitoring for all pa on package?	rameters in the t	able I	below at e	acn of your	outtails a	ind atta	acnea ti	ne result	s to			
		✓ Yes		No; a waiver											
	4.2		as requested in the table be	(attach waive				tormation) → S	KIP to	Section 5	D			
ဟ	7.2	110vido data	ao roquostou in the table be	Number of			num Daily	Ave	rage [aily	Sour	ce			
istic		Para	meter or Pollutant	Analyses			charge		ischar		(use co	odes			
cter				(if actual data reported)		(spe	cify units) Conc.	Mas	pecify un	Conc.	per instructi				
Effluent Characteristics		Biochemical	oxygen demand (BOD₅)	1	0.42	kg/day	_	/L 0.42 kg	$\overline{}$		mg/L	N/A			
ıt Cl		Total suspen	ded solids (TSS)	1	J 0.19	94 kg/day	J 2.06 mg	ı/L J 0.194	kg/day	J 2.0	6 mg/L	N/A			
lluer		Oil and greas	se	1	J 0.34	44 kg/day	J 3.66 mg	ı/L J 0.344	kg/day	J 3.6	6 mg/L	N/A			
置		Ammonia (as	s N)	1	0.02	84 kg/day	0.302 mg	/L 0.0284	kg/day	0.30	2 mg/L	N/A			
		Discharge flo)W	9		0.166 mgd						N/A			
		pH (report as	range)	7		7.9 - 8.8 Sto	lUnit					N/A			
		Temperature	(winter)	7		24.3 degC						N/A			
		Temperature (winter) 7 24.3 degC N/A Temperature (summer) 2 28.7 degC 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).

		tion Number	NPDES Permit Numb	Facility Name			Form Approved 03/05/19 OMB No. 2040-0004				
TN1890090	0003		TN0002941		Oak Ridge National Laboratory						
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ged (or will it I	be discharge	ed)?			
		Yes				✓ No →	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	ow.1 (See instructions for specifics.)						
					nber of		m Daily	Average Daily		Source	
		Parame	ter or Pollutant		alyses ctual data	Disch (specify		Discharge (specify units)		(Use codes per	
				,	ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
þe		E. coli									
Effluent Characteristics Continued		Enterococci									
Soni	4.5	Is chlorine used	(or will it be used)?								
) sɔ		✓ Yes □ No → SKIP to Item 4.7.									
risti	4.6	Provide data as	low.1 (Se	e instruction							
cte					nber of		m Daily	Average		Source	
lara		Parame	ter or Pollutant		alyses	Disch (specify		Disch (specify		(use codes per	
t C				,	ctual data ported)	Mass	Conc.	Mass	Conc.	instructions)	
nen		Total Residual 0	Chlorine	7	0.5	kg/day	0.8 mg/L	< 0.09 kg/da	y < 0.16	mg/L N/A	
E	4.7	Is non-contact c	n-contact cooling water discharged (or will it be discharged)?								
	✓ Yes No → SKIP to Section 5.										
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction						
					nber of	Maximu	•	Average		Source	
		Parame	eter or Pollutant		alyses ctual data	Disch (specify		Disch (specify		(use codes per	
					ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)	1	3.4	3 kg/day	36.5 mg/L	3.43 kg/day	36.5 r	mg/L N/A	
		Total organic ca	rbon (TOC)	1	1.3	4 kg/day	14.2 mg/L	1.34 kg/day	14.2 r	mg/L N/A	
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desci	ribed in Sed	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes → (Complete this section.			□ No →	SKIP to Se	ection 6.			
×	5.2	Briefly describe	the frequency and duration	on of flow							
Flow		Discharges are inte	ermittent, and the frequency and	d duration a	re dependent o	on thermal loads	s due to weath	er and resear	ch activities	. This outfall	
		discharges frequen	tly but not continuously. See Se	ection 4.2 f	or flowrate.						
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		to be used).						
ten		l '	olet feeder is used to treat blow	•	,	ers prior to disc	harge.				
Sys											
ent											
Treatment System											
Tre											
	I	I									

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).

EPA Identification Number			NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should DOE captures sor	pelow to expand upon any of the all d consider in establishing permit lim ne additional data specific to cooling tower I as the corresponding additional data can	nitations. <i>A</i> blowdown d	ttach additional sheets as ischarges from non-process wa	s needed. astewater outfalls. A summary of this
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachm ts are required to provide attachme Column 1	nents that	you are enclosing to alert	
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent _	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vic	t qualified ersons wh mation su significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

2E NPDES	9	EPA	MANUFACTURIN	IG, COMMERCIAL, DISCHARGE ONL				IES WHICH			
SECTIO	N 1. OU		ATION (40 CFR 122.21(h)(1))								
	1.1		ormation on each of the facility	s outfalls in the tabl	e below.						
ıtion		Outfall Number	Receiving Water Name	Lati	tude		Longit	ude			
Outfall Location		021	White Oak Creek	35 ° 55 ′	41.81 "	N	84° 18′	36.63" W			
Outfa											
SECTIO	N 2. DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))								
ge	2.1		new or existing discharger? (C	heck only one respo							
Discharge Date			<i>i</i> discharger		✓ Existir	ng discharge	er → SKIP to Se	ction 3.			
Disc	2.2	Specify you	ur anticipated discharge date:								
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))								
	3.1	What types	of wastes are currently being	discharged if you ar	e an existing	discharger c	or will be discharç	ged if you are a			
			arger? (Check all that apply.)		Othorn			anila a /avval a ira			
		☐ Sanitary wastes ☐ Other nonprocess wastewater (description of the control of t									
			taurant or cafeteria waste			,	team condensate				
ype			-contact cooling water								
Waste Types	3.2		acility use cooling water additive	ves?	✓ No →	OLUD L O					
Was	3.3	☐ Yes	oling water additives used and	dogoribo thair comp	2	SKIP to Se	ction 4.				
	3.3	LIST THE COC	Cooling Water Additive		OSILIOIT.	Composi	tion of Additive	f Additives			
			(list)				vailable to you)	_			
SECTIO	N 4 FFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2 21(h)(4))							
OLO 110	4.1		completed monitoring for all pa		e below at eac	h of your ou	utfalls and attache	ed the results to			
			ation package?								
		✓ Yes		No; a waiver has			[,] NPDES permitti mation) → SKIF				
	4.2	Provide da	ta as requested in the table be				matorij 2 ordi	to occurry.			
છ				Number of	Maximu	•	Average Dail				
risti		Pai	rameter or Pollutant	Analyses (if actual data	Disch (specify		Discharge (specify units)	(use codes per			
acte				reported)	Mass	Conc.	Mass Con				
har			al oxygen demand (BOD₅)		E-04 kg/day	ŭ	,	< 1 mg/L N/A			
Effluent Characteristics			ended solids (TSS)		E-04 kg/day		,	< 0.588 mg/L N/A			
l line		Oil and gre			E-04 kg/day	_		< 1.69 mg/L N/A			
Ш		Ammonia (· '	+	E-05 kg/day	J 0.029 mg/L	J 2E-05 kg/day	J 0.029 mg/L N/A			
		Discharge		4	1.4E-04 mgd	*		N/A			
		pH (report		1	7.8 - 7.8 StdUr	nit		N/A			
		Temperatu	, ,	2	59.1 degC			N/A			
1 Compling	aball ba as		re (summer) ting to sufficiently sensitive test proce	2	55. degC	ED 126 for the	analysis of pollutants	N/A N/A			

Temperature (summer)

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).

		tion Number	NPDES Permit Number		Facility Name			Form Approved 03/05/19 OMB No. 2040-0004				
TN 1090090003 TN0002941 Oak Ridge National Laboratory							3110. 2040-0004					
	4.3	_	believed present, or is sa	nitary wa	aste dischar	• •	•	,				
		☐ Yes		4.40			SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be	low.1 (See instructions for specifics.)			Averes	a Daibr				
		Danamatan an Dallotant		Number of Analyses			Maximum Daily Discharge		e Daily large	Source (Use codes		
		Parame	eter or Pollutant		ctual data	(specif		(specify	/ units)) per		
		E 1 116		re	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
		Fecal coliform										
Effluent Characteristics Continued		E. coli										
ntin	4.5	Enterococci	1. (1) (1. 1) (1. 1)									
ပိ	4.5		I (or will it be used)?		✓ No =	N OKID to It	47					
tics	4.0	☐ Yes		1 /0-	- !4		SKIP to It	em 4.7.				
eris	4.6	Provide data as	requested in the table be		e instruction		s.) ı m Daily	Averag	o Daily	0		
ract		B			mber of alyses	Disch	-	Disch	-	Source (use codes		
Chai		Parame	eter or Pollutant		ctual data	(specif	y units)	(specify	units)) per		
nt (T		re	eported)	Mass	Conc.	Mass	Conc.	instructions)		
llue l	4.7	Total Residual Chlorine										
i iii	4.7	Is non-contact cooling water discharged (or will it be discharged)? ✓ No → SKIP to Section 5.										
	4.8	Provide data as requested in the table below.¹ (See instructions for specifics.)										
	4.0	FIOVICE Gata as	requested in the table be		mber of	Maximu		Averag	e Daily	Source		
		Darame	Parameter or Pollutant		alyses	Disch	•	Disch		(use codes		
		Faiailie	ster or Pollutalit	(if a	ctual data	(specif		(specify		per instructions)		
		Chemical ovva	en demand (COD)	16	eported)	Mass	Conc.	Mass	Conc.	Il istructions)		
		Total organic ca	<u> </u>									
SECTIO	N.S. ELC	W (40 CFR 122.2	, ,									
SECTIO	5.1		z ((1)(3)) nwater water runoff, leaks,	or spills	are any of	the discharge	es vou desc	rihed in Se	ctions 1 a	nd 3 of this		
	0.1		rmittent or seasonal?	or opine	, are arry or	trio diooriarge	50 y 00 0000	11000 111 00	otiono i a			
		✓ Yes →	Complete this section.			□ No →	SKIP to S	action 6				
			•				SKIF W S	ection 6.				
Flow	5.2		the frequency and duration m condensate are intermittent b			coaconal woath	or conditions	Stoom nit su	mp water is	numnod		
ш.		intermittently based	d on rain and groundwater collec	ction in the	pit. See Section	on 4.2 for flowra	te.	Steam pit sui	iip water is	pumpeu		
SECTIO			EM (40 CFR 122.21(h)(6))									
E	6.1	l '	any treatment system(s)	used (or	to be used).							
yste		N/A										
ıt Si												
Treatment System												
reat												
<u> </u>												

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).

EPA Identification Number			NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTION	N 7. OTH	ER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	The temperature of travels over land statistics this location was experienced.	below to expand upon any of the a d consider in establishing permit lind data presented for this outfall was taken diseveral feet before it gets to the receiving sexpanded to measure both upstream tempature of 1.0 degrees C and the temperature	nitations. A rectly at the s stream during erature = 16.	ttach additional sheets as team condensate discharge. H stream baseflow conditions. To 5 degrees C and the downstrea	s needed. owever, the discharge at this location herefore the temperature evaluation at m temperature = 15.5 degrees C. This
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40			
	8.1	For each section	plow, mark the sections of Form 2E on, specify in Column 2 any attachr ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		✓ Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
nent		Section 4:	Effluent Characteristics		w/ attachments	
Staten		Section 5:	Flow		w/ attachments	
ation (Section 6:	Treatment System		w/ attachments	
rtifica		✓ Section 7:	Other Information		w/ attachments	
ğ		✓ Section 8:	Checklist and Certification Statem	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Bas responsible for accurate, and o possibility of fin	statement penalty of law that this document as th a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vi type first and last name)	t qualified persons who rmation sul e significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,
		Signature			Date signed	

Form Approved 03/05/19 OMB No. 2040-0004 NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO			ON (40 CFR 122.21(h)(1))									
	1.1	Provide inform Outfall	nation on each of the facility	s outfalls in the	table	below.						
ıtion		Number F	Receiving Water Name		Latitu	ıde			Lon	gitude		
Outfall Location		031 Wh	ite Oak Creek	35 °	55 ′	43.63 "	N	84°	18	34.8	3" W	
utfall												
Ō												
SECTIO	N 2. DIS	CHARGE DATE	E (40 CFR 122.21(h)(2))									
ge	2.1	Are you a new	or existing discharger? (C	heck only one re	espon	se.)						
scharç Date		☐ New dis	scharger			✓ Exis	sting discha	rger → 🤅	SKIP to	Section	າ 3.	
Discharge Date	2.2	Specify your a	Specify your anticipated discharge date:									
SECTIO	N 3. WA	STE TYPES (40) CFR 122.21(h)(3))									
	3.1		wastes are currently being	discharged if yo	ou are	an existin	g discharge	er or will b	oe disch	arged i	f you are	а
			er? (Check all that apply.) y wastes			Othe	er nonproce	ss waste	water (c	describe	e/explain	
		—	rant or cafeteria waste	 Other nonprocess wastewater (describe/explaidirectly below) 							or oxpiaii i	
တ္တ			ntact cooling water			Stea	m condensate	9				
Гуре	3.2		ty use cooling water additiv	(0.6.2								= $+$
Waste Types	5.2	Yes	ty use cooling water additive	163 :		✓ No ·	→ SKIP to	Section 4	1.			
×	3.3	List the cooling	g water additives used and	describe their c	ompo	sition.						
			Cooling Water Additive	s				osition o		ives		
			(not)					ii availabio	to you,			
SECTIO			ACTERISTICS (40 CFR 12		4= - -	halow of o	aab af uau	. a. Halla		الفام ما فاد		40
	4.1	this application	npleted monitoring for all pa n package?	irameters in the	lable	below at e	ach of your	outialis	and alla	icriea tr	ie resuits	5 10
		✓ Yes		No; a waive								
	4.2		as requested in the table be	(attach waiv				nformatio	n) > S	KIP to S	Section 5	j
ဟ	4.2	1 TOVIGE Gala 8	as requested in the table be	Number o			num Daily	Av	erage D	aily	Sour	ce
stic		Param	neter or Pollutant	Analyses			charge)ischar	ge	(use co	des
cteri				(if actual data reported)	Э	(spe	cify units) Conc.	\rightarrow	specify un	conc.	per instruction	
Effluent Characteristics		Biochemical o	xygen demand (BOD ₅)	1	< 5E-	04 kg/day		g/L < 5E-0		< 1 n	ng/L	N/A
t C		Total suspend	led solids (TSS)	1	< 6E-	04 kg/day	< 1.14 m	g/L < 6E-0	4 kg/day	< 1.1	4 mg/L	N/A
luer		Oil and grease	Э	1	< 9E-	04 kg/day	< 1.67 m	g/L < 9E-0	4 kg/day	< 1.6	7 mg/L	N/A
<u> </u>		Ammonia (as	N)	1	J 2E-	05 kg/day	J 0.0309 m	g/L J 2E-0	5 kg/day	J 0.0	309 mg/L	N/A
		Discharge flow	V	4		3.6E-04 mg						N/A
		pH (report as	range)	1		8 - 8 StdUni	t					N/A
		Temperature ((winter)	2		58.6 degC						N/A
		Temperature ((summer)	2		77.2 degC						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).

					proved 03/05/19 3 No. 2040-0004							
TN 1690090005 TN00002941 Oak Ridge National Laboratory							3 110. 2040-0004					
	4.3	l	n believed present, or is sa	initary w	aste dischar	• •	•	,				
		☐ Yes					SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be	elow.1 (See instructions for specifics.) Number of Maximum Daily				Avorag	o Doily			
		Barress for an Ballioton f			mper or nalyses		Discharge		e Daily narge	Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specif	y units)	(specif	y units)	` per		
		Facal california		re	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		Fecal coliform				-						
Effluent Characteristics Continued		E. coli Enterococci				1						
ntir	4.5		(or will it be used)?									
ပိပ္	4.5	Is chlorine used (or will it be used)? ☐ Yes No → SKIP to Item 4.7.										
stic	4.6		requested in the table be	low 1 (Se	ee instruction			OIII 4.7 .				
teri	""	Trovido data do	710940000411111010000		mber of		ım Daily	Averag	e Daily	Source		
arac		Parame	eter or Pollutant		alyses		harge	Disch		(use codes		
ဒိ				,	ctual data eported)	(specif	y units) Conc.	(specifi Mass	(units) Conc.	per instructions)		
ient		Total Residual	Chlorine		ропосу	IVIGOS	00110.	IVIGOS	00110.			
1	4.7											
_		 Yes No → SKIP to Section 5. 										
	4.8 Provide data as requested in the table below.1 (See instructions for specifics.)											
					mber of	Maximum Daily Discharge		Average Daily Discharge		Source		
		Parame	eter or Pollutant		nalyses actual data		narge y units)	(specifi		(use codes per		
				, , ,	eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	arbon (TOC)									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this		
		✓ Yes →	Complete this section.			□ No -	SKIP to S	ection 6.				
Flow	5.2		the frequency and duration				_	_				
Ē		Flows at this outfal	Il are fairly consistent but can va	ry with sea	asonal weather	conditions. See	Section 4.2 fo	or flowrate.				
SECTIO	N 6. TRE	EATMENT SYSTE	EM (40 CFR 122.21(h)(6))									
Ε	6.1	Briefly describe	any treatment system(s)	used (or	to be used).							
ste		N/A										
t Sy												
Treatment System												
eatı												
=												

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).

EPA Identification Number			NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	The temperature of travels over land s this location was e	pelow to expand upon any of the all consider in establishing permit liming lata presented for this outfall was taken direveral feet before it gets to the receiving suxpanded to measure both upstream temperature of 0.1 degrees C and the temperature	nitations. A rectly at the s tream during erature = 14.3	ttach additional sheets as team condensate discharge. H stream baseflow conditions. TI B degrees C and the downstrea	s needed. owever, the discharge at this location herefore the temperature evaluation at him temperature = 14.4 degrees C. This
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40			
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachn ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement venalty of law that this document are han a system designed to assure that ed on my inquiry of the person or pugathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified persons when mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

2E NPDES	3	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))									
	1.1	Provide info	ormation on each of the facility	/'s outfalls in the tab	le below.							
ation		Outfall Number	Receiving Water Name	Lati	tude		Longit	ude				
Outfall Location		041	First Creek	35 ° 55	24.51	N	84° 19′	12.23" W				
Outfa												
SECTIO	N 2. DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))									
ge	2.1	I — '	new or existing discharger? (C	heck only one respo								
Discharge Date			discharger		✓ Existi	ng discharge	er → SKIP to Se	ction 3.				
Disc	2.2	Specify you	ur anticipated discharge date:									
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))									
	3.1		of wastes are currently being	discharged if you a	e an existing	discharger o	or will be dischar	ged if you are a				
			rger? (Check all that apply.)									
		_	tary wastes	directly below)								
			taurant or cafeteria waste			wn dry-weather	source					
Waste Types			-contact cooling water									
te T	3.2	I —	acility use cooling water additive	ves?								
Nasi	0.0	☐ Yes	P			SKIP to Se	ction 4.					
	3.3	List the coo	oling water additives used and Cooling Water Additive		osition.	Composi	ition of Additive	s				
			(list)				vailable to you)					
OFOTIO	N 4 EEE	LUENT OU	ND 4 075 DIOTION (40 05D 40	0.04(1.)(4))								
SECTIO	N 4. EFF 4.1		ARACTERISTICS (40 CFR 12 completed monitoring for all page 12)		a bolow at oa	ch of your o	utfalls and attach	ad the results to				
	4.1		ition package?	arameters in the table	s below at ea	cii oi youi oc	alialis alia allacii	ed the results to				
		✓ Yes					NPDES permitti					
	4.2		ta as requested in the table be				mation) -> SKIF	to Section 5.				
ဟ	7.2	1 TOVIGO GGI	ta do requestos in the table be	Number of		ım Daily	Average Dail	y Source				
istic		Par	rameter or Pollutant	Analyses		harge	Discharge	(use codes				
cter				(if actual data reported)	Mass	fy units) Conc.	(specify units) Mass Con	per instructions)				
hara		Biochemica	al oxygen demand (BOD ₅)	1 <4	E-03 kg/day	< 3 mg/L	< 4E-03 kg/day	< 3 mg/L N/A				
1t Cl		Total suspe	ended solids (TSS)	1 < 7	.8E-03 kg/day	< 5.7 mg/L	< 7.8E-03 kg/day	< 5.7 mg/L N/A				
Effluent Characteristics		Oil and gre	ase	1 < 2	.2E-03 kg/day	< 1.61 mg/L	< 2.2E-03 kg/day	< 1.61 mg/L N/A				
置		Ammonia (a	as N)	1 < 2	.3E-05 kg/day	< 0.017 mg/L	< 2.3E-05 kg/day	< 0.017 mg/L N/A				
		Discharge f	flow	4	3.6E-04 mgd			N/A				
		pH (report a	as range)	1	7.6 - 7.6 StdU	nit		N/A				
		Temperatu	re (winter)	3	19. degC			N/A				
	L		re (summer)	1	24. degC	NED 1001 "		N/A				

Temperature (summer)

1 24. degC

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).

EP/	A Identifica	tion Number	NPDES Permit Number		Facility Name			Form Approved 03/05/19			
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ry		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it l	oe discharge	ed)?			
		☐ Yes			[✓ No →	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be								
					nber of	Maximu	•	Averag		Source	
		Parame	ter or Pollutant		alyses tual data	Disch (specify		Discharge (Use of specify units)			
					oorted)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
pa		E. coli									
Effluent Characteristics Continued		Enterococci									
Con	4.5	Is chlorine used	(or will it be used)?								
) so		☐ Yes	SKIP to Ite	em 4.7.							
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instructions						
cte		Number of Maximum Daily Analyses Discharge							e Daily	Source	
ara		Parame	ter or Pollutant		alyses	Disch (specify		Disch		(use codes	
<u>ည်</u>					tual data oorted)	Mass	Conc.	(specify Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine				001101		001101	,	
E	4.7		non-contact cooling water discharged (or will it be discharged)?								
		☐ Yes					SKIP to Se	ection 5.			
	4.8	Provide data as	requested in the table be	low.1 (Se	e instructions	s for specific	s.)				
				1	nber of	Maximu	•	Averag		Source	
		Parame	ter or Pollutant		alyses	Disch (specify		Disch (specify		(use codes per	
				, , , , , ,	etual data ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	n demand (COD)								
		Total organic ca	rbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1	<u> </u>	nwater water runoff, leaks	, or spills	are any of t	he discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes → 0	Complete this section.		[□ No →	SKIP to Se	ection 6.			
*	5.2	Briefly describe	the frequency and duration	on of flow							
Flow		I '	present at this outfall only inter				weather flow is	not known, t	the frequenc	cy of discharge	
		and the durations o	If the discharges are not known	. See Secti	on 4.2 for flowra	ate.					
SECTIO	N 6. TRE	ATMENT SYSTEM (40 CFR 122.21(h)(6))									
	6.1		any treatment system(s)		o be used).						
iten		N/A		•	,						
Sys											
ent											
Treatment System											
Tre											

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).

EPA Identification Number		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19					
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004					
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))								
Other Information	7.1	Use the space reviewer should N/A	below to expand upon any of the ab d consider in establishing permit limi	itations. A	ttach additional sheets as						
SECTIO	8.1		ERTIFICATION STATEMENT (40 C		Ibmitting with your application						
	0.1	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 applican	ts are required to provide attachmer	nts.							
			Column 1		C	olumn 2					
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)					
		Section 2:	Discharge Date		w/ attachments						
		Section 3:	Waste Types		w/ attachments						
ent		Section 4:	Effluent Characteristics		w/ attachments						
tatem		Section 5:	Flow		w/ attachments						
tion S		Section 6:	Treatment System		w/ attachments						
rtifica		Section 7:	Other Information		w/ attachments						
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments						
st aı	8.2	Certification S	tatement								
Checklist and Certification Statement		accordance wit submitted. Base responsible for accurate, and c	penalty of law that this document and the a system designed to assure that ed on my inquiry of the person or pe gathering the information, the informa- complete. I am aware that there are the and imprisonment for knowing vio	qualified persons whe mation subsignifican	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,					
		l "	type first and last name)		Official title						
		Johnny O. Moore			Manager, ORNL Site Office						
		Signature			Date signed						

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

2E NPDES	3	EPA	MANUFACTURIN	G, COMMERCIAL, DISCHARGE ONL				ES WHICH						
SECTIO	N 1. OU		ATION (40 CFR 122.21(h)(1))											
	1.1		ormation on each of the facility	s outfalls in the tab	le below.									
ation		Outfall Number	Receiving Water Name	Lati	tude		Longitu	ıde						
Outfall Location		051	Northwest Tributary	35 ° 55	20.34 N		84° 19′	14.65 ["] W						
Outfa														
SECTIO	N 2. DIS		ATE (40 CFR 122.21(h)(2))											
ge	2.1	l — '	new or existing discharger? (C	heck only one respo										
Discharge Date			✓ New discharger ✓ Existing discharger → SKIP to Section 3.											
Disc	2.2	Specify you	ır anticipated discharge date:											
SECTIO	N 3. WA	STE TYPES	E TYPES (40 CFR 122.21(h)(3))											
	3.1		of wastes are currently being	discharged if you a	re an existing di	scharger o	r will be discharg	ed if you are a						
			ew discharger? (Check all that apply.) Sanitary wastes Other nonprocess wastewater (describe/explain											
		—	•		✓ Other no directly I		wastewater (desc	cribe/explain						
			taurant or cafeteria waste			-	densate, OTCW							
bes		✓ Non-	-contact cooling water											
Waste Types	3.2	Does the fa	cility use cooling water additiv	/es?										
Vast		☐ Yes				SKIP to Se	ction 4.							
>	3.3	List the coo	oling water additives used and		osition.	Commoni	tion of Additive							
			Cooling Water Additive	S			tion of Additives vailable to you)	5						
SECTIO			ARACTERISTICS (40 CFR 12											
	4.1		completed monitoring for all pa tion package?	rameters in the tabl	e below at each	of your ou	ittalls and attache	ed the results to						
			mion paokago:	No; a waiver has	s been requeste	ed from my	NPDES permittir	ng authority						
		✓ Yes					mation) → SKIP	to Section 5.						
	4.2	Provide dat	ta as requested in the table be	Number of	ons for specifics Maximum	,	Average Daily	/ Course						
stics		Par	rameter or Pollutant	Analyses	Discha	•	Discharge	Source (use codes						
teris		Fai	ameter of Foliutant	(if actual data	(specify t		(specify units)	per instructions)						
arac		Biochemica	al oxygen demand (BOD ₅)	reported) < 0	.02 kg/day	Conc.	Mass Cond	< 4 mg/L N/A						
Effluent Characteristics			ended solids (TSS))4 kg/day	•		7.35 mg/L N/A						
nent		Oil and grea	, ,		• •	-		< 1.59 mg/L N/A						
E		Ammonia (a				-		J 0.041 mg/L N/A						
		Discharge f	<u>'</u>	4	3E-03 mgd			N/A						
		pH (report a		1	7.81 - 7.81 StdU	nit		N/A						
		Temperatur	- ,	3	13.6 degC			N/A						
			re (summer)	2	18.2 degC			N/A						
1 Sampling	shall be co	· ·	ling to sufficiently sensitive test proce			2 136 for the	analysis of pollutants							

^{18.2} degC

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).

EP/	A Identifica	tion Number	NPDES Permit Number		Facility Name			Form Approved 03/05/19			
TN1890090	0003		TN0002941		Oak Ridge	National La	boratory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discha	arged (or v	vill it be discharg	ed)?			
		Yes	•	·		✓ 1	No → SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	ons for spe	ecifics.)				
					nber of		ximum Daily	Average	Daily	Source	
		Parame	ter or Pollutant		alyses		Discharge	Discharge		(Use codes	
				,	ctual data ported)	Mas	specify units) Source S	(specify	units) Conc.	per Instructions.)	
		Fecal coliform		10	portody	Wido	S CONO.	WIGOS	00110.		
ъ		E. coli									
Effluent Characteristics Continued		Enterococci									
onti	4.5	Is chlorine used	(or will it be used)?							l	
၁ ဗ		✓ Yes	,				No → SKIP to It	em 4.7.			
istic	4.6	Provide data as requested in the table below.1 (See instructions for specifics.)									
cter										Source	
ara		Parame	ter or Pollutant		alyses		Discharge	Disch		(use codes	
ပ ်					ctual data corted)	Mas	specify units) Source S	(specify	Conc.	per instructions)	
ient		Total Residual (Chlorine	1	,	3E-04 kg/da				mg/L N/A	
1	4.7	Is non-contact cooling water discharged (or will it be discharged)?									
		✓ Yes					lo → SKIP to Se	ection 5.			
	4.8	Provide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum Daily Average Daily Source									
				1	nber of		ximum Daily Discharge	Average Disch		Source	
		Parame		alyses ctual data		specify units)	(specify		(use codes per		
				(ported)	Mas	' 	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)	1	<	0.05 kg/day	< 8.95 mg/L	< 0.05 kg/da	< 8.95	mg/L N/A	
		Total organic ca	irbon (TOC)	1	(6E-03 kg/day	/ 1.03 mg/L	6E-03 kg/da	y 1.03	mg/L N/A	
SECTIO	N 5. FLO	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any o	of the discl	harges you desc	ribed in Se	ctions 1 a	and 3 of this	
		✓ Yes → (Complete this section.				No → SKIP to S	ection 6.			
Flow	5.2		the frequency and duration								
Ě			and/or steam condensate disch				ntermittent once thro	ugh cooling w	ater and di	stilled water	
		liustility discharges	depending on research needs	. See Secil	011 4.2 101 110	iwiale.					
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		to be used	d).					
tem		· '	and UV dechlorination of water	•		,					
Sys											
ent											
Treatment System											
rea											

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).

EPA Identification Number		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19					
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004					
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))								
Other Information	7.1	Use the space reviewer should N/A	below to expand upon any of the ab d consider in establishing permit limi	itations. A	ttach additional sheets as						
SECTIO	8.1		ERTIFICATION STATEMENT (40 C		Ibmitting with your application						
	0.1	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 applican	ts are required to provide attachmer	nts.							
			Column 1		C	olumn 2					
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)					
		Section 2:	Discharge Date		w/ attachments						
		Section 3:	Waste Types		w/ attachments						
ent		Section 4:	Effluent Characteristics		w/ attachments						
tatem		Section 5:	Flow		w/ attachments						
tion S		Section 6:	Treatment System		w/ attachments						
rtifica		Section 7:	Other Information		w/ attachments						
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments						
st aı	8.2	Certification S	tatement								
Checklist and Certification Statement		accordance wit submitted. Base responsible for accurate, and c	penalty of law that this document and the a system designed to assure that ed on my inquiry of the person or pe gathering the information, the informa- complete. I am aware that there are the and imprisonment for knowing vio	qualified persons whe mation subsignifican	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,					
		l "	type first and last name)		Official title						
		Johnny O. Moore			Manager, ORNL Site Office						
		Signature			Date signed						

FORM 2E

TN1890090003



EPA Identification Number

NPDES		CLA	MANUFACTURIN	NG, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))								
	1.1	Provide info	ormation on each of the facility	's outfalls in the table	e below.						
ation		Outfall Number	Receiving Water Name	Latit	ude		Lo	ngitude			
Outfall Location		052	Northwest Tributary	35 ° 55 ′	17.55 "	N	84° 19	15.0	6" W		
Outfa											
			ATE (40 CFR 122.21(h)(2)))						
arge e	2.1	l — '	new or existing discharger? (C / discharger	neck only one respor		ng discharge	or 🖎 CKID+	o Continu	. 3		
Discharge Date	2.2		ur anticipated discharge date:		EXISU	ng discriarge	SI 7 SKIP L	o section	13.		
Öi	2.2	Opecity you	ar articipated discriarge date.								
SECTIO	N 3. WA		(40 CFR 122.21(h)(3))								
	3.1		s of wastes are currently being	discharged if you are	an existing	discharger o	or will be disc	charged	if you are	e a	
			arger? (Check all that apply.)		• Other	nonprocess	wastewater	(describe	e/explain		
	Sanitary wastes Other nonprocess wastewater (describe directly below)										
ဟ	HVAC cond, aquatic pond overflow and spring										
уре	2.0		-contact cooling water	0							
Waste Types	3.2	Does the ta	acility use cooling water additiv		✓ No →	SKIP to Se	otion 1				
Was	3.3		oling water additives used and		2	SKIF 10 SE	Cuon 4.				
	0.0	List till coc	Cooling Water Additive		Joinori.	Composi	tion of Add	itives			
			(list)			(if a	vailable to you)				
SECTIO	N 4. EFF 4.1		ARACTERISTICS (40 CFR 12 completed monitoring for all page 12)		bolow at an	ob of vour o	utfalls and at	toobod th	no roquit	o to	
	4.1		ation package?	arameters in the table	Delow at ea	cii oi youi oc	ilialis aliu al	lacrieu li	ie resuit	5 10	
		✓ Yes		No; a waiver has							
	4.2		ta as requested in the table be	(attach waiver re			mation) >	SKIP to S	Section 5	5.	
ω	4.2	riovide da	ita as requested in the table be	Number of		um Daily	Average	Daily	Sour	'CA	
stic		Pai	rameter or Pollutant	Analyses	Disc	harge	Discha	rge	(use co	odes	
Effluent Characteristics				(if actual data reported)	(speci	fy units) Conc.	(specify t	units) Conc.	per instructi		
ıara		Biochemica	al oxygen demand (BOD₅)	· · · · · ·)5 kg/day		< 0.05 kg/day	< 1 r	ng/L	N/A	
t C		Total suspe	ended solids (TSS)	1 J 0.:	2 kg/day	J 2.91 mg/L	J 0.2 kg/day	J 2.9	1 mg/L	N/A	
luer		Oil and gre	ease	1 < 0.	09 kg/day	< 1.61 mg/L	< 0.09 kg/day	< 1.6	61 mg/L	N/A	
出		Ammonia ((as N)	1 4E-	03 kg/day	0.077 mg/L	4E-03 kg/day	0.07	77 mg/L	N/A	
		Discharge	flow	3	0.01 mgd					N/A	
		pH (report	as range)	1	6.9 - 6.9 StdU	nit				N/A	
		Temperatu	re (winter)	2	13.9 degC					N/A	
		Temperatu	ire (summer)	1	20.2 degC					N/A	

Temperature (summer)

1 20.2 degC

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).

		tion Number	NPDES Permit Number	Facility Name Oak Ridge National Laboratory			Form Approved 03/05/19 OMB No. 2040-0004				
TN1890090	0003		TN0002941				,		Olvic	3 110. 2040-0004	
	4.3	l	believed present, or is sa	nitary w	aste dischar		Ū	,			
		☐ Yes					SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be					Avorage	o Doiby		
			ton on Delletont		mber of alyses		ım Daily narge	Averag Disch		Source (Use codes	
		Parame	eter or Pollutant	(if a	ctual data	(specify units)		(specify units)		` per	
		Facal california		Γ	eported)	Mass	Conc.	Mass	Conc.	Instructions.)	
_		Fecal coliform									
Effluent Characteristics Continued		E. coli Enterococci									
ntir	4.5		(or will it be used)?								
ပိ	4.5	Yes	(or will it be used):			✓ No =	SKIP to It	em 47			
stic	4.6	Provide data as requested in the table below.1 (See instructions for specifics.)									
teri		Number of Maximum Daily						Averag	e Daily	Source	
arac		Parame	eter or Pollutant		alyses		narge	Disch		(use codes	
ch				,	ctual data eported)	(specifing Mass	y units) Conc.	(specifi Mass	y units) Conc.	per instructions)	
ient		Total Residual (Chlorine		portog	WIGGS	00110.	Wass	00110.		
EHI	4.7	Is non-contact cooling water discharged (or will it be discharged)?									
		☐ Yes	0 (Ü	_	SKIP to Se	ection 5.			
	4.8										
			1	mber of	1	m Daily	Averag		Source		
		Parameter or Pollutant		Analyses (if actual data		Disch (specif	narge	Discharge (specify units)		(use codes per	
				()	eported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)			•	•		-	•	
		Total organic ca	arbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.									
	5.1		nwater water runoff, leaks	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	and 3 of this	
		application inter	rmittent or seasonal?								
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.			
Flow	5.2		the frequency and duration								
産		This outfall dischar spring. See Section	ges intermittently based on exp	eriments i	n the aquatics I	aboratory and o	ccasional valv	ing changes	downstream	of First Creek	
		spring. See Section	14.2 IOI IIOWIALE.								
SECTIO	N 6. TRE	REATMENT SYSTEM (40 CFR 122.21(h)(6))									
٤	6.1	Briefly describe	any treatment system(s)	used (or	to be used).						
stei		N/A									
t Sy											
nen											
Treatment System											
F											

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	ER INFORMAT	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should This outfall is the longer used for the is controlled by a discharging through	below to expand upon any of the a d consider in establishing permit lir discharge pipe from a pond originally cons at purpose. The inlet to this and its neight valving system which can direct flow to an gh this Outfall 052. The source of water is spring can also discharge small amounts	mitations. A structed and a poring ponds by or all of the s discharge fr	Attach additional sheets as used for rearing fish for experim (there are a total of 6 ponds that ponds. In most circumstances om the experimental fish tanks.	s needed. ental purposes, but the pond is no at discharge through outfalls 052 - 057) all flow is directed to the pond
SECTIO			ERTIFICATION STATEMENT (40			
	8.1		elow, mark the sections of Form 2E on, specify in Column 2 any attachi			ubmitting with your application. the permitting authority. Note that
		not all applican	ts are required to provide attachme Column 1	ents.	<u> </u>	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		✓ Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		✓ Section 6:	Treatment System] w/ attachments	
rtifica		✓ Section 7:	Other Information		w/ attachments	
nd Ce		✓ Section 8:	Checklist and Certification Statem	nent [w/ attachments	
st al	8.2	Certification S	Statement			
Checklist and Certification Statement		accordance win submitted. Bas responsible for accurate, and o	penalty of law that this document a th a system designed to assure that ed on my inquiry of the person or p gathering the information, the info complete. I am aware that there are the and imprisonment for knowing v	at qualified persons wh ormation su e significar	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,
			type first and last name)		Official title	
		Johnny O. Moore			Manager, ORNL Site Office	
		Signature			Date signed	

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EFA	MANUFACTURIN	NG, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER						
SECTIO	N 1. OU	FALL LOCA	ATION (40 CFR 122.21(h)(1))		11011111110					
	1.1	Provide info	ormation on each of the facility	r's outfalls in the table	e below.					
ation		Outfall Number	Receiving Water Name	Latit	ude		Lo	ngitude		
Outfall Location		053	Northwest Tributary	35 ° 55 ′	17.64 "	N	84° 19	15	.8" W	
Outfa										
SECTIO			ATE (40 CFR 122.21(h)(2))							
ırge	2.1	'	new or existing discharger? (C	neck only one respoi		tina diaabara	on - NOVID to	Contin	. 2	
Discharge Date	2.2		r discharger ur anticipated discharge date:		EXIS	ting discharge	er > Skip to	Sectio	n 3.	
Dis	2.2	Specify you	ur anticipated discharge date.							
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))							
	3.1		of wastes are currently being arger? (Check all that apply.)	discharged if you are	e an existing	g discharger o	or will be disc	harged	if you are	а
			itary wastes		✓ Other	r nonprocess	wastewater	describ	e/explain	
			taurant or cafeteria waste			tly below)	nacionator (accombigação)			
S			-contact cooling water		HVAC	cond, aquatic p	ond overflow a	nd spring		
Typ	3.2		acility use cooling water additive	/es?						
Waste Types	0.2	Yes	ionity add dooning water addition		✓ No -	SKIP to Se	ction 4.			
Wa	3.3	List the coo	oling water additives used and	describe their compo						
			Cooling Water Additive	s			tion of Addivailable to you)	itives		
			(list)			(II al	valiable to you)			
SECTIO			ARACTERISTICS (40 CFR 12							
	4.1		completed monitoring for all pa ation package?	rameters in the table	below at ea	ach of your ou	utfalls and at	ached t	he results	s to
		1	miori package:	No; a waiver has	been reque	sted from my	NPDES per	mitting a	authority	
		✓ Yes		(attach waiver re	quest and a	dditional infor				
	4.2	Provide da	ta as requested in the table be				Avorago	Daily		
tics		Dou	rameter or Pollutant	Number of Analyses		um Daily charge	Average Discha		Source (use co	
teris		Pai	rameter or Pollutant	(if actual data	(spec	cify units)	(specify u	nits)	per instruction	
arac		Riochemics	al oxygen demand (BOD₅)	reported) 1 J 6E	Mass -04 kg/day	Conc.	Mass J 6E-04 kg/day	Conc.	17 mg/L	N/A
Effluent Characteristics			ended solids (TSS)		1 kg/day	-	0.31 kg/day		mg/L	N/A
nent		Oil and gre	, ,		18 kg/day	ŭ	J 0.18 kg/day		 21 mg/L	N/A
E#		Ammonia (BE-03 kg/day	J 0.0469 mg/L			——)469 mg/L	N/A
		Discharge	•	4	0.022 mgd			·		N/A
		pH (report		3	6.7 - 7.5 Stdl	Unit				N/A
		Temperatu	- ,	1	13.7 degC					N/A
			re (summer)	3	23. degC					N/A

Temperature (summer)

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).

EP/	A Identifica	tion Number	NPDES Permit Number	Facility Name			Form Approved 03/05/19 OMB No. 2040-0004				
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ry		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it l	oe discharge	ed)?			
		☐ Yes					SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be					-			
					nber of	Maximu	•	Averag	-	Source	
		Parame	ter or Pollutant		alyses tual data	Disch (specify		Disch (specify		(Use codes per	
					oorted)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
pa		E. coli									
Effluent Characteristics Continued		Enterococci									
Con	4.5	Is chlorine used	(or will it be used)?								
) so		Yes									
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instructions						
cte					nber of	Maximu		Averag		Source	
lara		Parame	ter or Pollutant		alyses	Disch (specify		Disch (specify		(use codes	
<u>ည်</u>					tual data oorted)	Mass	Conc.	Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine		,						
Ettl	4.7	Is non-contact c	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 be	low.1 (Se	e instructions						
				1	nber of	Maximu	•	Averag		Source	
		Parameter or Pollutant			alyses tual data	Disch (specify		Disch (specify		(use codes per	
				, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)		,						
		Total organic ca	rbon (TOC)						_		
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	are any of t	he discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes → (Complete this section.		[□ No →	SKIP to Se	ection 6.			
Flow	5.2	Briefly describe	the frequency and duration	on of flow							
Ĕ			ges intermittently based on exp								
			ix ponds formerly used for aqua Section 4.2 for flowrate.	ilics resear	on by the Enviro	unnental Scien	ices Division, a	iriu triis outia	i is the over	now pipe irom	
SECTIO	N 6. TRE	ATMENT SYSTE	ATMENT SYSTEM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		o be used).						
iten			ess supply water is dechlorinat								
Sys		with in-line chlorine for use in the resea	analyzers that stop the flow of	process wa	iter into aquaria	a if dechlorination	on is not occurr	ing. The wat	er is also he	eated slightly	
ent		101 030 111 1110 1030	non aquanums.								
Treatment System											
Tre											
		l									

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).

EPA Identification Number		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19							
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004							
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))										
Other Information	7.1	reviewer should This outfall is the clonger used for the is controlled by a vidischarging throug experimental fish the Multiple attempts vidischarging and the control of t	below to expand upon any of the all consider in establishing permit limit discharge pipe from a pond originally constat purpose. The inlet to this and its neighbraiving system which can direct flow to any this Outfall 052, but on occasion flow catanks. A butterfly valve in the pipe from an were made to sample a discharge from this sentative outfall 056 since this outfall most	nitations. A tructed and u oring ponds or all of the n be directed upper First C s outfall and	ttach additional sheets as sed for rearing fish for experime there are a total of 6 ponds that ponds. In most circumstances through this outfall. The sourceek spring can also discharge low was not found. The data re	ental purposes, but the pond is no t discharge through outfalls 052 - 057) all flow is directed to the pond se of water is discharge from the small amounts of water to the pond(s).							
SECTIO			ERTIFICATION STATEMENT (40										
	8.1	For each section	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		C	olumn 2							
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)							
		Section 2:	Discharge Date		w/ attachments								
		Section 3:	Waste Types		w/ attachments								
nent		Section 4:	Effluent Characteristics		w/ attachments								
staten		Section 5:	Flow		w/ attachments								
tion S		Section 6:	Treatment System		w/ attachments								
rtifica		Section 7:	Other Information		w/ attachments								
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments								
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are the a system designed to assure that ed on my inquiry of the person or person of the person of	t qualified persons who mersons who mation sub esignifican	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,							

FORM 2E

TN1890090003



EPA Identification Number

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

MANUEACTURING COMMERCIAL MINING AND SILVICULTURAL FACILITIES WHICH

NPDES		MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU		ATION (40 CFR 122.21(h)(1))						
	1.1		ormation on each of the facility	's outfalls in the tabl	e below.				
ation		Outfall Number	Receiving Water Name	Lati	tude		Longitu	ıde	
Outfall Location		054	Northwest Tributary	35 ° 55 ′	17.7 N		84° 19′	16.48 ["] W	
Outfa									
SECTIO			ATE (40 CFR 122.21(h)(2))						
e de	2.1		new or existing discharger? (C	heck only one respo					
Discharge Date			v discharger		✓ Existing	discharge	r → SKIP to Sec	tion 3.	
Disc	2.2	Specify you	ur anticipated discharge date:						
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))						
	3.1		of wastes are currently being	discharged if you ar	e an existing di	scharger o	r will be discharg	ed if you are	а
		I	arger? (Check all that apply.) itary wastes		✓ Other no	nnroceee	wastewater (desc	ribe/evolain	
			taurant or cafeteria waste		directly b		wastewater (desc	in berexpian i	
ω					•	,	ond overflow and spi	ring	
уре			-contact cooling water						
Waste Types	3.2	l —	acility use cooling water additiv	es?	✓ No → S	WD. O			
Was	3.3	☐ Yes		de e suile e the ein e e nen	2	KIP to Sec	ction 4.		
	3.3	LIST THE COL	oling water additives used and Cooling Water Additive		OSILIOIT.	Composi	tion of Additives		
			(list)				railable to you)		
SECTIO	N 4. EFF		ARACTERISTICS (40 CFR 12						
	4.1		completed monitoring for all pa ation package?	rameters in the table	e below at each	of your ou	tfalls and attache	ed the results	s to
		✓ Yes					NPDES permittir		
	4.2		ta as requested in the table be				mation) → SKIP	to Section 5	5.
	4.2	Frovide da	ila as requested in the table be	Number of	Maximum	Daily	Average Daily	/ Sour	00
stice		Pai	rameter or Pollutant	Analyses	Discha	rge	Discharge	(use co	
teri			Talliotor of Foliatalit	(if actual data reported)	(specify t	inits) Conc.	(specify units) Mass Cond	per instruction	
arac		Biochemica	al oxygen demand (BOD ₅)	. ,				J 1.17 mg/L	N/A
Effluent Characteristics			ended solids (TSS)		31 kg/day	Ť		3.8 mg/L	N/A
nen		Oil and gre	, ,		•	ŭ	0 ,	J 2.21 mg/L	N/A
₩		Ammonia (-		J 0.0469 mg/L	N/A
		Discharge	,	4	0.022 mgd				N/A
		pH (report		3	6.7 - 7.5 StdUnit				N/A
		Temperatu		1	13.7 degC				N/A
			re (summer)	3	23. degC				N/A
1 Sampling	shall be co		ding to sufficiently sensitive test proce	dures (i.e., methods) ann	royed under 40 CEE	2 136 for the	analysis of nollutants	or pollutant	

Temperature (summer)

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).

EP.	A Identifica	ation Number NPDES Permit Number Facility Name Form Approved 03/05/1								
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ged (or will it l	be discharg	ed)?		
		☐ Yes				✓ No -	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction					
					nber of	1	m Daily		e Daily	Source
		Parame	eter or Pollutant		alyses ctual data	Disch (specifi	narge	Disch	narge y units)	(Use codes per
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
pa		E. coli								
Effluent Characteristics Continued		Enterococci								
Con	4.5	Is chlorine used	l (or will it be used)?			•	•	•	•	•
) \$3		☐ Yes				✓ No →	SKIP to It	em 4.7.		
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction					
ctel			Parameter or Pollutant Number of Maximum Da Analyses Discharge						e Daily	Source
ıara		Parame	eter or Pollutant			Disch (specifi		Disch	narge y units)	(use codes
t C					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)
nen		Total Residual (Chlorine							
E	4.7	Is non-contact of	on-contact cooling water discharged (or will it be discharged)?							
		☐ Yes								
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
				1	mber of	Maximu	•	Averag		Source
		Parame	eter or Pollutant		alyses ctual data	Disch (specify		Discharge (specify units)		(use codes per
				, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)
		Chemical oxyge	en demand (COD)			•	•			•
		Total organic ca	arbon (TOC)							
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))							
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.		
>	5.2	Briefly describe	the frequency and duration	on of flow	<u>'</u> .					
Flow			ges intermittently based on exp			aboratory and o	ccasional valvi	ng changes	downstream	of First Creek
			ix ponds formerly used for aqua Section 4.2 for flowrate.	atics resear	ch by the Envir	onmental Scien	ices Division, a	and this outfa	II is the over	flow pipe from
SECTIO	N 6. TRE	ATMENT SYSTEM (40 CFR 122.21(h)(6))								
	6.1		ATMENT SYSTEM (40 CFR 122.21(h)(6)) Briefly describe any treatment system(s) used (or to be used).							
ter		1 '	cess supply water is dechlorinat	•	,	ding 1504 aquat	ics laboratory.	The water of	lelivery syste	em is equipped
Sys		with in-line chlorine	analyzers that stop the flow of							
ent		for use in the resea	arch aquanums.							
Treatment System										
Tre										

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).

EP.	A Identificat	tion Number	NPDES Permit Number	Facility Name Form Approved 03/0					
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004			
SECTIO	N 7. OTH	ER INFORMATI	ON (40 CFR 122.21(h)(7))						
Other Information	7.1	reviewer should This outfall is the longer used for th is controlled by a discharging throug experimental fish discharge small a	below to expand upon any of the a d consider in establishing permit lin discharge pipe from a pond originally cons at purpose. The inlet to this and its neighb valving system which can direct flow to any gh Outfall 052, but on occasion flow can be tanks and HVAC condensate from Building mounts of water to the pond(s). Multiple at I on this form for this outfall were collected	nitations. A tructed and u poring ponds y or all of the e directed thr g 1504. A but tempts were	ttach additional sheets as sed for rearing fish for experim (there are a total of 6 ponds that ponds. In most circumstances bugh this outfall. The source of terfly valve in the pipe from an made to sample a discharge from	s needed. sental purposes, but the pond is no at discharge through outfalls 052 - 057) all flow is directed to the pond f water is discharge from the upper First Creek spring can also om this outfall and flow was not found.			
SECTIO			ERTIFICATION STATEMENT (40						
	8.1	For each section	plow, mark the sections of Form 2E on, specify in Column 2 any attachr ts are required to provide attachme	nents that		ubmitting with your application. the permitting authority. Note that			
			Column 1		С	olumn 2			
		✓ Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)			
		Section 2:	Discharge Date		w/ attachments				
		Section 3:	Waste Types		w/ attachments				
nent		Section 4:	Effluent Characteristics		w/ attachments				
Staten		Section 5:	Flow		w/ attachments				
ation (Section 6:	Treatment System		w/ attachments				
rtific		✓ Section 7:	Other Information		w/ attachments				
ğ		✓ Section 8:	Checklist and Certification Statem	ent	w/ attachments				
Checklist and Certification Statement	8.2	accordance wit submitted. Bas responsible for accurate, and o possibility of fir	statement penalty of law that this document as th a system designed to assure tha ed on my inquiry of the person or p gathering the information, the information, the information are the and imprisonment for knowing vi type first and last name)	nt qualified persons wh rmation su e significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,			
		Signature			Date signed				
		Olynatare			Date digited				

FORM 2E

TN1890090003



EPA Identification Number

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

MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH

NPDES			MANUFACTURIN	3, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU	FALL LOC	ATION (40 CFR 122.21(h)(1))								
	1.1	Provide inf	ormation on each of the facility	/'s outfalls in th	e table	below.					
ation		Outfall Number	Receiving Water Name		Latitu	ıde		L	ongitude)	
Loca		055	Northwest Tributary	35 °	55 ′	17.78 "	N	84° 1	9 17.	19" W	
Outfall Location											
0											
SECTIO	N 2. DIS	CHARGE D	ATE (40 CFR 122.21(h)(2))								
ab	2.1	I — '	new or existing discharger? (C	heck only one	•						
Discharge Date			v discharger			Exis	ting discharge	er → SKIP	to Sectio	n 3.	
Disc	2.2	Specify you	ur anticipated discharge date:								
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))								
	3.1		s of wastes are currently being	discharged if y	ou are	an existino	g discharger o	or will be dis	scharged	if you are	а
		I	arger? (Check all that apply.) iitary wastes		Г	Othe	r nonprocess	wastowato	r (describ	o <i>l</i> ovnlain	
		—	staurant or cafeteria waste		Ľ	_	tly below)	wasiewate	(describ	e/explail1	
ဟ						HVAC	C cond, aquatic p	ond overflow	and spring		
уре			n-contact cooling water								
Waste Types	3.2	i —	acility use cooling water additiv	/es?		✓ No =	N OKID 4- 0-	-4: A			
Was	3.3	List the ear	oling water additives used and	dosariba thair			SKIP to Se	ction 4.			
	0.5	LIST THE CO.	Cooling Water Additive		COMPO	SILIOIT.	Composi	ition of Ad	ditives		
			(list)				(if a	vailable to you)		
SECTIO	N 4. EFF		ARACTERISTICS (40 CFR 12								
	4.1		completed monitoring for all pa	arameters in the	e table	below at ea	ach of your ou	utfalls and a	ittached t	he results	s to
			ation package?	No: a waive	er has l	oeen reque	ested from my	NPDES pe	ermitting a	authority	
		✓ Yes		(attach wai	ver rec	uest and a	dditional infor).
	4.2	Provide da	ta as requested in the table be					A	Daily	_	
tics		D.	namatan an Dallutant	Analyse		Maxim Disc	um Dally charge	Disch	e Daily arge	Soure (use co	
teris		Pa	rameter or Pollutant	(if actual da	nta	(spec	cify units)	(specify	units)) per	
arac		Riochemic	al oxygen demand (BOD₅)	reported)		Mass 04 kg/day	J 1 17 mg/l	Mass J 6E-04 kg/da	Conc.	instruction in the instruction i	N/A
ဒို			ended solids (TSS)	1		kg/day	_	0.31 kg/day	-	mg/L	N/A
Effluent Characteristics		Oil and gre	, ,	1		8 kg/day	_	J 0.18 kg/day		21 mg/L	N/A
		Ammonia		1		E-03 kg/day	-			0469 mg/L	N/A
		Discharge	, ,	4		0.022 mgd					N/A
		pH (report		3		6.7 - 7.5 Std	Unit				N/A
		Temperatu		1		13.7 degC					N/A
		_	. ,	3		23. degC				\vdash	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).

EP.	A Identifica	ation Number NPDES Permit Number Facility Name Form Approved 03/05/								
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ged (or will it l	be discharg	ed)?		
		☐ Yes				✓ No -	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction					
					nber of	1	m Daily		e Daily	Source
		Parame	ter or Pollutant		alyses ctual data	Disch (specifi	narge	Disch	narge y units)	(Use codes per
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
pa		E. coli								
Effluent Characteristics Continued		Enterococci								
Con	4.5	Is chlorine used	(or will it be used)?			•	•	•	•	•
) \$3		☐ Yes				✓ No →	SKIP to It	em 4.7.		
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction					
ctel			Parameter or Pollutant Number of Maximum Da Discharge						e Daily	Source
lara		Parame	ter or Pollutant		alyses ctual data	Disch (specifi		Disch	narge y units)	(use codes per
ţ					ported)	Mass	Conc.	Mass	Conc.	instructions)
nen		Total Residual (Chlorine						•	
E E	4.7	Is non-contact of	n-contact cooling water discharged (or will it be discharged)?							•
		☐ Yes								
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
				1	mber of	Maximu	•	Averag		Source
		Parame	eter or Pollutant		alyses ctual data	Disch (specify		Discharge (specify units)		(use codes per
				, , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)
		Chemical oxyge	en demand (COD)			•	•		-	•
		Total organic ca	arbon (TOC)				_			
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))							
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.		
×	5.2	Briefly describe	the frequency and duration	on of flow	'.					
Flow		This outfall dischar	ges intermittently based on exp	eriments ir	the aquatics la					
			ix ponds formerly used for aqua Section 4.2 for flowrate.	atics reseai	ch by the Envir	onmental Scien	ices Division, a	and this outfa	II is the over	flow pipe from
SECTIO	N 6. TRE	ATMENT SYSTE	TMENT SYSTEM (40 CFR 122.21(h)(6))							
	6.1		ATMENT SYSTEM (40 CFR 122.21(n)(6)) Briefly describe any treatment system(s) used (or to be used)							
ten		ORNL potable/prod	cess supply water is dechlorinat	ed prior to	use in the Build	ding 1504 aquat	ics laboratory.	The water of	lelivery syste	em is equipped
Sys		with in-line chlorine for use in the resea	analyzers that stop the flow of	process w	ater into aquaria	a if dechlorination	on is not occur	ring. The wa	ter is also h	eated slightly
ent		ioi use iii tile lesea	non aquanums.							
Treatment System										
Tre										

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).

EP.	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19							
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004							
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))										
Other Information	7.1	reviewer should This outfall is the clonger used for the is controlled by a vidischarging throug experimental fish the discharge small ar	below to expand upon any of the a diconsider in establishing permit limit discharge pipe from a pond originally constat purpose. The inlet to this and its neighbour valving system which can direct flow to any the Outfall 052, but on occasion flow can be earlied and HVAC condensate from Building mounts of water to the pond(s). Multiple attorn this form for this outfall were collected and the condensate from the pond on this form for this outfall were collected.	tructed and uporing ponds of or all of the edirected through 1504. A but empts were	ttach additional sheets as sed for rearing fish for experime there are a total of 6 ponds that ponds. In most circumstances ough this outfall. The source of erfly valve in the pipe from an unade to sample a discharge from	s needed. ental purposes, but the pond is no t discharge through outfalls 052 - 057) all flow is directed to the pond water is discharge from the upper First Creek spring can also om this outfall and flow was not found.							
SECTIO			ERTIFICATION STATEMENT (40										
	8.1	For each section	Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your application. The each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that all applicants are required to provide attachments.										
			Column 1		C	olumn 2							
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)							
		Section 2:	Discharge Date		w/ attachments								
		Section 3:	Waste Types		w/ attachments								
ent		Section 4:	Effluent Characteristics		w/ attachments								
tatem		Section 5:	Flow		w/ attachments								
tion S		Section 6:	Treatment System		w/ attachments								
rtifica		Section 7:	Other Information		w/ attachments								
nd Ce		Section 8:	Checklist and Certification Statement	ent	w/ attachments								
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document and a system designed to assure that ed on my inquiry of the person or progathering the information, the informplete. I am aware that there are and imprisonment for knowing virtype first and last name)	t qualified persons when mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,							

FORM 2E NPDES

TN1890090003



EPA Identification Number

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

MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH

NPDES			MANUFACTURIN	G, COMMERCIAL, N DISCHARGE ONLY				ILITIES	WHICH	
SECTIO	N 1. OU	TFALL LOC	ATION (40 CFR 122.21(h)(1))							
	1.1	Provide inf	ormation on each of the facility	r's outfalls in the table	below.					
ation		Outfall Number	Receiving Water Name	Latito	ıde		Lo	ngitude	ļ	
Loc		056	Northwest Tributary	35 ° 55 ′	17.85 ["] 1	N	84° 19	17.8	86 ["] W	
Outfall Location										
SECTIO	N 2. DIS	CHARGE D	ATE (40 CFR 122.21(h)(2))							
	2.1		new or existing discharger? (C	heck only one respor	ise.)					
Discharge Date			v discharger		✓ Existing	ng discharge	er → SKIP te	o Sectio	n 3.	
Disc D	2.2	Specify yo	ur anticipated discharge date:							
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))							
	3.1	What types	s of wastes are currently being	discharged if you are	an existing	discharger o	r will be disc	harged	if you are	а
		ı	arger? (Check all that apply.)	ŗ	O41			/ al a a a a alla	- / - !	
		_	nitary wastes	Į		nonprocess / below)	wastewater	(describ	e/expiain	
40			staurant or cafeteria waste			cond, aquatic p	ond overflow a	nd spring		
ypes			n-contact cooling water							
Waste Types	3.2	i —	acility use cooling water additiv							
Nasi		☐ Yes				SKIP to Se	ction 4.			
	3.3	List the co	oling water additives used and Cooling Water Additive		sition.	Composi	tion of Add	itives		
			(list)				/ailable to you)	111100		
SECTIO	N 4 EEE	LUENT CH	ARACTERISTICS (40 CFR 12	2 21/h\/ <i>4</i> \\						
SECTIO	4.1		completed monitoring for all pa		below at eac	ch of vour ou	ıtfalls and at	tached t	he results	s to
			ation package?							
		✓ Yes		No; a waiver has						.
	4.2	Provide da	ata as requested in the table be	(attach waiver red elow.1 (See instruction			malion) ->	SKIP LO	Section 5	
တ္တ			'	Number of			Average	Daily	Source	ce
istic		Pa	rameter or Pollutant	Analyses (if actual data	Disch (specif		Discha (specify t	_	(use co	des
Effluent Characteristics				reported)	Mass	Conc.	Mass	Conc.	instruction	
hara		Biochemic	al oxygen demand (BOD₅)	1 J 6E	-04 kg/day	-	J 6E-04 kg/day		17 mg/L —	N/A
nt C		Total susp	ended solids (TSS)	1 0.31	kg/day	-	0.31 kg/day		mg/L	N/A
flue		Oil and gre	ease	1 J 0.1	8 kg/day	_	J 0.18 kg/day		21 mg/L	N/A
<u> </u>		Ammonia	` ,		· · · · · ·	J 0.0469 mg/L	J 3.8E-03 kg/d	ay J 0.0)469 mg/L	N/A
		Discharge		4	0.022 mgd					N/A
		pH (report		3	6.7 - 7.5 StdUr	nit				N/A
			ure (winter)	1	13.7 degC					N/A
		Temperatu	ure (summer)	3	23. degC					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).

EP.	A Identifica	ation Number NPDES Permit Number Facility Name Form Approved 03/05/19 TN0002044 OMB No. 2040-0004									
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	initary wa	ste discharg	ged (or will it l	be discharg	ed)?			
		☐ Yes				✓ No 3	SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction						
					mber of	1	m Daily	Averag		Source	
		Parame	ter or Pollutant		alyses ctual data	Disch (specifi		Disch (specif		(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
eg		E. coli									
Effluent Characteristics Continued		Enterococci									
Son	4.5	l <u> </u>	(or will it be used)?			_					
S		☐ Yes					SKIP to It	to Item 4.7.			
rist	4.6	Provide data as	requested in the table be								
acte					nber of	Maximu Disch	m Daily	Averag Disch	-	Source	
hara		Parame	ter or Pollutant		alyses ctual data	(specifi		(specif		(use codes per	
ıt C					ported)	Mass	Conc.	Mass	Conc.	instructions)	
Inei		Total Residual (Chlorine								
置	4.7	I —	ontact cooling water discharged (or will it be discharged)?								
		☐ Yes	res ✓ No → SKIP to Se								
	4.8	Provide data as	requested in the table be					A	- Daile		
		_		1	mber of alyses	Maximu Disch	•	Averag Disch		Source (use codes	
		Parame	eter or Pollutant		ctual data	(specify		(specify units)		per	
				re	ported)	Mass	Conc.	Mass	Conc.	instructions)	
			en demand (COD)								
		Total organic ca	, ,								
SECTIO		W (40 CFR 122.2								10.441	
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	ind 3 of this	
		Yes → (Complete this section.			□ No →	SKIP to S	ection 6.			
Flow	5.2		the frequency and duration								
Ē		l	ges intermittently based on exp ix ponds formerly used for aqua								
		one of them. There	e is almost always some discha	rge from th	is pond. Howe	ver, this outfall	has the potent	ial to dischar	ge at rates e	equivalent to	
		Outfall 052 if the war for flowrate.	ater that is normally directed to	the pond th	nat discharges t	through Outfall (052 is directed	to this pond	instead. Se	e Section 4.2	
		ioi nowiate.	tor nowrate.								
SECTIO	N 6. TRE	EATMENT SYSTE	TMENT SYSTEM (40 CFR 122.21(h)(6))								
	6.1	Briefly describe any treatment system(s) used (or to be used).									
stei			cess supply water is dechlorinat								
t Sy		for use in the resea	e analyzers that stop the flow of arch aguariums.	process wa	ater into aquani	a if dechlorinatio	on is not occur	ring. The wa	ter is also n	eated slightly	
nen			·								
Treatment System											
Ė											

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).

EP/	A Identificat	tion Number	NPDES Permit Number	Facility Name Form Approved 03/05/1									
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004							
SECTIO	N 7. OTH	ER INFORMATI	ON (40 CFR 122.21(h)(7))										
Other Information	7.1	reviewer should This outfall is the longer used for the is controlled by a discharging through	below to expand upon any of the a d consider in establishing permit lir discharge pipe from a pond originally cons at purpose. The inlet to this and its neighboralving system which can direct flow to an gh Outfall 052. The source of water is discount the pipe from an upper First Creek spring	nitations. A structed and u poring ponds y or all of the charge from t	attach additional sheets as sed for rearing fish for experim (there are a total of 6 ponds that ponds. In most circumstances the experimental fish tanks and	ental purposes, but the pond is no at discharge through outfalls 052 - 057) all flow is directed to the pond HVAC condensate from Building 1504.							
SECTIO			ERTIFICATION STATEMENT (40										
	8.1		Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your application. or each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that										
		not all applican	ts are required to provide attachme	ents.									
			Column 1		С	olumn 2							
		✓ Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)							
		✓ Section 2:	Discharge Date		w/ attachments								
		✓ Section 3:	Waste Types		w/ attachments								
ent		Section 4:	Effluent Characteristics		w/ attachments								
tatem		✓ Section 5:	Flow		w/ attachments								
tion S		✓ Section 6:	Treatment System		w/ attachments								
rtifica		✓ Section 7:	Other Information		w/ attachments								
nd Ce		✓ Section 8:	Checklist and Certification Statem	nent	w/ attachments								
st al	8.2	Certification S	Statement										
Checklist and Certification Statement		accordance with submitted. Bas responsible for accurate, and c	penalty of law that this document a th a system designed to assure that ed on my inquiry of the person or p gathering the information, the info complete. I am aware that there are ne and imprisonment for knowing v	nt qualified persons wh rmation su e significar	personnel properly gather o manage the system, or bmitted is, to the best of n t penalties for submitting	r and evaluate the information those persons directly ny knowledge and belief, true,							
			type first and last name)		Official title								
		Johnny O. Moore			Manager, ORNL Site Office								
		Signature			Date signed								

FORM 2E

TN1890090003



EPA Identification Number

NPDES	7	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ION (40 CFR 122.21(h)(1))										
	1.1	Provide inform Outfall	nation on each of the facility	r's outfalls in the	table	below.							
ation		Number	Receiving Water Name		Latitu	ıde			Lo	ngitude	!		
Outfall Location		057 No	rthwest Tributary	35 °	55 ′	17.92 "	N	84°	19	9 18.5	55" W		
utfall													
Ō													
SECTIO	N 2. DIS	CHARGE DATE	E (40 CFR 122.21(h)(2))										
ge Ge	2.1	Are you a new	v or existing discharger? (C	heck only one re	spon	se.)							
scharç Date		☐ New dis	scharger			✓ Exis	sting discha	arger 🗕	SKIPt	o Sectio	n 3.		
Discharge Date	2.2	Specify your a	anticipated discharge date:										
SECTIO	N 3. WA	STE TYPES (40	0 CFR 122.21(h)(3))										
	3.1		wastes are currently being	discharged if yo	u are	an existin	g discharg	er or wil	l be dis	charged	if you are	e a	
			er? (Check all that apply.)		Į.	⊘ Othe	er nonproce	ess was	tewater	(describ	e/explair	,	
		_	Sanitary wastes Other nonprocess wastewater (describe/explain directly below)										
တ္တ		_	Restaurant or cafeteria waste HVAC cond, aquatic pond overflow and spring Non-contact cooling water										
Гуре	3.2		ity use cooling water additiv	(0.6.2								$=$ \parallel	
Waste Types	0.2	Yes	ity aso occining water addition	700:	•	✓ No	→ SKIP to	Section	n 4.				
×	3.3	List the cooling	g water additives used and	describe their co	ompo	sition.							
			Cooling Water Additive	s					of Add				
			(not)		Т			ii avaiiae	no to you,				
SECTIO			ACTERISTICS (40 CFR 12		alala.	halawat a	aala af vav			taalaad t	h aa	- 4-	
	4.1	this application	npleted monitoring for all pa n package?	irameters in the	lable	below at e	ach or you	routiali	s and a	llached l	ne resuit	S IO	
		✓ Yes		No; a waiver									
	4.2		as requested in the table be	(attach waiv				nformati	ion) →	SKIP to	Section !	5.	
ω	4.2	Frovide data a	as requested in the table be	Number of			num Daily	Α	verage	Daily	Sour	rce .	
stice		Paran	neter or Pollutant	Analyses		Dis	charge		Discha	arge	(use co		
teri			(if actual data reported) (specify units) (specify units) per instructions)										
Effluent Characteristics		Biochemical o	oxygen demand (BOD₅)	1	< 0.0	3 kg/day			3 kg/day		ng/L	N/A	
t C		Total suspend	ded solids (TSS)	1	0.2 k	cg/day	5.79 m	g/L 0.2 I	kg/day	5.79	9 mg/L	N/A	
luen		Oil and grease	е	1	< 0.0	4 kg/day	< 1.65 m	g/L < 0.0	4 kg/day	< 1.	65 mg/L	N/A	
# #		Ammonia (as	N)	1	2E-0	3 kg/day	0.0818 m	g/L 2E-0	3 kg/day	0.0	318 mg/L	N/A	
		Discharge flow	W	5		7E-03 mgd						N/A	
		pH (report as	range)	2		6.8 - 7 StdU	Init					N/A	
		Temperature	(winter)	3		14.2 degC						N/A	
		Temperature	(summer)	2		22.7 degC						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).

EP.	A Identifica	ation Number NPDES Permit Number Facility Name Form Approved 03/05/19 TN0000044 ONE Pridge National Johanney OMB No. 2040-0004									
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	be discharg	ed)?			
		☐ Yes				✓ No -	SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction						
					nber of	I	m Daily		e Daily	Source	
		Parame	ter or Pollutant		alyses ctual data	Uisci (specif	narge	Disch (specif	narge y units)	(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
ba		E. coli									
Effluent Characteristics Continued		Enterococci									
Con	4.5	l <u> </u>	(or will it be used)?			_					
) so		☐ Yes				✓ No →	SKIP to It	o Item 4.7.			
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction			_			
acte					nber of		m Daily	Averag	Source		
hara		Parame	ter or Pollutant	alyses ctual data	(specif	narge v units)	Disch (specif	y units)	(use codes per		
it C					ported)	Mass	Conc.	Mass	Conc.	instructions)	
luer		Total Residual (Chlorine								
盟	4.7	Is non-contact of	-contact cooling water discharged (or will it be discharged)?								
		☐ Yes	/es ✓ No → SKIP to Section								
	4.8	Provide data as	requested in the table be								
				1	nber of	Maximu Discl	•	Averag		Source	
		Parame	eter or Pollutant		alyses ctual data	(specif		Discharge (specify units)		(use codes per	
				re	ported)	Mass	Conc.	Mass	Conc.	instructions)	
			en demand (COD)								
		Total organic ca	, ,								
SECTIO		W (40 CFR 122.2									
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	ind 3 of this	
			mittent or seasonal?								
		✓ Yes →	Complete this section.			∐ No →	SKIP to S	ection 6.			
Flow	5.2		the frequency and duration								
Ĕ		l	ges intermittently based on exp								
			ix ponds formerly used for aqualischarge from this pond is inte								
			to Outfall 052 if the water that is	s normally	directed to the	oond that discha	arges through	Outfall 052 is	directed to	this pond	
		instead. See Section	instead. See Section 4.2 for flowrate.								
SECTIO	N 6. TRE	ATMENT SYSTE	TMENT SYSTEM (40 CFR 122.21(h)(6))								
ء	6.1	Briefly describe	Briefly describe any treatment system(s) used (or to be used).								
ster			ess supply water is dechlorinat								
Sy.		for use in the resea	analyzers that stop the flow of arch aquariums.	process wa	ater into aquaria	a if dechlorination	on is not occur	ring. The wa	ter is also h	eated slightly	
nen											
Treatment System											
Ę											

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).

EP/	A Identificat	tion Number	NPDES Permit Number	Facility Name Form Approved 03/05/									
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004							
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))										
Other Information	7.1	reviewer should This outfall is the d longer used for the is controlled by a discharging through	pelow to expand upon any of the all consider in establishing permit limit discharge pipe from a pond originally const at purpose. The inlet to this and its neighboralving system which can direct flow to any the Outfall 052. The source of water is discount the pipe from an upper First Creek spring	nitations. A ructed and u pring ponds (or all of the harge from the	ttach additional sheets as sed for rearing fish for experim there are a total of 6 ponds tha ponds. In most circumstances e experimental fish tanks and	s needed. ental purposes, but the pond is no it discharge through outfalls 052 - 057) all flow is directed to the pond HVAC condensate from Building 1504.							
SECTIO			ERTIFICATION STATEMENT (40 (
	8.1	For each section	Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your application. or each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that of all applicants are required to provide attachments. Column 1 Column 2										
			Column 1		C	olumn 2							
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)							
		Section 2:	Discharge Date		w/ attachments								
		Section 3:	Waste Types		w/ attachments								
ent		Section 4:	Effluent Characteristics		w/ attachments								
tatem		Section 5:	Flow		w/ attachments								
tion S		Section 6:	Treatment System		w/ attachments								
rtifica		Section 7:	Other Information		w/ attachments								
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments								
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are has ystem designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vietype first and last name)	t qualified persons whe mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,							

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

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

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ION (40 CFR 122.21(h)(1))										
	1.1	Provide inforn Outfall	nation on each of the facility	's outfalls in the	table	below.							
ıtion		Number	Receiving Water Name		Latitu	ıde			Longitud	e			
Outfall Location		058 No	orthwest Tributary	35 °	55 [']	20.88 "	N	84°	19 20	.64″ V	v		
utfall													
Ō													
SECTIO	N 2. DIS	CHARGE DAT	E (40 CFR 122.21(h)(2))										
ge Ge	2.1	Are you a nev	w or existing discharger? (C	heck only one r	espon	se.)							
scharç Date		New di	ischarger			✓ Exis	sting dischar	ger → SK	IP to Secti	on 3.			
Discharge Date	2.2	Specify your a	anticipated discharge date:										
SECTIO	N 3. WA	STE TYPES (40	0 CFR 122.21(h)(3))										
	3.1		f wastes are currently being	discharged if y	ou are	an existin	g discharge	r or will be	discharge	d if you a	ire a		
			scharger? (Check all that apply.) Sanitary wastes Other nonprocess wastewater (describe/explain										
			Restaurant or cafeteria waste Other nonprocess wastewater (describe/explain directly below)										
တ္			Non-contact cooling water HVAC & steam condensate, emergency CT blowdown										
Тур	3.2		lity use cooling water additive	res?							= $+$		
Waste Types	0.2	✓ Yes	nty add dooming mater address			□ No •	SKIP to 8	Section 4.					
×	3.3	List the coolin	ng water additives used and		ompo	sition.							
			Cooling Water Additive	S				sition of A					
		See Appendix L	(1101)		Se	e Appendix) • • /				
SECTIO	N 4. EFF 4.1		ACTERISTICS (40 CFR 12) poleted monitoring for all pa		toblo	bolow of o	ach of your	outfalla an	d attached	the requi	ulto to		
	4.1	this applicatio		nameters in the	lable	Delow at e	acii oi youi	outialis ari	u allacrieu	ine resu	มเร เบ		
		✓ Yes					ested from r						
	4.2		as requested in the table be				additional inf ifics)	ormation)	→ SKIP to	Section	15.		
γ		Trovido data	ao 10 quotica ii1 a10 table be	Number o			num Daily	Avera	age Daily	Sou	urce		
istic		Parar	neter or Pollutant	Analyses			charge		charge	(use	codes		
cter			(if actual data (specify units) (specify units) per reported) Mass Conc. Mass Conc. instructions										
Effluent Characteristics		Biochemical o	oxygen demand (BOD₅)	1	< 2E	-03 kg/day	< 4 mg	/L < 2E-03 k	g/day < 4	l mg/L	N/A		
ıt Cl		Total suspend	ded solids (TSS)	1	3E-0	3 kg/day	5.7 mg	/L 3E-03 kg	/day 5.	7 mg/L	N/A		
lluer		Oil and greas	e	1	J 1E-	03 kg/day	J 2.32 mg	/L J 1E-03 k	g/day J 2	2.32 mg/L	N/A		
<u> </u>		Ammonia (as	N)	1	J 2E-	05 kg/day		/L J 2E-05 k	g/day J ().042 mg/L	- N/A		
		Discharge flow	W	3		1E-03 mgd					N/A		
		pH (report as	range)	1		7.7 - 7.7 Sto	lUnit				N/A		
		Temperature	(winter)	2		9.2 degC					N/A		
		Temperature	(summer)	2		19.8 degC					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).

		tion Number	NPDES Permit Numb	nber Facility Name Oak Ridge National Laboratory				Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge N	ational Laborato	ory		OIVIE	NU. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	ınitary wa	ste discharç	ged (or will it	be discharge	ed)?		
		☐ Yes				✓ No 3	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of	1	m Daily	Average	-	Source
		Parame	ter or Pollutant		alyses	Discl		Disch		(Use codes
					tual data oorted)	(specif	Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			,					,
- o		E. coli								
nue		Enterococci								
onti	4.5		(or will it be used)?							
Effluent Characteristics Continued		✓ Yes	(0.11			□ No =	SKIP to Ite	em 4.7.		
stic	4.6		requested in the table be	low.1 (Se	e instruction					
teri		. , , , , , , , , , , , , , , , , , , ,	104000000000000000000000000000000000000		nber of		m Daily	Average	e Daily	Source
ırac		Daramo	ter or Pollutant		alyses	1	narge	Disch	arge	(use codes
Ch		raidille	ici oi i oilatait	,	tual data	(specif		(specify		per instructions)
ent		Total Residual 0	Ohlawina.	1	oorted)	Mass E-05 kg/day	Conc. < 0.05 mg/L	Mass	Conc. lay < 0.05	,
#IIn	4.7			or will it h			. < 0.05 mg/L	~ 3E-05 kg/0	ay \ 0.05	ing/L N/A
ш	4.7	✓ Yes	ooling water discharged (OI WIII IL L	e discriarge		SKIP to Se	otion 5		
	4.8		requested in the table be	low 1 (Co	o instruction			CHOIT 5.		
	4.0	FIOVICE CALA AS	requested in the table be	T	nber of		m Daily	Average	e Daily	Cauras
		Parameter or Pollutant			alyses	1	narge	Disch		Source (use codes
		Parameter or Pollutant		(if a	tual data	(specif	y units)	(specify	units)	per
				re	ported)	Mass	Conc.	Mass	Conc.	instructions)
			n demand (COD)	1		E-03 kg/day	•	J 5E-03 kg/d	•	
		Total organic ca	` ,	1	1E	-03 kg/day	2.56 mg/L	1E-03 kg/da	ıy 2.56 r	mg/L N/A
SECTIO		W (40 CFR 122.2								
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any of	the discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this
		✓ Yes → C	Complete this section.			□ No →	SKIP to Se	ection 6.		
Flow	5.2	Briefly describe	the frequency and duration	on of flow						
Ĕ			sources are intermittent and are					cooling demar	nds. CT blov	wdown would
		only ever occur in a	an emergency overflow situation	i during po	wei iallule. Set	3600011 4.2 10	i ilowiate.			
SECTIO	N 6 TRE	I FATMENT SYSTE	M (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		to be used)					
tem	•	N/A	any a salament system (s)							
Sys										
ant (
Treatment System										
Frea										

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19			
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004			
SECTIO	N 7. OTH	IER INFORMATI	ON (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 belief reviewer should consider in establishing permit limitations. Attach additional sheets as needed. This outfall cannot be sampled due to submergence of the outlet by the receiving stream and lack of other access points. Therefore, the concentration, flow, and flux data reported on the first page of this form are representative data taken at Outall 204. Outfall 204 discharge similar types of nonprocess wastewaters. ECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))							
SECTIO			<u></u>			1 10 11 11 11			
	8.1		elow, mark the sections of Form 2E on, specify in Column 2 any attachm						
			ts are required to provide attachme						
			Column 1		С	olumn 2			
		✓ Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)			
		Section 2:	Discharge Date		w/ attachments				
		Section 3:	Waste Types	•	w/ attachments				
ent		Section 4:	Effluent Characteristics		w/ attachments				
tatem		Section 5:	Flow		w/ attachments				
tion S		✓ Section 6:	Treatment System		w/ attachments				
rtifica		✓ Section 7:	Other Information		w/ attachments				
nd Ce		✓ Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments				
st al	8.2	Certification S	tatement						
Checklist and Certification Statement		accordance wit submitted. Bas responsible for accurate, and o	penalty of law that this document and the asystem designed to assure that ed on my inquiry of the person or purgathering the information, the information. I am aware that there are the and imprisonment for knowing vice.	qualified ersons wh mation su significar	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,			
			type first and last name)		Official title				
		Johnny O. Moore			Manager, ORNL Site Office				
		Signature			Date signed				

FORM 2E

TN1890090003



EPA Identification Number

2E NPDES	7	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO	N 1. OU	FALL LOCA	ATION (40 CFR 122.21(h)(1))									
	1.1		ormation on each of the facility	s outfalls in the table	e below.							
ation		Outfall Number	Receiving Water Name	Latit	ude		Long	itude				
Outfall Location		081	Tributary to Melton Branch	35 ° 55 ′	3.15 "	N	84° 18′	19.29	" W			
Outfa												
SECTIO	N 2. DIS		ATE (40 CFR 122.21(h)(2))									
ge	2.1	I — '	new or existing discharger? (C	heck only one respon								
Discharge Date			/ discharger		✓ Exist	ing discharge	er → SKIP to S	ection	3.			
Disc	2.2	Specify you	ur anticipated discharge date:									
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))									
	3.1		of wastes are currently being	discharged if you are	e an existing	discharger o	or will be discha	rged if	you are	а		
		I	arger? (Check all that apply.)					.,	, , ,			
			itary wastes				wastewater (de	scribe	/explain			
			Restaurant or cafeteria waste directly below) OTCW, HVAC, and steam condensate/sump									
/pes		✓ Non-	-contact cooling water									
Waste Types	3.2	Does the fa	acility use cooling water additiv	/es?								
Vast		☐ Yes				SKIP to Se	ction 4.					
>	3.3	List the coo	oling water additives used and		osition.	0	tion of Additio					
			Cooling Water Additive	S			ition of Additiv vailable to you)	es				
SECTIO			ARACTERISTICS (40 CFR 12									
	4.1		completed monitoring for all pa ation package?	rameters in the table	below at ea	ach of your ou	uttalls and attac	hed th	e results	s to		
				No; a waiver has	been reque	sted from my	NPDES permi	tting au	uthority			
		✓ Yes		(attach waiver re	quest and a	dditional infor						
	4.2	Provide da	ta as requested in the table be	· ·		ics.) um Daily	Average Da	ilv				
tics		Dou	ramatar ar Dallutant	Number of Analyses		charge	Discharge		Sour (use co			
teris		Pai	rameter or Pollutant	(if actual data	(spec	ify units)	(specify units	5)	per instruction			
arac		Riochemics	al oxygen demand (BOD₅)	reported) < 0.	Mass 01 kg/day	Conc.	Mass Co	onc. < 4 m		N/A		
S			ended solids (TSS)		4 kg/day	•	0.04 kg/day	13.9	_	N/A		
Effluent Characteristics		Oil and gre	, ,		- ng/day -03 kg/day	_	J 4E-03 kg/day		g/L i mg/L	N/A		
E		Ammonia (04 kg/day	-	1E-04 kg/day		32 mg/L	N/A		
		Discharge	· /	8	6E-03 mgd					N/A		
		pH (report		1	7.6 - 7.6 Stdl	Jnit				N/A		
		Temperatu		3	15. degC					N/A		
			re (summer)	2	17.8 degC					N/A		
				1 (11 1)	1 10	OFD 100 (II	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).

EP.	A Identifica	tion Number	NPDES Permit Numb	mber Facility Name Oak Ridge National Laboratory				Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborate	ory		OIVIE	3 NO. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	initary wa	ste discharg	ed (or will it	be discharge	ed)?		
		Yes				✓ No =	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
				Nui	nber of	Maximu	ım Daily	Average	e Daily	Source
		Parame	ter or Pollutant		alyses		harge	Disch		(Use codes
				,	ctual data ported)	(specif	fy units) Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform		10	portody	Muoo	00110.	WIGGS	00110.	,
-		E. coli								
Effluent Characteristics Continued		Enterococci								
onti	4.5		(or will it be used)?					<u> </u>		
ပိ	4.0	✓ Yes	(or will it bo dodd):			No =	SKIP to Ite	em 47		
stic	4.6		requested in the table be	low 1 (Se	e instruction			OIII 1 .7.		
teris	7.0	1 TOVIGE data as	requested in the table be		nber of		ım Daily	Average	e Daily	Source
rac		Daramo	ter or Pollutant		alyses	Discharge		Discharge		(use codes
Cha		Faiaille	ter of Politicalit	(if a	ctual data		fy units)	(specify		per
i i		T (D)	N	re	ported)	Mass	Conc.	Mass	Conc.	instructions)
) j	4.7	Total Residual (1		E-04 kg/day	< 0.05 mg/L	< 1E-04 kg/d	day < 0.05	mg/L N/A
ш	4.7		ooling water discharged (or will it t	e discharge		OKID to O	- ti		
	4.0			Jan. 1 /Oa	- i		SKIP to Se	ection 5.		
	4.8	Provide data as	requested in the table be				im Daily	Average	o Daily	
		_	Parameter or Pollutant		nber of alyses	1	harge	Disch		Source (use codes
		Parame	eter or Pollutant		ctual data		y units)	(specify		per
				re	ported)	Mass	Conc.	Mass	Conc.	instructions)
			en demand (COD)	1		02 kg/day	•	< 0.02 kg/da	•	5 mg/L N/A
		Total organic ca		1	J 2E	E-03 kg/day	J 0.666 mg/L	J 2E-03 kg/d	ay J 0.66	66 mg/L N/A
SECTIO		W (40 CFR 122.2								
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharg	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes → (Complete this section.			□ No -	SKIP to Se	ection 6.		
*	5.2	Briefly describe	the frequency and duration	on of flow	·.					
Flow		Cooling water from	equipment rooms, individual st			densate source	es depend upo	n seasonal w	eather cond	litions and are
		intermittent. See Se	ection 4.2 for flowrate.							
SECTIO	NE TOE	ATMENT SVSTE	M /40 CED 122 21/h)/6\)							
	6.1		EM (40 CFR 122.21(h)(6)) any treatment system(s)		to he used)					
em	0.1	'	sodium sulfite tablet feeder.	useu (oi	io be usea).					
Syst		Boomonnation with	codiam came tablet locaci.							
int (
Treatment System										
rea										

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space to reviewer should N/A	pelow to expand upon any of the al I consider in establishing permit lim	itations. <i>F</i>	attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 (low, mark the sections of Form 2E			hmitting with your application
	0.1	For each sectio	n, specify in Column 2 any attachm s are required to provide attachme	nents that		
		not an applicant	Column 1	110.	C	olumn 2
		Section 1:	Outfall Location] w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date] w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
staten		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
g Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance witi submitted. Base responsible for accurate, and c possibility of fin	tatement enalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vic	t qualified ersons wh mation su significar	personnel properly gather no manage the system, or bmitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

2E NPDES	9	EPA	MANUFACTURIN	JRING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU		ATION (40 CFR 122.21(h)(1))									
	1.1		ormation on each of the facility	s outfalls in the tab	le below.							
ıtion		Outfall Number	Receiving Water Name	Lati	tude		Long	itude				
Outfall Location		085	Melton Branch	35 ° 54	37.61 N		84° 18′	55.05	" W			
Outfa												
SECTIO	N 2. DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))									
ge	2.1		new or existing discharger? (C	heck only one respo								
Discharge Date			v discharger		✓ Existing	g discharge	er → SKIP to S	ection	3.			
Disc	2.2	Specify you	ur anticipated discharge date:									
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))									
	3.1		of wastes are currently being	discharged if you ar	e an existing di	ischarger o	or will be discha	rged if	you are	а		
			rger? (Check all that apply.)					.,				
		_	itary wastes		✓ Other no directly		wastewater (de	escribe	explain			
			taurant or cafeteria waste		•	d foundation	drain					
/bes			-contact cooling water									
Waste Types	3.2	i —	acility use cooling water additiv	/es?								
Nasi	0.0	☐ Yes	P (180 1 1			SKIP to Se	ction 4.					
	3.3	LIST THE COO	oling water additives used and Cooling Water Additive		osition.	Composi	tion of Additiv	/es				
			(list)				vailable to you)					
OFOTIO	N. 4. EEE	LUENT OU	ND 4 OTEDIOTION (40 OED 40	0.04(1.)(4))								
SECTIO	N 4. EFF 4.1		ARACTERISTICS (40 CFR 12) completed monitoring for all pa		a holow at each	of your or	ıtfalle and attac	had the	roculto	to.		
	4.1		ation package?	ilameters in the table	s below at each	i oi youi oc	ilialis alla allac	nea un	rosulis	, 10		
		✓ Yes		No; a waiver has								
	4.2		ta as requested in the table be	(attach waiver re			mation) → SK	IP to S	ection 5			
ဟ	7.2	1 TOVIGO GG	ta do requestos in the table be	Number of	Maximun	,	Average Da	ily	Source	ce		
istic		Pai	rameter or Pollutant	Analyses	Discha		Discharge		(use cod			
cter				(if actual data reported)	(specify Mass	Conc.	(specify units	onc.	per instruction	ons)		
hara		Biochemica	al oxygen demand (BOD ₅)	1 0.0)4 kg/day	3.65 mg/L	0.04 kg/day	3.65 r	ng/L	N/A		
tc		Total suspe	ended solids (TSS)	1 0.0)9 kg/day	7.8 mg/L	0.09 kg/day	7.8 m	g/L	N/A		
Effluent Characteristics		Oil and gre	ease	1 < 0	.02 kg/day	< 1.63 mg/L	< 0.02 kg/day	< 1.63	mg/L	N/A		
<u> </u>		Ammonia (as N)		E-04 kg/day J	0.0363 mg/L	J 4E-04 kg/day	J 0.03	63 mg/L	N/A		
		Discharge 1	flow	16	3E-03 mgd					N/A		
		pH (report	as range)	1	8 - 8 StdUnit					N/A		
		Temperatu	re (winter)	3	17.7 degC					N/A		
			re (summer)	1	22.4 degC	D 400 f11				N/A		

Temperature (summer)

1 22.4 degC

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).

		tion Number	NPDES Permit Number	er	Facility Name Oak Ridge National Laboratory				Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941						OIVIL	3 NO. 2040-0004	
	4.3	l	believed present, or is sa	nitary w	aste dischar	• .	•	,			
		☐ Yes		1 (0			SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be		ee instructior mber of		s.) I m Daily	Averag	o Daily		
		D	otan an Dallotant		mber of nalyses		harge	Disch		Source (Use codes	
		Parame	eter or Pollutant	(if a	ctual data	(specif	y units)	(specif	y units)	` per	
		Fecal coliform		Γ	eported)	Mass	Conc.	Mass	Conc.	Instructions.)	
_		E. coli									
Effluent Characteristics Continued		Enterococci									
ontir	4.5		d (or will it be used)?								
ပိ	4.0	Yes	(or will it be decay:			✓ No =	SKIP to It	em 4 7			
stic	4.6		requested in the table be	low.1 (Se	ee instruction						
teri					mber of		ım Daily	Averag	e Daily	Source	
arac		Parame	eter or Pollutant		nalyses		harge	Disch		(use codes	
S				,	ctual data eported)	Mass	y units) Conc.	(specifi Mass	Conc.	per instructions)	
rent		Total Residual	Chlorine	1	portody	Midoo	00110.	mass	00110.	,	
Effi	4.7		cooling water discharged (or will it	be discharge	ed)?	•		•		
		☐ Yes			Ü		SKIP to Se	ection 5.			
	4.8	Provide data as	requested in the table be	low.1 (Se	ee instructior	ns for specific	s.)				
					mber of	Maximum Daily Discharge		Averag	-	Source	
		Parame	eter or Pollutant		nalyses actual data		narge y units)	Disch (specifi		(use codes per	
					eported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)								
		Total organic ca	arbon (TOC)								
SECTIO		W (40 CFR 122.									
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	and 3 of this	
		l									
		Yes →	Complete this section.			□ No -	SKIP to S	ection 6.			
Flow	5.2	, ,	the frequency and duration								
正		Flow is intermittent	t and varies seasonally. See Se	ction 4.2 fo	or flowrate.						
SECTIO			EM (40 CFR 122.21(h)(6))								
Ē	6.1	· ·	any treatment system(s)	used (or	to be used).						
yste		N/A									
ıt S											
Treatment System											
real											
_											

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).

EP.	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19		
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004		
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))					
Other Information	7.1	reviewer should Wastewater disch	pelow to expand upon any of the a d consider in establishing permit lin arged to this outfall includes groundwater f	nitations. <i>F</i>	attach additional sheets as			
SECTIO			ERTIFICATION STATEMENT (40					
	8.1	For each section	ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that		
			Column 1		C	olumn 2		
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)		
		Section 2:	Discharge Date		w/ attachments			
		Section 3:	Waste Types		w/ attachments			
ent		Section 4:	Effluent Characteristics		w/ attachments			
taten		Section 5:	Flow		w/ attachments			
tion S		Section 6:	Treatment System] w/ attachments			
rtifica		Section 7:	Other Information		w/ attachments			
nd Ce		Section 8:	Checklist and Certification Statem	ent	w/ attachments			
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement venalty of law that this document all h a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vi type first and last name)	t qualified persons wh rmation su e significar	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,		

FORM 2E

TN1890090003



EPA Identification Number

NPDES		ZEFA	MANUFACTURIN	RING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))		HOIII HO							
	1.1		ormation on each of the facility	's outfalls in the tabl	e below.							
ation		Outfall Number	Receiving Water Name	Latit	ude		Lo	ongitude				
Outfall Location		102	White Oak Creek	35 ° 55 ′	31.1 "	N	84° 1	8 50.8	2" W			
Outfa												
			TE (40 CFR 122.21(h)(2))	book only one reene								
Discharge Date	2.1	l — '	ew or existing discharger? (C discharger	neck only one respo		ting discharge	or 📤 SKID	to Section	. 3			
schar Date	2.2		ir anticipated discharge date:		EXIS	uriy disoriarye	SI 7 ONIF	10 0601101	13.			
Ö	2.2	opcony you	ir artiolpated disoriarge date.									
SECTIO			(40 CFR 122.21(h)(3))									
	3.1		of wastes are currently being	discharged if you ar	e an existinç	g discharger c	or will be dis	charged	if you are	e a		
			rger? (Check all that apply.) tary wastes		Othe	r nonprocess	wastewater	· (describ	e/explain	1		
		_	aurant or cafeteria waste			tly below)		(4000	o. o. qo.o			
ဟု			contact cooling water		Emer	gency OTCW du	ring power fai	lure				
Гуре	3.2			1007								
Waste Types	3.2	Yes	cility use cooling water additive	/es?	✓ No =	SKIP to Se	ction 4					
Wa	3.3		ling water additives used and	describe their comp	110	7 OKII 10 00	ouon 4.					
	0.0	2.57 4.15 555	Cooling Water Additive				tion of Add					
			(list)			(if a	vailable to you)				
SECTIO			RACTERISTICS (40 CFR 12									
	4.1		ompleted monitoring for all pa tion package?	arameters in the table	below at ea	ach of your ou	utfalls and a	ttached t	ne result	s to		
		1	tion package:	No; a waiver has	been reque	ested from my	NPDES pe	ermitting a	authority			
		✓ Yes		(attach waiver re			mation) 👈	SKIP to	Section 5	5.		
	4.2	Provide dat	a as requested in the table be	Number of		ics.) um Daily	Average	Daily	•			
stics		Dar	ameter or Pollutant	Analyses		charge	Disch		Sour (use co			
teris		Fai	ameter of Fondtant	(if actual data reported)	(spec	cify units) Conc.	(specify Mass	units) Conc.	per instructi			
arac		Biochemica	al oxygen demand (BOD₅)	 	2 kg/day		< 0.2 kg/day	< 4 r		N/A		
r Ch			ended solids (TSS)		1 kg/day	J 3.33 mg/L	" '		3 mg/L	N/A		
Effluent Characteristics		Oil and grea	, ,	<u> </u>	1 kg/day	J 2.18 mg/L			8 mg/L	N/A		
Ettl		Ammonia (a		1 3E	03 kg/day		3E-03 kg/day	0.07	′4 mg/L	N/A		
		Discharge f	· · · · · · · · · · · · · · · · · · ·	1	0.01 mgd					N/A		
		pH (report a		1	7.7 - 7.7 Stdl	Jnit				N/A		
		Temperatur		1	28. degC					N/A		
		Temperatur	re (summer)	0	See Section	7.1				N/A		

Temperature (summer) 0 See Section 7.1

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).

		tion Number	NPDES Permit Numb	er		Facility Name		Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge N	lational Laborato	ory		OIVIE	7 INU. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ged (or will it	be discharg	ed)?		
		☐ Yes				✓ No =	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructio	ns for specific	s.)			
					nber of		ım Daily	Average		Source
		Parame	ter or Pollutant		alyses		harge	Disch		(Use codes
				,	ctual data ported)	Mass	y units) Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			*					
2		E. coli								
inue		Enterococci								
onti	4.5	Is chlorine used	(or will it be used)?							
Effluent Characteristics Continued		✓ Yes	,			□ No =	SKIP to Ite	em 4.7.		
istic	4.6	Provide data as	requested in the table be	low.1 (Se	e instructio	ns for specific	s.)			
cter				Nur	nber of		ım Daily	Average		Source
ara		Parame	ter or Pollutant		alyses		harge	Disch		(use codes
ပ်					ctual data ported)	Mass	y units) Conc.	(specify	Conc.	per instructions)
ient		Total Residual 0	Chlorine	1		PE-03 kg/day		< 2E-03 kg/d		i mg/L N/A
<u> </u>	4.7		ooling water discharged (or will it b				3.1		
		✓ Yes	g				SKIP to Se	ection 5.		
	4.8	Provide data as	requested in the table be	low.1 (Se	e instructio	ns for specific	s.)			
		Number of Maximum Daily Average Daily								Source
		Parameter or Pollutant			alyses		harge	Disch		(use codes
					ctual data ported)	Mass	y units) Conc.	(specify	Conc.	per instructions)
		Chemical oxyge	n demand (COD)	1	< ().4 kg/day	< 8.95 mg/L	< 0.4 kg/day	< 8.95	mg/L N/A
		Total organic ca	· ,	1	0.	1 kg/day	2.44 mg/L	0.1 kg/day	2.44 ı	mg/L N/A
SECTIO	N 5. FLC	W (40 CFR 122.2				, , ,				
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Sed	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?	•			·			
		✓ Yes →	Complete this section.			□ No -	SKIP to Se	ection 6.		
>	5.2		the frequency and duration	on of flow						
Flow	5.2		only flows during emergencies			ur. See Section	4.2 for flowrate).		
			,	·	J					
SECTIO			M (40 CFR 122.21(h)(6))		la la como N					
щ _е	6.1	1 '	any treatment system(s)	•	,		144			
yste			charges dry weather flow durin rup cooling during the outage a				ur. At these tin	ies, once thro	ugn cooling	water is
Treatment System			, 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
mei										
reat										
<u> </u>										

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).

		tion Number			· ·	Form Approved 03/05/19 OMB No. 2040-0004							
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	SWB 110. 2010 0001							
SECTIO	N 7. OTH												
Other Information	7.1	reviewer should	consider in establishing permit lim	itations. A	ttach additional sheets as								
SECTIO	N 8. CHE		<u>-</u>										
	8.1	For each sectio	NFORMATION (40 CFR 122.21(h)(7)) The space below to expand upon any of the above items. Use this space to provide any information you believe the lever should consider in establishing permit limitations. Attach additional sheets as needed. Itiple attempts were made to obtain temperatures for this outfall and flow was not found. IST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d)) Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your application, reach section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that tall applicants are required to provide attachments. Column 1 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 5: Flow w/ attachments Section 6: Treatment System w/ attachments Section 7: Other Information w/ attachments Section 8: Checklist and Certification Statement w/ attachments riffication Statement riffication Statement riffication Statement riffication Statement riffication Statement for knowing violations. When the person neither of the person or persons who manage the system, or those persons directly proposible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, purate, and complete. I am aware that there are significant penalties for submitting false information, including the sibility of fine and imprisonment for knowing violations. Official title										
			Column 1		C	olumn 2							
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)							
		Section 2:	Discharge Date		w/ attachments								
		Section 3:	Waste Types		w/ attachments								
ent		Section 4:	Effluent Characteristics		w/ attachments								
statem		Section 5:	Flow		w/ attachments								
tion S		Section 6:	Treatment System		w/ attachments								
rtifica		Section 7:	Other Information		w/ attachments								
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments								
ist a	8.2	Certification S	tatement										
Checklist and Certification Statement		accordance witi submitted. Base responsible for accurate, and c possibility of fin	h a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor omplete. I am aware that there are e and imprisonment for knowing vice	t qualified persons whe mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n t penalties for submitting	and evaluate the information those persons directly ny knowledge and belief, true,							
		l "	type first and last name)										
		Johnny O. Moore			Manager, ORNL Site Office								
		Signature			Date signed								
		l											

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1		ation on each of the facility	's outfalls in th	e table	below.							
ıtion		Outfall Number	Receiving Water Name		Latitu	de			Longitude)			
Outfall Location		191 Tribi	utary to Clinch River	35 °	56 ′	7.25 "	N	84°	16 36.2	23" W			
utfall													
0													
SECTIO	N 2. DIS		(40 CFR 122.21(h)(2))										
ge	2.1		or existing discharger? (C	heck only one	-								
Discharge Date		☐ New dis			l	✓ Exis	sting dischar	ger > SKIF	to Section	n 3.			
Disc	2.2	Specify your ar	nticipated discharge date:										
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))										
	3.1		wastes are currently being	discharged if y	ou are	an existin	g discharger	or will be d	ischarged	if you are	e a		
		new discharger Sanitary	r? (Check all that apply.)			∠ Othe	er nonproces	s wastewat	er (describ	e/explain	,		
		—	Restaurant or cafeteria waste directly below)										
Se			Non-contact cooling water HVAC condensate and cooling tower blowdown										
Typ	3.2		y use cooling water additiv	res?							$=$ \mid		
Waste Types		✓ Yes	,			□ No ·	→ SKIP to S	ection 4.					
8	3.3	List the cooling	water additives used and		compos	sition.							
			Cooling Water Additive	S				sition of Aday					
		See Appendix L	(1.05)		See	e Appendix							
SECTIO			CTERISTICS (40 CFR 12		4 - l- l - l			tf=ll= ====	-4411	la a a			
	4.1	this application	oleted monitoring for all pa package?	rameters in the	e table i	pelow at e	each of your o	outrails and	attached	ne result	S to		
		✓ Yes					ested from m						
	4.2		s requested in the table be				additional info	ormation) =	SKIP to	Section 5	5.		
w	7.2	1 TOVIGE data as	o requested in the table be	Number			num Daily	Averag	je Daily	Sour	rce		
stic		Param	eter or Pollutant	Analyse	s	Dis	charge	Disc	narge	(use co			
cteri				(if actual da reported)		(spe	cify units) Conc.	(speci	y units) Conc.	per instructi			
Effluent Characteristics		Biochemical ox	xygen demand (BOD₅)	1		03 kg/day		L < 2E-03 kg/		mg/L	N/A		
t C		Total suspende	ed solids (TSS)	1	3E-0	3 kg/day	5.7 mg/	L 3E-03 kg/d	ay 5.7	mg/L	N/A		
luer		Oil and grease		1	J 1E-	03 kg/day	J 2.32 mg/	L J 1E-03 kg/	day J 2.	32 mg/L	N/A		
<u> </u>		· · · · · · · · · · · · · · · · · · ·			05 kg/day		L J 2E-05 kg/	day J 0.	042 mg/L	N/A			
		Discharge flow		3		1E-03 mgd					N/A		
		pH (report as ra	ange)	1		7.7 - 7.7 Sto	dUnit				N/A		
			sort as tanger										
		Temperature (\	perature (winter) 2 9.2 degC N/A perature (summer) 2 19.8 degC 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).

		tion Number	NPDES Permit Number		Facility Name Oak Ridge National Laboratory			Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	NU. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	jed (or will it	be discharge	ed)?		
		Yes				✓ No -	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of	1	ım Daily	Average	•	Source
		Parame	ter or Pollutant		alyses		narge	Disch		(Use codes
				,	ctual data ported)	(specif	Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			,					,
- o		E. coli								
nue		Enterococci								
onti	4.5		(or will it be used)?							
Effluent Characteristics Continued		✓ Yes	(or trin it so dodd).			□ No =	SKIP to Ite	em 4.7		
stic	4.6		requested in the table be	low 1 (Se	e instruction			JIII 1.7 .		
teri	1.0	1 10 vido data do	Toquodiou III tilo tablo bo		nber of		ım Daily	Average	e Daily	Source
ırac		Daramo	ter or Pollutant		alyses	1	narge	Disch	-	(use codes
Cha		Faiailic	tel of Foliatalit	,	tual data	(specif		(specify		per per
ent		Tatal Danish al C	Ole Le vive e	re	ported)	Mass	Conc.	Mass	Conc.	instructions)
l liú	4.7	Total Residual (ا الله الله		E-05 kg/day	< 0.05 mg/L	K 3E-05 kg/0	lay < 0.05	mg/L N/A
ш	4.7		ooling water discharged (Or WIII ILL	e discharge		. CVID 4- C-	ation E		
	4.0		requested in the table ha	low 1 /Co	o inatrustion		SKIP to Se	CHOII 5.		
	4.8	Provide data as	requested in the table be	T ,	e instruction nber of		is.) I m Daily	Average	o Daily	0
		D	4 D-U-44		alyses	1	narge	Disch		Source (use codes
		Parame	Parameter or Pollutant		ctual data	(specif		(specify		per
				re	ported)	Mass	Conc.	Mass	Conc.	instructions)
			en demand (COD)	1		E-03 kg/day	•	J 5E-03 kg/d	•	
		Total organic ca	, ,	1	1E-	-03 kg/day	2.56 mg/L	1E-03 kg/da	ıy 2.56 r	mg/L N/A
SECTIO		W (40 CFR 122.2								
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.		
*	5.2	Briefly describe	the frequency and duration	on of flow						
Flow			termittent depending on the we							
		blowndown dischar	ge from the small cooling tower	r is a minor	component of	dry weather flot	w to this outrail	. See Section	4.2 for flow	rate.
SECTIO	NE TPE	I ATMENT SVSTE	EM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		to be used)					
tem	0.1	N/A	any trodunont by storn(b)	4004 (01	to bo doodj.					
Syst		,, .								
int S										
Treatment System										
real										
_										

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should DOE captures sor	pelow to expand upon any of the all d consider in establishing permit lim ne additional data specific to cooling tower I as the corresponding additional data can	nitations. A blowdown d	ttach additional sheets as scharges from non-process wa	s needed. astewater outfalls. A summary of this
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachm ts are required to provide attachme Column 1	nents that	you are enclosing to alert	
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent _	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are has ystem designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vietype first and last name)	t qualified persons when the constant when the constant on the constant of the	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

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

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO			ON (40 CFR 122.21(h)(1))									
	1.1	Provide inform Outfall	nation on each of the facility	's outfalls in the	e table	below.						
ıtion		Number F	Receiving Water Name		Latitu	ıde			Lon	gitude		
Outfall Location		204 Wh	ite Oak Creek	35 °	55 [']	26.81 "	N	84°	18	58.3	1" W	
utfall												
0												
SECTIO	N 2. DIS	CHARGE DATE	E (40 CFR 122.21(h)(2))									
e G	2.1	Are you a new	or existing discharger? (C	heck only one r	espon	se.)						
schare Date			scharger			✓ Exist	sting discha	ger → S	SKIP to	Section	13.	
Discharge Date	2.2	Specify your a	inticipated discharge date:									
SECTIO	N 3. WA	STE TYPES (40) CFR 122.21(h)(3))									
	3.1		wastes are currently being	discharged if y	ou are	an existin	g discharge	r or will b	e disch	arged i	f you are	а
			er? (Check all that apply.) y wastes		[✓ Othe	er nonproce:	ss waste	water (c	lescribe	e/explain	
		—	rant or cafeteria waste		Ľ		ctly below)	oo waato	wator (c	10001100	лолріші	
y,			ntact cooling water			HVA	C & steam cor	densate, d	cooling to	wer blow	down	
Гуре	3.2		ty use cooling water additiv	(OD)								
Waste Types	3.2	✓ Yes	ty use cooling water additive	621		□ No ·	→ SKIP to	Section 4	l .			
Wa	3.3	List the cooling	g water additives used and	describe their	compo							
			Cooling Water Additive	S				sition o		ives		
		See Appendix L	(IISI)		Se	e Appendix		i avaliable	io you)			
SECTIO			ACTERISTICS (40 CFR 12									
	4.1	Have you com this application	npleted monitoring for all pa n package?	rameters in the	table	below at e	ach of your	outfalls a	and atta	ched th	e result	s to
		✓ Yes	package.				ested from i					
	4.2		as requested in the table be				additional in	formatior	n) ➤ SI	KIP to S	Section 5	5.
(0	4.2	Provide data a	as requested in the table be	Number			num Daily	Ave	erage D	ailv	Sour	CO.
stice		Param	neter or Pollutant	Analyse		Dis	charge	D	ischar	je	(use co	
teri		I didii	iotor or r onutant	(if actual da reported)	а	(spe	cify units) Conc.	(S Mas	pecify uni	ts)	per instructi	
Effluent Characteristics		Biochemical of	xygen demand (BOD₅)	1	< 2E	-03 kg/day		/L < 2E-03	_	< 4 n		N/A
t 당			led solids (TSS)	1	3E-0	3 kg/day	5.7 mg	/L 3E-03	kg/day	5.7 r	ng/L	N/A
luen		Oil and grease	9	1	 J 1E-	03 kg/day	J 2.32 mg	/L J 1E-03	kg/day	J 2.3	2 mg/L	N/A
<u> </u>		Ammonia (as	N)	1	J 2E-	05 kg/day	J 0.042 mg	/L J 2E-05	kg/day	J 0.0	42 mg/L	N/A
		Discharge flow	V	3		1E-03 mgd	•					N/A
		pH (report as i	range)	1		7.7 - 7.7 Sto	dUnit					N/A
		Temperature ((winter)	2		9.2 degC						N/A
	l .											

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).

EP.	tion Number	NPDES Permit Numb	· · · · · · · · · · · · · · · · · · ·				Form Approved 03/05/19 OMB No. 2040-0004				
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborate	ory		OIVIE	3 NO. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	be discharge	ed)?			
		Yes				✓ No =	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	cs.)				
				Nui	nber of	Maximu	ım Daily	Averag	e Daily	Source	
		Parame	ter or Pollutant		alyses		harge	Disch		(Use codes	
				,	ctual data ported)	Mass	fy units) Conc.	(specify	Conc.	per Instructions.)	
		Fecal coliform			o o ready	Middo	00110.	WIGGO	00110.	,	
-		E. coli									
Effluent Characteristics Continued		Enterococci									
onti	4.5		(or will it be used)?								
ပိ	٦.٥	✓ Yes	(or will it bo dodd):			No =	SKIP to Ite	Itom 17			
stic	4.6		requested in the table be	low 1 (Se	e instruction			16111 4.7.			
teris	7.0	1 TOVIGE data as	Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Naximum Dail					Averag	e Daily	Source	
rac		Daramo	ter or Pollutant		alyses		harge	Disch		(use codes	
Cha		Faiaille	ter of Politicalit	(if a	tual data		fy units)	(specify		per	
i i		T (D)	N	re	ported)	Mass	Conc.	Mass	Conc.	instructions)	
J J	4.7	Total Residual (1		E-05 kg/day	< 0.05 mg/L	< 3E-05 kg/c	iay < 0.05	mg/L N/A	
ш	4.7		ooling water discharged (or will it t	e discharge		NOVID to O	-ti [
	4.0	Yes □ No → SKIP to Section 5. 1.8 Provide data as requested in the table below.¹ (See instructions for specifics.)									
	4.8	Provide data as	requested in the table be		e instruction nber of		ɪm Daily	Averag	o Daily		
		_	(B . II . ((1	alyses	1	harge	Disch		Source (use codes	
		Parameter or Pollutant			ctual data		fy units)	(specify		` per	
				re	ported)	Mass	Conc.	Mass	Conc.	instructions)	
			en demand (COD)	1		E-03 kg/day	•	J 5E-03 kg/d	•		
		Total organic ca		1	1E-	·03 kg/day	2.56 mg/L	1E-03 kg/da	y 2.56	mg/L N/A	
SECTIO		W (40 CFR 122.2									
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any of t	the discharg	es you desci	ribed in Se	ctions 1 a	ind 3 of this	
		l <u></u>	Complete this section.			□ No -	SKIP to Se	ection 6			
	F 0		<u> </u>								
Flow	5.2		the frequency and duration densate and cooling tower blows			ent The coolin	na tower is thou	aht to minim	ally dischar	ae blowdown	
			nes per year. See Section 4.2 f			ont. The coolii	ing tower is the	agric to minimi	ally discribing	go biowdowii	
SECTIO			EM (40 CFR 122.21(h)(6))								
Ε	6.1	1	any treatment system(s)								
ste		Best management	practice is to place sodium sulfi	te (92%) ta	blets in the dra	inage ditch dur	ing blowdown o	or tower drain	age cycles.		
Treatment System											
nen											
eatr											

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should	pelow to expand upon any of the all d consider in establishing permit limme additional data specific to cooling towe I as the corresponding additional data can	nitations. <i>A</i> r blowdown	ttach additional sheets as discharges from non-process w	s needed. astewater outfalls. A summary of this
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40			
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachn ts are required to provide attachme Column 1	nents that	you are enclosing to alert	
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are has ystem designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing virtype first and last name)	t qualified ersons wh mation su significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES		MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))	DIGGINATOR GIVE	HOTH ROOT	200 11/1011				
	1.1		ormation on each of the facility	r's outfalls in the table	e below.					
ation		Outfall Number	Receiving Water Name	Latit	ude		Lo	ongitude		
Outfall Location		207	White Oak Creek	35 ° 55 ′	32.88 "	N	84° 18	50.2	8" W	
Outfa										
			ATE (40 CFR 122.21(h)(2))							
arge e	2.1	l — '	ew or existing discharger? (C discharger	neck only one respor		ng discharge	or 📤 QKID	to Soction	. 3	
Discharge Date	2.2		ır anticipated discharge date:		EXISUI	ig discriarge	SI 7 SKIF	io secilo	13.	-
ä	2.2	opoony you	ir artiolpatod diboriargo dato.							
SECTIO			(40 CFR 122.21(h)(3))							
	3.1		of wastes are currently being	discharged if you are	e an existing	discharger o	r will be dis	charged	if you are	a
			rger? (Check all that apply.) tary wastes		✓ Other r	nonprocess	wastewater	(describ	e/explain	
		_	aurant or cafeteria waste			/ below)		(40001.12	o. o. p. o	
တ္တ			-contact cooling water		HVAC 8	& steam conde	nsate, sump d	lischarge		
Type	3.2		icility use cooling water additiv	(052						=
Waste Types	J.Z	Yes	cility use cooling water additive		✓ No →	SKIP to Se	ction 4			
Wa	3.3		ling water additives used and	describe their compo			04011 11			\neg
			Cooling Water Additive				tion of Add			
			(list)			(ıf a\	/ailable to you)		
SECTIO	N 4. EFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2.21(h)(4))						
0_0	4.1		ompleted monitoring for all pa		below at eac	h of your ou	ıtfalls and a	ttached t	ne results	to
		this applica	tion package?					144		
		✓ Yes		No; a waiver has (attach waiver re						
	4.2	Provide dat	ta as requested in the table be				matorij 2	OITH TO	50040110	
S				Number of	Maximu	•	Average		Source	
Effluent Characteristics		Par	ameter or Pollutant	Analyses (if actual data	Disch (specify		Discha (specify		(use co	
acte				reported)	Mass	Conc.	Mass	Conc.	instructio	
Char			al oxygen demand (BOD₅)		7 kg/day	Ū			? mg/L	N/A
ont (ended solids (TSS)		04 kg/day	-	J 0.04 kg/day		5 mg/L	N/A
t luc		Oil and gre			03 kg/day	•	< 0.03 kg/day		61 mg/L	N/A
ш		Ammonia (•		03 kg/day	0.111 mg/L	2E-03 kg/day	0.1	1 mg/L	N/A
		Discharge 1		39	0.1 mgd	.:4				N/A
		pH (report a		24	7.3 - 9.5 StdUr	111				N/A
		Temperatu	· ,	14	15.3 degC					N/A
		remperatu	re (summer)	13	24.3 degC					N/A

Temperature (summer) 13 24.3 degC 21.5 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).

EP.		tion Number	NPDES Permit Number	er	Facility Name Oak Ridge National Laboratory			Form Approved 03/05/19 OMB No. 2040-0004		
	4.3	la facal coliform	believed present, or is sa	niton (wo				04/3		
	4.5	Yes	r believed present, or is sa	Tillary was	ste discriar	•	SKIP to It	,		
	4.4	Provide data as	requested in the table bel	low.1 (See	instruction	s for specific	s.)			
		Parame	eter or Pollutant	Ana (if act	iber of ilyses ual data	Discl	im Daily harge y units)	Averag Disch (specif	narge	Source (Use codes per
		F 1 116		rep	orted)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
pen		E. coli								
ntin	4.5	Enterococci	1 (
Effluent Characteristics Continued	4.5	S chlorine used	I (or will it be used)?			✓ No -	SKIP to It	em 4.7.		
istic	4.6	Provide data as	requested in the table bel	low.1 (See	instruction	s for specific	:s.)			
cter				Nun	ber of		ım Daily	Averag	-	Source
ara		Parame	eter or Pollutant		lyses		narge		narge	(use codes
ပ် ပ				,	ual data orted)	Mass	y units) Conc.	Mass	y units) Conc.	per instructions)
nen		Total Residual	Chlorine			illus o			55.161	,
E#	4.7	Is non-contact of	cooling water discharged (or will it b	e discharge	ed)?				
		☐ Yes				✓ No →	SKIP to Se	ection 5.		
	4.8	Provide data as	requested in the table bel			 		Avena	a Daily	_
		_		1	nber of nlyses	1	m Daily	Averag		Source (use codes
		Parame	eter or Pollutant		tual data	Discharge (specify units)		Discharge (specify units)		` per
				rep	orted)	Mass	Conc.	Mass	Conc.	instructions)
			en demand (COD)							
		Total organic ca	, ,						,	
SECTIO		W (40 CFR 122.								
	5.1		nwater water runoff, leaks, rmittent or seasonal?	, or spills,	are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.		
Flow	5.2		the frequency and duration, steam condensate, and sump		urces are inte	rmittant. See S	ection 4.2 for t	lowrate.		
SECTIO	N 6 TRE	I ATMENT SYSTI	EM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		o be used)					
tem	•	N/A	any additione dyblom(b)	4004 (0. 1	o do doodj.					
Sys										
ent										
Treatment System										
Tre										
	ı	I								

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).

		tion Number	NPDES Permit Number	0 1 5:1	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
TN1890090	1003		TN0002941	Oak Ridge	National Laboratory	3115 113 23 13 333 1
SECTIO	N 7. OTH		ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should N/A	pelow to expand upon any of the ab I consider in establishing permit lim	itations. A	ttach additional sheets as	
SECTIO			ERTIFICATION STATEMENT (40 (de maithire a saith seasan ann li antinn
	8.1	For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm s are required to provide attachme	ents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
nent		Section 4:	Effluent Characteristics		w/ attachments	
Staten		Section 5:	Flow		w/ attachments	
ation (Section 6:	Treatment System		w/ attachments	
ıtifica		Section 7:	Other Information		w/ attachments	
nd Ce		✓ Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and c possibility of fin	tatement enalty of law that this document and a system designed to assure that ed on my inquiry of the person or pogathering the information, the information. I am aware that there are e and imprisonment for knowing vic	qualified ersons wh mation sul significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003

\$EPA

EPA Identification Number

NPDES		CLA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))							
	1.1		ormation on each of the facility	r's outfalls in the table	e below.					
ation		Outfall Number	Receiving Water Name	Latit	ude		Lo	ongitude		
Outfall Location		210	White Oak Creek	35 ° 55 ′	35.59 "	N	84° 18	8 47.1	7" W	
Outfa										
SECTIO			ATE (40 CFR 122.21(h)(2))		,					
ırge	2.1	l — '	new or existing discharger? (C	heck only one respoi		ina diaaharaa	··· - CKID	to Contin	. 2	
Discharge Date	2.2		r discharger ur anticipated discharge date:		EXIST	ing discharge	er -> SKIP	to Section	1 J.	
Dis	2.2	Specify you	ar anticipated discharge date.							
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))							
	3.1		of wastes are currently being	discharged if you are	e an existing	discharger o	r will be dis	charged	if you are	а
			rger? (Check all that apply.) itary wastes		□ Other	nonprocess	wastewater	(describ	e <i>l</i> evolain	
		—	taurant or cafeteria waste			ly below)	wasiewaiei	(describ	6/6Apiaii i	
v					OTCW	. ,				
уре			-contact cooling water							_
Waste Types	3.2	i —	acility use cooling water additiv		✓ No →	N OKID 4- 0-	A			
Was	3.3	List the sec	oling water additives used and		110 2	SKIP to Se	Ction 4.			
	5.5	LIST THE COC	Cooling Water Additive		osition.	Composi	tion of Add	litives		
			(list)			(if av	vailable to you)		
SECTIO	N 4 FFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2 21(h)(4))						
OLOTIO	4.1		completed monitoring for all pa		below at ea	ich of your ou	ıtfalls and a	ttached t	ne results	s to
		this applica	ation package?							
		✓ Yes		No; a waiver has (attach waiver re						:
	4.2	Provide da	ta as requested in the table be				mauon) 🗾	OINII 10	060110113	,.
တ္သ			<u> </u>	Number of	Maxim	um Daily	Average	-	Sour	се
risti		Pai	rameter or Pollutant	Analyses (if actual data		harge ify units)	Discha (specify		(use co per	
acte				reported)	Mass	Conc.	Mass	Conc.	instructi	
hara		Biochemica	al oxygen demand (BOD₅)	1 < 0.	07 kg/day	•	< 0.07 kg/day	< 4 1	ng/L	N/A
l t		Total suspe	ended solids (TSS)		7 kg/day	-	0.07 kg/day	4.5	mg/L	N/A
Effluent Characteristics		Oil and gre	ease		kg/day	ŭ	0.2 kg/day		l mg/L	N/A
<u> </u>		Ammonia (as N)		-04 kg/day	J 0.0242 mg/L	J 4E-04 kg/da	y J 0.0)242 mg/L	N/A
		Discharge	flow	66	0.04 mgd					N/A
		pH (report	as range)	63	6.8 - 8.5 StdL	Jnit				N/A
		Temperatu	re (winter)	33	21.3 degC					N/A
		Temperatu	re (summer)	33	24.4 degC					N/A

Temperature (summer)

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).

EP.				Number Facility Name			Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	0003		TN0002941		Oak Ridge N	ational Laborato	ory		OME	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	ste dischar	jed (or will it	be discharg	ed)?			
		☐ Yes				✓ No 3	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction					
					nber of	1	ım Daily	Averag		Source
		Parame	ter or Pollutant		alyses ctual data		harge y units)	Disch (specify		(Use codes per
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
ba		E. coli								
Effluent Characteristics Continued		Enterococci								
Conf	4.5	Is chlorine used	(or will it be used)?				•			
) နာ		✓ Yes				□ No -	SKIP to Ite	em 4.7.		
risti	4.6	Provide data as requested in the table below.1 (See instructions for specifics.)								
ctel		Number of Maximum Daily Analyses Discharge						Averag		Source
lara		Parame	ter or Pollutant		alyses tual data		harge iy units)	Disch (specifi		(use codes
5					ported)	Mass	Conc.	Mass	Conc.	per instructions)
nen		Total Residual (Chlorine	63	0.0	9 kg/day	2 mg/L	< 4.5E-03 kg	g/day < 0.13	87 mg/L N/A
置	4.7	Is non-contact c	Is non-contact cooling water discharged (or will it be discharged)?							
		✓ Yes								
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
				1	nber of	1	ım Daily	Averag		Source
		Parame	eter or Pollutant	Analyses (if actual data Discharge (specify units)				Disch (specify		(use codes per
				, , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)
		Chemical oxyge	en demand (COD)	1	0.4 kg/day 25.9 mg			0.4 kg/day	25.9	mg/L N/A
		Total organic ca	rbon (TOC)	1	0.0	2 kg/day	1.01 mg/L	0.02 kg/day	1.01	mg/L N/A
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))							
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.		
>	5.2	Briefly describe	the frequency and duration	on of flow						
Flow			once through cooling water sou			See Section 4.	2 for flowrate.			
SECTIO	N 6 TRE	I ATMENT SYSTE	EM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		to be used)					
tem	0.1	1 '	lual chlorine is once through co	,	,	ources. The dis	scharge is trea	ted to reduce	residual ch	lorine and/or
Sys		residual bromine w	ith a liquid-feed sodium bisulfite							
ent		equipped with appr	opriate alarms.							
Treatment System										
reg										
<u> </u>		l								

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).

TN1890090		tion Number	NPDES Permit Number TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
		IER INFORMATION	ON (40 CFR 122.21(h)(7))	33	,	
Other Information	7.1 Use the space reviewer should be reviewer shoul		pelow to expand upon any of the all consider in establishing permit lim cooling water system is mainly for researc	nitations. A	ttach additional sheets as	s needed.
SECTIO			ERTIFICATION STATEMENT (40		* * * * * * * * * * * * * * * * * * * *	
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachn ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	Certification S				
Chec		accordance with submitted. Base responsible for accurate, and c	enalty of law that this document ar h a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor omplete. I am aware that there are e and imprisonment for knowing vi	t qualified ersons wh mation sub significan	personnel properly gather to manage the system, or bmitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,
		I "	type first and last name)		Official title	
		Johnny O. Moore			Manager, ORNL Site Office	
		Signature			Date signed	

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

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

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EFA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU	FALL LOC	ATION (40 CFR 122.21(h)(1))	DIOGINATOR ONE	HOIH IXO	2200 117 1011	ZVVV CIN			
	1.1		ormation on each of the facility	s outfalls in the tabl	e below.					
ation		Outfall Number	Receiving Water Name	Latit	ude		Lo	ongitude		
Outfall Location		211	White Oak Creek	35 ° 55 ′	36.85 "	N	84° 1	8 44.9	2" W	
Outfa										
SECTIO			ATE (40 CFR 122.21(h)(2))							
rge	2.1	l '	new or existing discharger? (C	heck only one respo			> OKID	4- 04	- 0	
Discharge Date	2.2		v discharger ur anticipated discharge date:		EXIS	ting discharge	ST - SKIP	to section	11 3.	
Öis	2.2	Specify you	ur artitolpated discriarge date.							
SECTIO	N 3. WA		(40 CFR 122.21(h)(3))							
	3.1		s of wastes are currently being	discharged if you ar	e an existing	g discharger o	r will be dis	charged	if you are	a
			arger? (Check all that apply.) itary wastes		Other	r nonprocess	wastewater	(describ	e/explain	
			taurant or cafeteria waste			tly below)	waotowator	(dooonb	οιοχριαπί	
y,			-contact cooling water		HVAC	2 & steam conde	nsate, sump,	OTCW		
Гуре	3.2			, and						
Waste Types	3.2	Yes	acility use cooling water additive	/es :	✓ No =	SKIP to Se	ction 4			
Wa	3.3		oling water additives used and	describe their comp		7 OKII 10 00	ouon 4.			-
	0.0	2.50 0.10 000	Cooling Water Additive				tion of Add			
			(list)			(if a	/ailable to you)		
SECTIO	N 4. EFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2.21(h)(4))						
	4.1	Have you d	completed monitoring for all pa		below at ea	ach of your ou	ıtfalls and a	ttached t	he results	s to
		this applica	ation package?	Na. a wai wan baa	h	-4- d fue	NDDEC :			
		✓ Yes		No; a waiver has (attach waiver re						5.
	4.2	Provide da	ta as requested in the table be							
8				Number of		um Daily	Average		Sour	
Effluent Characteristics		Pai	rameter or Pollutant	Analyses (if actual data		charge cify units)	Discha (specify		(use co per	
racte		- · ·		reported)	Mass	Conc.	Mass	Conc.	instructi	
Chai			al oxygen demand (BOD₅)		kg/day	•	< 1 kg/day	< 4 1	_	N/A
ent			ended solids (TSS)		2 kg/day	< 0.576 mg/L			576 mg/L	N/A
ill.		Oil and gre			kg/day	J 3.13 mg/L < 0.017 mg/L			13 mg/L	N/A
ш		Ammonia (,	70	E-03 kg/day 0.1 mgd	< 0.017 mg/L	> o⊑-u3 kg/da	ay < 0.0	017 mg/L	N/A N/A
		Discharge		63	6.8 - 8.4 Stdl	Init				N/A N/A
		pH (report	- ,	33	21.5 degC	Jint .				N/A
			ire (wiriter)	33	23. degC					N/A
		Temperatu	ire (summer)	33	23. degC					N/A

Temperature (summer)

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).

EP/	A Identifica	tion Number	NPDES Permit Numb					Form Approved 03/05/19		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	be discharge	ed)?		
		☐ Yes			[✓ No -	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction					
					nber of		m Daily	Average		Source
		Parame	ter or Pollutant		alyses tual data	Disch (specif		Discharge (specify units)		(Use codes per
				,	oorted)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
be		E. coli								
Effluent Characteristics Continued		Enterococci								
Con	4.5	l	(or will it be used)?							
) so		✓ Yes				□ No □	SKIP to Ite	em 4.7.		
risti	4.6	Provide data as	requested in the table be							
acte					nber of		m Daily	Average		Source
hara		Parame	ter or Pollutant		alyses tual data	Disch (specif		Disch (specify		(use codes per
it C					ported)	Mass	Conc.	Mass	Conc.	instructions)
luer		Total Residual (Chlorine	63	0.1	kg/day	0.4 mg/L	< 0.01 kg/da	y < 0.05	6 mg/L N/A
<u></u>	4.7	Is non-contact of	ooling water discharged (or will it b	e discharge	d)?				
		✓ Yes			ļ		SKIP to Se	ection 5.		
	4.8	Provide data as	requested in the table be						D "	
					nber of	Maximu Discl	•	Average Disch		Source
	Parameter or Pollutant			alyses tual data	(specif		(specify		(use codes per	
				re `	ported)	Mass	Conc.	Mass	Conc.	instructions)
			en demand (COD)	1	< 3	kg/day	< 8.95 mg/L	< 3 kg/day	< 8.95	_
		Total organic ca	, ,	1	0.5	kg/day	1.52 mg/L	0.5 kg/day	1.52 ı	mg/L N/A
SECTIO		W (40 CFR 122.2					<u> </u>	"		
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	are any of t	he discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this
			Complete this section.			□ No →	SKIP to Se	ection 6.		
Flow	5.2		the frequency and duration are intermittant but there is con-			See Section 4	2 for flowrate			
		marriada sociosos	are intermittant but there is con-	anaoao nov	at the outlant		L IOI IIOWIGIO.			
SECTIO			EM (40 CFR 122.21(h)(6))		\. \.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.					
em	6.1	l '	any treatment system(s) scharge is treated to reduce res	•	,	lat fooder dock	lorinators local	tod at the out	all Tablet f	oodors aro
yst			scriarge is treated to reduce res						all. Tablet I	
		manufactured boxe	es with inlets, baffles and hoppe	ers on top. 7	he hoppers are	e loaded with so	odium sulfite (9	12%) tablets t	hat are grav	vity-fed to the
int S			es with inlets, baffles and hoppe where they make contact with th				odium sulfite (9	(2%) tablets t	hat are grav	vity-fed to the
tment S							odium sulfite (S	12%) tablets t	hat are grav	vity-fed to the
Treatment System							odium sulfite (S	12%) tablets t	hat are grav	rity-fed to the

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).

	1890090003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004							
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))										
Other Information	7.1	Use the space to reviewer should N/A	pelow to expand upon any of the al I consider in establishing permit lim	itations. <i>F</i>	attach additional sheets as								
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 (hmitting with your application									
	0.1	For each sectio	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.										
		not an applicant	Column 1	110.	C	olumn 2							
		Section 1:	Outfall Location] w/ attachments (e.g., re	esponses for additional outfalls)							
		Section 2:	Discharge Date] w/ attachments								
		Section 3:	Waste Types		w/ attachments								
ent		Section 4:	Effluent Characteristics		w/ attachments								
staten		Section 5:	Flow		w/ attachments								
tion S		Section 6:	Treatment System		w/ attachments								
rtifica		Section 7:	Other Information		w/ attachments								
g Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments								
Checklist and Certification Statement	8.2	accordance witi submitted. Base responsible for accurate, and c possibility of fin	tatement enalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vic	t qualified ersons wh mation su significar	personnel properly gather no manage the system, or bmitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,							

FORM 2E

TN1890090003



EPA Identification Number

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

MANUFACTURING COMMERCIAL MINING AND SILVICULTURAL FACILITIES WHICH

NPDES			MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO	N 1. OUT	FALL LOC	ATION (40 CFR 122.21(h)(1))		HOIL HO								
	1.1		ormation on each of the facility	s outfalls in the table	e below.								
Outfall Location		Outfall Number	Receiving Water Name	Latit	ude		Longitu	de					
Loc		212	White Oak Creek	35 ° 55 ′	37.14 ["] I	N	84° 18′ 4	3.65" W					
ıtfall													
ō													
SECTIO	N 2 DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))										
	2.1		new or existing discharger? (C	heck only one respo	nse.)								
scharg Date			/ discharger	,		ng discharge	er → SKIP to Sec	tion 3.					
Discharge Date	2.2	Specify you	ur anticipated discharge date:										
	N 3. WA	STE TYPES	E TYPES (40 CFR 122.21(h)(3))										
	3.1		of wastes are currently being	discharged if you are	e an existing	discharger o	r will be discharge	ed if you are a					
			arger? (Check all that apply.)		O41			wile a faccord a in					
		_	itary wastes			nonprocess of below)	wastewater (desc	nbe/explain					
ω		_	taurant or cafeteria waste			condensate							
уре			-contact cooling water										
Waste Types	3.2	Does the fa	acility use cooling water additiv		✓ No →	SKIP to Se	otion 4						
Was	3.3		oling water additives used and		2	ONII 10 06	CtiO11 4.						
	0.0	Liot ti lo doc	Cooling Water Additive		Join of I.		tion of Additives	i					
			(list)			(if a)	/ailable to you)						
SECTIO	N 4. EFF		ARACTERISTICS (40 CFR 12										
	4.1		completed monitoring for all pa ation package?	rameters in the table	below at eac	ch of your ou	ıtfalls and attache	d the results to					
				No; a waiver has	been reques	ted from my	NPDES permittin	g authority					
	4.0	✓ Yes					mation) → SKIP	to Section 5.					
40	4.2	Provide da	ta as requested in the table be	Number of			Average Daily	Course					
stics		Pai	rameter or Pollutant	Analyses		narge	Discharge	Source (use codes					
teris		1 4	Tamotor of Fondtant	(if actual data reported)	(specif	y units) Conc.	(specify units) Mass Cond	per instructions)					
arac		Biochemica	al oxygen demand (BOD ₅)	1 /	E-03 kg/day		-	4 mg/L N/A					
다 당		Total suspe	ended solids (TSS)	1 < 68	E-04 kg/day	< 1.14 mg/L	< 6E-04 kg/day <	1.14 mg/L N/A					
Effluent Characteristics		Oil and gre	ease	1 < 88	E-04 kg/day	< 1.54 mg/L	< 8E-04 kg/day <	1.54 mg/L N/A					
#		Ammonia (as N)	1 1E-	04 kg/day	0.191 mg/L	1E-04 kg/day).191 mg/L N/A					
		Discharge	flow	4	4E-03 mgd			N/A					
		pH (report	as range)	1	7.4 - 7.4 StdUi	nit		N/A					
		Temperatu	re (winter)	4	68.2 degC			N/A					
		Temperatu	re (summer)	2	59.7 degC			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).

EP.	A Identifica	tion Number	NPDES Permit Numb					Form Approved 03/05/19			
TN1890090	0003		TN0002941		Oak Ridge N	lational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ged (or will it	be discharg	ed)?			
		☐ Yes				✓ No ÷	SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructior	ns for specific	s.)				
					mber of	1	ım Daily	Average Daily		Source	
		Parame	ter or Pollutant		alyses ctual data	Discharge (specify units)		Discharge (specify units)		(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
þa		E. coli									
Effluent Characteristics Continued		Enterococci									
Conf	4.5	Is chlorine used	(or will it be used)?				•	•		•	
) 53		Yes				✓ No =	SKIP to It	em 4.7.			
isti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction	ns for specific	s.)				
cter					mber of		ım Daily	Averag	•	Source	
ıara		Parame	ter or Pollutant		alyses		harge iy units)	Disch (specify		(use codes	
t C					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine		, ,						
Eff	4.7	Is non-contact c	ooling water discharged (or will it b	oe discharge	ed)?	•				
		☐ Yes				✓ No →	SKIP to Se	ection 5.			
	4.8										
				1	mber of	1	ım Daily	Averag		Source	
		Parameter or Pollutant			alyses ctual data		harge y units)	Disch (specify		(use codes per	
					eported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)			•	•			•	
		Total organic ca	rbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))				•				
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes →	Complete this section.			□ No -	SKIP to S	ection 6.			
>	5.2	Briefly describe	the frequency and duration	on of flow	,						
Flow	0.2		is discharged through this outfa			uency of discha	arge is variable	and is weath	er depende	nt. See Section	
		4.2 for flowrate.							·		
OFOTIO	NA TRE	ATMENT OVOTE	THE (40 OFF) 400 O4 (L) (O))								
SECTIO	6.1		EM (40 CFR 122.21(h)(6)) any treatment system(s)		to be used						
em	0.1	N/A	any treatment system(s)	useu (oi	to be used).						
yst		IN/A									
nt S											
Treatment System											
real											
_											

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19					
TN1890090	0003		TN0002941	Oak Ridge N	lational Laboratory	OMB No. 2040-0004					
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))								
Other Information	7.1	reviewer should Multiple attempts v collected at repres	pelow to expand upon any of the a d consider in establishing permit lin were made to sample a discharge from this entative outfall 263 since this outfall most	nitations. At s outfall and flo closely resem	tach additional sheets as bow was not found. The data re bles the discharges here.	needed.					
SECTIO		HECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))									
	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		C	olumn 2					
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)					
		Section 2:	Discharge Date		w/ attachments						
		Section 3:	Waste Types		w/ attachments						
nent		Section 4:	Effluent Characteristics		w/ attachments						
Staten		Section 5:	Flow		w/ attachments						
ation S		Section 6:	Treatment System		w/ attachments						
ertifica		Section 7:	Other Information		w/ attachments						
nd Ce		Section 8:	Checklist and Certification Statement	ent 🗆	w/ attachments						
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and c possibility of fin	tatement nenalty of law that this document and healty of law that this document and health assure that ed on my inquiry of the person or pergethering the information, the information, the information, the information, the information, the information, the information of the inf	t qualified p ersons who mation sub e significant olations.	ersonnel properly gather manage the system, or mitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,					
		l									

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

2E NPDES	3	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU		ATION (40 CFR 122.21(h)(1))							
	1.1		ormation on each of the facility	s outfalls in the tab	le below.					
ıtion		Outfall Number	Receiving Water Name	Lati	tude		Longit	ude		
Outfall Location		213	White Oak Creek	35 ° 55	37.62 N		84° 18′	43.29" W		
Outf										
SECTIO	N 2. DIS		ATE (40 CFR 122.21(h)(2))							
ge	2.1	l '	new or existing discharger? (C	heck only one respo						
Discharge Date			discharger		✓ Existing	g discharge	er → SKIP to Se	ection 3.		
Disc	2.2	Specify you	ur anticipated discharge date:							
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))							
	3.1		of wastes are currently being	discharged if you a	re an existing di	ischarger o	r will be dischar	ged if you are a		
			rger? (Check all that apply.)							
			tary wastes		✓ Other no directly		wastewater (des	scribe/explain		
			taurant or cafeteria waste			on drain and s	sump			
bes		│	-contact cooling water				·			
Waste Types	3.2	Does the fa	acility use cooling water additiv	/es?						
Vast		☐ Yes				SKIP to Se	ction 4.			
>	3.3	List the coo	oling water additives used and		osition.	Composi	tion of Additive			
			Cooling Water Additive	S			tion of Additive vailable to you)	:S		
SECTIO			ARACTERISTICS (40 CFR 12							
	4.1		completed monitoring for all pa ation package?	rameters in the tabl	e below at each	of your ou	ittalls and attach	ed the results to		
			nuori puokago:	No; a waiver ha	s been requeste	ed from my	NPDES permitti	ing authority		
		✓ Yes					mation) 🗲 SKIF	to Section 5.		
	4.2	Provide dat	ta as requested in the table be	T `	ons for specifics Maximun	,	Average Dail	ly o		
tics		Dou	rameter or Pollutant	Number of Analyses	Discha	•	Discharge	y Source (use codes		
teris		Fai	ameter of Pollutant	(if actual data	(specify	units)	(specify units)	per instructions)		
arac		Biochemica	al oxygen demand (BOD ₅)	reported) 1 0.0	Mass 04 kg/day	3 65 mg/l	Mass Cor 0.04 kg/day	3.65 mg/L N/A		
Effluent Characteristics			ended solids (TSS)		09 kg/day	•	0.09 kg/day	7.8 mg/L N/A		
uent		Oil and gre	, ,			-	< 0.02 kg/day	< 1.63 mg/L N/A		
E		Ammonia (-	J 4E-04 kg/day	J 0.0363 mg/L N/A		
		Discharge 1		16	3E-03 mgd		<u> </u>	N/A		
		pH (report		1	8 - 8 StdUnit			N/A		
		Temperatu	- ,	3	17.7 degC			N/A		
			re (summer)	1	22.4 degC			N/A		
1 Sampling	shall be co		ling to sufficiently sensitive test proce	duras (i.a. mathada) ann	1	R 136 for the	analysis of pollutant			

Temperature (summer)

1 22.4 degC

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).

EP. TN1890090		tion Number	NPDES Permit Number	NPDES Permit Number N0002941		Facility Name Oak Ridge National Laboratory			Form Approved 03/05/19 OMB No. 2040-0004		
	4.3	le food coliform	believed present, or is sa	niton, wo				od/2			
	4.5	Yes	r believed present, or is sa	Tillary wa	ste discriar	•	SKIP to It	,			
	4.4	Provide data as	requested in the table bel	ow.1 (Se	e instruction	s for specific	s.)				
		Parame	eter or Pollutant	Ana (if ac	nber of alyses tual data	Disch (specif	narge y units)	Discharge (specify units)		Source (Use codes per	
		Fecal coliform		rep	oorted)	Mass	Conc.	Mass	Conc.	Instructions.)	
_											
pen		E. coli									
ntin	4.5	Enterococci	L (or will it be used)?								
Effluent Characteristics Continued	4.5	Yes	I (or will it be used)?	✓ No → SKIP to Item 4.7.							
isti	4.6	Provide data as	requested in the table bel	low.1 (Se	e instruction	s for specific	s.)				
cter					nber of		ım Daily	Averag	-	Source	
ıara		Parame	eter or Pollutant		alyses		harge iy units)	Disch (specifi		(use codes	
t C				,	tual data oorted)	Mass	Conc.	Mass	Conc.	per instructions)	
nen		Total Residual	Chlorine		,	-					
E	4.7	Is non-contact of	cooling water discharged (or will it b	e discharge	ed)?					
		Yes					SKIP to Se	ection 5.			
	4.8	Provide data as	requested in the table bel					Avena	a Daily	_	
		_		1	nber of alyses	1	ım Daily narge	Averag Disch		Source (use codes	
		Parameter or Pollutant			tual data	(specify units)		(specify units)		` per	
				re	oorted)	Mass	Conc.	Mass	Conc.	instructions)	
			en demand (COD)								
		Total organic ca	, ,								
SECTIO		W (40 CFR 122.									
	5.1		nwater water runoff, leaks, mittent or seasonal?	, or spills	are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.			
Flow	5.2		the frequency and duratic ge is expected to be dependent grate.			nis outfall is typi	cally not disch	arging during	monitoring	attempts. See	
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
Treatment System	6.1		any treatment system(s) u		o be used).						

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).

EPA Identification Number		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19						
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004						
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))									
Other Information	7.1	reviewer should Multiple attempts v	pelow to expand upon any of the a d consider in establishing permit lin were made to sample a discharge from this entative outfall 085 since this outfall most	nitations. <i>F</i> s outfall and	Attach additional sheets as flow was not found. The data re	s needed.						
SECTIO	N 8. CHE	CKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))										
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachn ts are required to provide attachme Column 1	nents that	you are enclosing to alert							
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)						
		Section 2:	Discharge Date		w/ attachments							
		Section 3:	Waste Types		w/ attachments							
ent		Section 4:	Effluent Characteristics		w/ attachments							
tatem		Section 5:	Flow		w/ attachments							
tion S		Section 6:	Treatment System] w/ attachments							
rtifica		Section 7:	Other Information		w/ attachments							
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments							
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified persons wi rmation su e significar	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,						

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

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

FORM 2E

TN1890090003



EPA Identification Number

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

MANUEACTURING COMMERCIAL MINING AND SILVICULTURAL FACILITIES WHICH

NPDES		MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO			ATION (40 CFR 122.21(h)(1))								
	1.1		ormation on each of the facility	/ s outrails in the table below.							
ation		Outfall Number	Receiving Water Name	Latit	ude		Long	itude			
Outfall Location		214	White Oak Creek	35 ° 55 ′	38.34 " N		84° 18′	41.99	W		
Outfal											
SECTIO	N 2. DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))								
ge	2.1	l '	new or existing discharger? (C	heck only one respo							
Discharge Date			discharger		✓ Existing of	discharge	er → SKIP to S	ection 3	3.		
Disc	2.2	Specify you	ır anticipated discharge date:								
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))								
	3.1		of wastes are currently being	discharged if you are	e an existing disc	charger o	r will be discha	rged if y	ou are	а	
		I	rger? (Check all that apply.) tary wastes		✓ Other nor	proces	wastewater (de	ooribo/	ovolojo		
			•	elow)	wasiewaiei (ue	SCHDER	зхріані				
			taurant or cafeteria waste		•	,	team condensate				
ype			-contact cooling water								
Waste Types	3.2	l —	cility use cooling water additiv								
Nasi	0.0	☐ Yes	P (180) 1 1		✓ No → Sh	(IP to Sed	ction 4.				
	3.3	List the cod	oling water additives used and Cooling Water Additive			Composi	tion of Additiv	IPS			
			(list)				railable to you)	-03			
SECTIO	N 4. EFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2.21(h)(4))							
	4.1		ompleted monitoring for all pa	rameters in the table	below at each o	of your ou	tfalls and attac	hed the	results	s to	
		this applica	tion package?	No; a waiver has	heen requested	I from my	NIPINES normit	tina aut	hority		
		✓ Yes		(attach waiver re		,		0	,	.	
	4.2	Provide dat	ta as requested in the table be		ns for specifics.)						
S				Number of	Maximum Dischar		Average Da Discharge	- 1	Sourc		
rist		Par	rameter or Pollutant	Analyses (if actual data	(specify un		(specify units		(use coo	ues	
acte				reported)	Mass	Conc.		nc.	instructio		
Chai			al oxygen demand (BOD ₅)		03 kg/day	· I	< 0.03 kg/day	< 3 mg/	_	N/A	
int (—— <u> </u>	ended solids (TSS)		0 ,	ı ı	< 6E-03 kg/day	< 0.57	· —	N/A	
Effluent Characteristics		Oil and gre			• •	· I	< 0.02 kg/day	< 1.56	_	N/A	
ш		Ammonia (•		 	.145 mg/L	2E-03 kg/day	0.145	mg/L	N/A	
		Discharge 1		3	3E-03 mgd					N/A	
		pH (report a		1	7.3 - 7.3 StdUnit					N/A	
		Temperatu	, ,	2	28.6 degC					N/A	
1 Commilia a	aball ba as		re (summer) ling to sufficiently sensitive test proced	2	36.6 degC	120 for the	analysis of sallyster	to as nall		N/A	

Temperature (summer) 2 36.6 degC 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).

EP/	A Identifica	tion Number	NPDES Permit Number					Form Approved 03/05/19			
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ry		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it b	oe discharge	ed)?			
		☐ Yes			[✓ No →	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructions						
					nber of	Maximu	•	Averag		Source	
		Parame	ter or Pollutant		alyses tual data	Discharge (specify units)		Discharge (specify units)		(Use codes per	
					oorted)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
p _e		E. coli									
Effluent Characteristics Continued		Enterococci									
Conf	4.5	Is chlorine used	(or will it be used)?	_							
) sɔ		Yes			[✓ No →	SKIP to Ite	em 4.7.			
risti	4.6	Provide data as	rovide data as requested in the table below.¹ (See instructions for specifics.)								
cte					nber of	Maximu		Averag		Source	
ara		Parame	ter or Pollutant		alyses	Disch (specify		Disch		(use codes	
<u>ဂ</u>					tual data oorted)	Mass	Conc.	(specify Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine				001101		001101	,	
E#E	4.7		non-contact cooling water discharged (or will it be discharged)?								
		☐ Yes			[✓ No →	SKIP to Se	ction 5.			
	4.8										
				1	nber of	Maximu	•	Averag		Source	
		Parame	eter or Pollutant		alyses tual data	Disch (specify		Disch (specify		(use codes per	
				, , , , , ,	oorted)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)		,				•		
		Total organic ca	rbon (TOC)						_		
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	are any of t	he discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes → (Complete this section.		[□ No →	SKIP to Se	ection 6.			
Flow	5.2		the frequency and duration								
Ĕ		1	intermittent and the frequency i							ate may be	
		present during som	e conditions, but flow is not typi	ically obser	veu mom uns o	uliali ili uly-wea	illiel. See Sel	30011 4.2 101 11	owiale.		
SECTIO	N 6. TRE	ATMENT SYSTE	MENT SYSTEM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		o be used).						
iten		N/A		•	,						
Sys											
ent											
Treatment System											
Tre											

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).

EP/	EPA Identification Number		NPDES Permit Number		Facility Name	Form Approved 03/05/19						
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004						
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))									
Other Information	7.1	reviewer should The temperature of travels over land s this location was e	pelow to expand upon any of the all consider in establishing permit limble lata presented for this outfall was taken direveral feet before it gets to the receiving staxpanded to measure both upstream temperature of 0 degrees C and the temperatures	nitations. A rectly at the s tream during erature = 16.	ttach additional sheets as team condensate discharge. H stream baseflow conditions. TI 5 degrees C and the downstrea	s needed. owever, the discharge at this location herefore the temperature evaluation at temperature = 16.5 degrees C. This						
SECTIO		CKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))										
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachn ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that						
			Column 1		C	olumn 2						
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)						
		Section 2:	Discharge Date		w/ attachments							
		Section 3:	Waste Types		w/ attachments							
ent		Section 4:	Effluent Characteristics		w/ attachments							
tatem		Section 5:	Flow		w/ attachments							
tion S		Section 6:	Treatment System		w/ attachments							
rtifica		Section 7:	Other Information		w/ attachments							
ор Се		Section 8:	Checklist and Certification Stateme	ent	w/ attachments							
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement venalty of law that this document are hangle as ystem designed to assure that ed on my inquiry of the person or purpose, the information, the information, the information and imprisonment for knowing view by pe first and last name)	t qualified ersons wh mation su significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,						

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EFA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU	FALL LOCA	ATION (40 CFR 122.21(h)(1))	DIGGINATOL GIVE	HOW ING	200 117 1011				
	1.1		ormation on each of the facility	r's outfalls in the table	below.					
ation		Outfall Number	Receiving Water Name	Latit	Lo	Longitude				
Outfall Location		217	White Oak Creek	35 ° 55 ′	38.73 "	N	84° 1	8 41.2	8" W	
Outfa										
2525	u a Dia	211222	ATE (40 OFF 400 O4 (1) (0))							
	N 2. DIS 2.1		ATE (40 CFR 122.21(h)(2)) new or existing discharger? (C	hook only one recover	200)					
arge e	2.1	l '	discharger	neck only one respon		ng discharge	ar 📤 SKIP	to Sectio	n 3	
Discharge Date	2.2		ur anticipated discharge date:		L LAIGU	rig disorial go	JI J OIKII	10 000110		
SECTIO			(40 CFR 122.21(h)(3))							
	3.1		of wastes are currently being rger? (Check all that apply.)	discharged if you are	an existing	discharger o	r will be dis	charged	if you are	a
			tary wastes		✓ Other	nonprocess	wastewater	(describ	e/explain	
			taurant or cafeteria waste		directl	y below)				
်			-contact cooling water		Steam	pit sump and st	team condens	ate		
Typ	3.2		acility use cooling water additive	/es?						
Waste Types	0.2	Yes	toling add dodling water additive		✓ No →	SKIP to Se	ction 4.			
Wa	3.3		oling water additives used and	describe their compo						
			Cooling Water Additive				tion of Add			
			(list)			(If av	ailable to you)		
SECTIO	N 4. EFF		ARACTERISTICS (40 CFR 12							
	4.1		completed monitoring for all pa tion package?	rameters in the table	below at ea	ch of your ou	ıtfalls and a	ttached t	he result	s to
		i	mion package?	No; a waiver has	been reques	sted from mv	NPDES pe	rmitting a	authority	
		✓ Yes		(attach waiver re	quest and ac	lditional infor).
	4.2	Provide dat	ta as requested in the table be				A	D.:II.	_	
tics		D		Number of Analyses		ım Daily harge	Average Discha	-	Sour (use co	
teris		Par	rameter or Pollutant	(if actual data	(speci	fy units)	(specify	units)	` per	
ıracı		Riochemics	al oxygen demand (BOD₅)	reported) 0.0	Mass kg/day	4.74 mg/l	Mass 0.01 kg/day	Conc.	instructi 1 mg/L	N/A
Effluent Characteristics			ended solids (TSS)		-03 kg/day	•	< 3E-03 kg/day		14 mg/L —	N/A
lent		Oil and gre	, ,		-03 kg/day	_	< 5E-03 kg/da	-	73 mg/L	N/A
		Ammonia (04 kg/day	•	4E-04 kg/day	•	11 mg/L	N/A
		Discharge 1	•	4	0.022 mgd	. 5-	J. 3.4.			N/A
		pH (report		1	7.7 - 7.7 StdU	nit				N/A
		Temperatu	- ,	3	40.9 degC					N/A
			re (summer)	2	30.3 degC					N/A

Temperature (summer)

2 30.3 degC

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).

EPA Identification Number NPDES Permit Number Facility Name Form Approved 0												
TN1890090	0003		TN0002941			lational Laborato	•		Olvie	5 110. 2040-0004		
	4.3	l <u> </u>	n believed present, or is sa	initary w	aste dischar	• (ū	,				
		☐ Yes					SKIP to It	em 4.5.				
Flow Effluent Characteristics Continued	4.4	Provide data as	requested in the table be				s.) I m Daily	Avorage	o Doiby			
		D	ton on Dolladont		mber of alyses		harge	Averag Disch		Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specif	y units)	(specif	y units)	` per		
		Facal california		Γ	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		Fecal coliform				1						
panı		E. coli Enterococci				1						
ntir	4.5		d (or will it be used)?									
ပိပ္	4.5	Yes	(or will it be asea):			✓ No =	SKIP to It	em 47				
stic	4.6		requested in the table be	low 1 (Se	ee instruction			.0111 4.7 .				
teri	""	Trovido data do	710940000411111010000		mber of		ım Daily	Averag	e Daily	Source		
arac		Parame	eter or Pollutant		alyses		harge	Disch		(use codes		
ਨੁੰ				,	ctual data eported)	Mass	y units) Conc.	(specifi Mass	Conc.	per instructions)		
rent		Total Residual	Chlorine			muoo	001101	III.u.ss	001101	· · · · · · · · · · · · · · · · · · ·		
Ē	4.7	Is non-contact of	cooling water discharged (or will it	be discharge	ed)?		1	•			
		☐ Yes				✓ No →	SKIP to Se	ection 5.				
	4.8	Provide data as requested in the table below.1 (See instructions for specifics.)										
				1	mber of		ım Daily	Averag		Source		
		Parame	eter or Pollutant		nalyses ctual data		harge y units)	Disch (specifi		(use codes per		
				, , ,	eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	, ,									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	and 3 of this		
		l <u></u>										
		Yes →	Complete this section.			□ No -	SKIP to S	ection 6.				
Mo	5.2		the frequency and duration									
ш.			small discharge from this outfalls based on weather conditions.				nd steam cond	iensate are e	xpected to b	e intermittent		
		,										
SECTIO			EM (40 CFR 122.21(h)(6))									
E	6.1	1 '	any treatment system(s)	used (or	to be used).							
yste		N/A										
nt S												
Treatment System												
real												
_												

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).

EP.	EPA Identification Number		NPDES Permit Number		Facility Name	Form Approved 03/05/19			
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004			
SECTIO	N 7. OTH	ER INFORMATION	ON (40 CFR 122.21(h)(7))						
Other Information	7.1	The temperature of travels over land s this location was e	pelow to expand upon any of the all consider in establishing permit limited at a presented for this outfall was taken directly everal feet before it gets to the receiving stranded to measure both upstream temperature of 0.1 degrees C and the temperature	nitations. A ectly at the s tream during erature = 15.0	ttach additional sheets as team condensate discharge. H stream baseflow conditions. TI 6 degrees C and the downstrea	s needed. owever, the discharge at this location herefore the temperature evaluation at m temperature = 15.7 degrees C. This			
SECTIO	N 8. CHE	CKLIST AND CE	ERTIFICATION STATEMENT (40 (CFR 122.2	2(a) and (d))				
	8.1	In Column 1 be For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm is are required to provide attachme	that you h	ave completed and are su you are enclosing to alert	the permitting authority. Note that			
			Column 1		C	olumn 2			
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)			
		Section 2:	Discharge Date		w/ attachments				
		Section 3:	Waste Types		w/ attachments				
ent		Section 4:	Effluent Characteristics		w/ attachments				
tatem		Section 5:	Flow		w/ attachments				
tion S		Section 6:	Treatment System		w/ attachments				
rtifica		Section 7:	Other Information		w/ attachments				
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments				
ist a	8.2	Certification S	tatement						
Checklist and Certification Statement		I certify under penalty of law that this document and all attachments were prepared under my direction or superaccordance 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, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possibility of fine and imprisonment for knowing violations.							
	Name (print or type first and last name)				Official title				
		Johnny O. Moore			Manager, ORNL Site Office				
		Signature			Date signed				
		1							

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EFA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU	FALL LOCA	ATION (40 CFR 122.21(h)(1))	Dicolly live 2 of the	- HOIN K	00200117101	2777 (1 211				
	1.1	Provide info	ormation on each of the facility	r's outfalls in the tab	ole below.						
ation		Outfall Number	Receiving Water Name	Lat	titude		L	ongitude	!		
Outfall Location		218	White Oak Creek	35 ° 55	39.98"	N	84° 1	8 38.9	1" W		
Outfa											
2525	V 0 DI0		ATT (10 OFF 100 O(#) (0))								
	N 2. DIS 2.1		ATE (40 CFR 122.21(h)(2)) new or existing discharger? (C	hook only one roon	ongo l						
arge e	2.1	'	r discharger	neck only one resp		isting discharg	or 📤 SKIP	to Sectio	n 3		
Discharge Date	2.2		ur anticipated discharge date:			ioung disonary	OI 7 OI(II	10 000110			
SECTIO			(40 CFR 122.21(h)(3))								
	3.1		of wastes are currently being rger? (Check all that apply.)	discharged if you a	are an existi	ng discharger	or will be dis	scharged	if you are	a	
			itary wastes		✓ Oth	ner nonprocess	wastewate	r (describ	e/explain		
		☐ Sanitary wastes☐ Restaurant or cafeteria waste☐ When nonprocess wastewater (describe/explain directly below)									
်		HVAC & steam condensate, sump discharge Non-contact cooling water									
Typ	3.2		acility use cooling water additive	/es?							
Waste Types	0.2	Yes	ionity asc cooning water addition	700:	✓ No	→ SKIP to Se	ection 4.				
Wa	3.3		oling water additives used and	describe their com		2 01111 10 01					
			Cooling Water Additive				ition of Ad				
			(list)			(11 8	available to you	l)			
SECTIO	N 4. EFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2.21(h)(4))							
	4.1		completed monitoring for all pa	rameters in the tab	le below at	each of your o	utfalls and a	ittached t	he result	s to	
		i	ition package?	No; a waiver ha	as heen rea	uested from m	, NPDES ne	ermitting a	authority		
		✓ Yes		(attach waiver r						5.	
	4.2	Provide da	ta as requested in the table be								
tics		_		Number of Analyses		mum Daily scharge	Average Disch		Sour (use co		
eris		Pai	rameter or Pollutant	(if actual data	(sp	ecify units)	(specify	units)	` per		
ract		Diochomics	al oxygen demand (BOD ₅)	reported) <	Mass 0.3 kg/day		Mass < 0.3 kg/day	Conc.	instructi mg/L	ons) N/A	
Cha			ended solids (TSS)		0.3 kg/day 0.11 kg/day	•	J 0.11 kg/day			N/A	
Effluent Characteristics		Oil and gre	, ,		0.11 kg/day 0.13 kg/day	_	. < 0.13 kg/day		59 mg/L 59 mg/L	N/A	
Efflu		Ammonia (1.4E-03 kg/da	•	. < 1.4E-03 kg)17 mg/L	N/A	
_		Discharge	•	1	0.022 mg/	<u> </u>	55 kg	,		N/A	
		pH (report		1	7.7 - 7.7 S					N/A	
		Temperatu	- ,	1	13.3 deg(N/A	
			re (summer)	1	19.2 deg()				N/A	

Temperature (summer)

1 19.2 degC

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).

EPA Identification Number NPDES Permit Number Facility Name Form Approved Community Name No. 200 Permit Number No. 200 Permit Number Form Approved Community No. 200 Permit Number No. 200 Permit Number NPDES Permit Number Facility Name Form Approved Community Name No. 200 Permit Number NPDES Permit Number Facility Name Form Approved Community Name NPDES Permit Number Facility Name NPDES Permit Number Facility Name Form Approved Community Name NPDES Permit Number Facility Name NPDES Permit Number NPDES Permit Number Facility Name NPDES Permit Number NPDES Permit Number Facility Name NPDES Permit Number NPDES Permit Numbe												
TN1890090	0003		TN0002941						OIVIL	3 NO. 2040-0004		
	4.3	l	n believed present, or is sa	nitary w	aste dischar	• .	•	,				
		☐ Yes		1 (0			SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be		ee instructior mber of		s.) I m Daily	Averag	o Daily	0		
Effluent Characteristics Continued		D	otan an Dallotant		mber of nalyses		harge	Disch		Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specif	y units)	(specif	y units)) per		
		Fecal coliform		Γ	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		E. coli										
Janec		Enterococci										
ntir	4.5		d (or will it be used)?									
ပိ	4.0	Yes	a (or will it be asca):			✓ No =	SKIP to It	em 4 7				
stic	4.6		requested in the table be	low.1 (Se	ee instruction							
teri					mber of		ım Daily	Averag	e Daily	Source		
arac		Parame	eter or Pollutant		nalyses		harge	Disch		(use codes		
5				,	ctual data eported)	(specif	y units) Conc.	(specifi Mass	y units) Conc.	per instructions)		
rent		Total Residual	Chlorine	1	portody	Mass	00110.	mass	00110.	,		
	4.7		cooling water discharged (or will it	be discharge	ed)?	•		•			
		☐ Yes	,		Ü		SKIP to Se	ection 5.				
	4.8											
					mber of	Maximum Daily Discharge		Averag	-	Source		
		Parame	eter or Pollutant		nalyses actual data		narge y units)	Disch (specifi		(use codes per		
					eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	arbon (TOC)									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	and 3 of this		
			Complete this section.			□ No →	SKIP to S	ection 6.				
*	5.2	Briefly describe	the frequency and duration	on of flow	V.							
은			are typically intermittent and var			conditions. See	Section 4.2 fo	r flowrate.				
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))									
	6.1		any treatment system(s)		to be used).							
ster		N/A										
Š												
nen												
Treatment System												
Ě												

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).

		tion Number	NPDES Permit Number	Oals Didea	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004	
TN1890090			TN0002941	Oak Ridge	National Laboratory		
Other Information	8.1 In Column 1 below, mark the sections of Form 2E For each section, specify in Column 2 any attachm						
SECTIO			<u> </u>				
	8.1	For each sectio	n, specify in Column 2 any attachm is are required to provide attachme	you are enclosing to alert	the permitting authority. Note that		
			Column 1		C	olumn 2	
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)	
		Section 2:	Discharge Date		w/ attachments		
		Section 3:	Waste Types		w/ attachments		
ent		Section 4:	Effluent Characteristics		w/ attachments		
tatem		Section 5:	Flow		w/ attachments		
tion S		Section 6:	Treatment System		w/ attachments		
rtifica		Section 7:	Other Information		w/ attachments		
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments		
Checklist and Certification Statement	8.2	Certification Statement I certify under penalty of law that this document and all attachments were prepared under my direction or supervision 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) Johnny O. Moore Official title Manager, ORNL Site Office					

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	MANUFACTURIN	G, COMMERCI DISCHARGE (ACILITIES	WHICH				
SECTIO			ON (40 CFR 122.21(h)(1))											
	1.1	Provide inform Outfall	ation on each of the facility	r's outfalls in the	table	below.								
ıtion		Number F	Receiving Water Name		Latitu	ıde			Longitud	е				
Outfall Location		219 Whi	ite Oak Creek	35 °	55 ′	41.31 "	N	84°	18 36.	81" W				
utfall														
Ō														
SECTIO	N 2. DIS	CHARGE DATE	(40 CFR 122.21(h)(2))											
ge Ge	2.1	Are you a new	or existing discharger? (C	heck only one re	espon	se.)								
scharç Date		☐ New dis	scharger			✓ Exis	sting discha	ger 🗲 SKIF	o to Section	on 3.				
Discharge Date	2.2	Specify your a	nticipated discharge date:											
SECTIO	N 3. WA	STE TYPES (40	E TYPES (40 CFR 122.21(h)(3))											
	3.1		wastes are currently being	discharged if yo	ou are	an existin	g discharge	r or will be c	lischarged	l if you ar	e a			
			r discharger? (Check all that apply.) Sanitary wastes ✓ Other nonprocess wastewater (describe/explain											
		—	rant or cafeteria waste		٢		ctly below)	o naotonat	01 (400011)	эсг охрган	.			
တ္တ			ntact cooling water			HVA	C and steam of	ondensate						
Туре	3.2		ty use cooling water additive	/As?										
Waste Types	0.2	Yes	ty ase cooming water additive	700:	•	✓ No	→ SKIP to	Section 4.						
×	3.3	List the cooling	y water additives used and	describe their c	ompo	sition.								
			Cooling Water Additive	S				sition of A						
			(not)				1	i avallable to y	<i>,</i>					
SECTIO	N 4. EFF 4.1		ACTERISTICS (40 CFR 12 pleted monitoring for all pa		tabla	bolow at a	ach of your	outfalls and	attached	the regult	to to			
	4.1	this application		nameters in the	lable	Delow at e	acii oi youi	oulialis aliu	allauneu	uie resuit	15 10			
		✓ Yes		No; a waive										
	4.2		is requested in the table be	(attach waiv				formation) =	➤ SKIP to	Section :	b.			
ဟ	7.2	TTOVIGO GALLA CA	o requested in the table be	Number o			num Daily	Averag	ge Daily	Soul	rce			
stic		Param	eter or Pollutant	Analyses			charge	Disc	harge	(use co	odes			
cteri				(if actual data reported)	а	(spe	ecify units) Conc.	(speci	fy units) Conc.	_ pe instruct				
Effluent Characteristics		Biochemical ox	xygen demand (BOD₅)	1	< 0.3	kg/day		/L < 0.3 kg/da		mg/L	N/A			
t C		Total suspend	ed solids (TSS)	1	8.3 k	kg/day	102 mg	/L 8.3 kg/day	10	2 mg/L	N/A			
luer		Oil and grease)	1	< 0.1	3 kg/day	< 1.65 mg	/L < 0.13 kg/d	ay < 1	.65 mg/L	N/A			
#		Ammonia (as I	N)	1	0.01	kg/day	0.125 mg	/L 0.01 kg/da	y 0.1	25 mg/L	N/A			
		Discharge flow	1	9		0.022 mgd					N/A			
		pH (report as r	ange)	6		7.7 - 8.5 Sto	dUnit				N/A			
		Temperature (winter)	7		41.2 degC					N/A			
		Temperature (summer)	2		30.3 degC					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).

EP.	A Identifica	ation Number	NPDES Permit Number		Facility Name			Form Approved 03/05/19 OMB No. 2040-0004				
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004		
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ged (or will it	be discharg	ed)?				
		☐ Yes				✓ No -	SKIP to Ite	em 4.5.				
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction							
					mber of		m Daily	Averag		Source		
		Parame	ter or Pollutant		alyses ctual data	UISCI (specif	narge	Disch (specif		(Use codes per		
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)		
		Fecal coliform										
8		E. coli										
Effluent Characteristics Continued		Enterococci										
Son	4.5	l <u> </u>	(or will it be used)?			_						
S)		☐ Yes				✓ No -	SKIP to It	em 4.7.				
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction			_				
acte					mber of	1	m Daily	Averag	-	Source		
hara		Parame	ter or Pollutant		alyses ctual data		narge y units)	Disch (specif	v units)	(use codes per		
it C					ported)	Mass	Conc.	Mass	Conc.	instructions)		
<u>luer</u>		Total Residual (Chlorine									
置	4.7	Is non-contact of	on-contact cooling water discharged (or will it be discharged)?									
		☐ Yes										
	4.8	Provide data as	requested in the table be									
				1	mber of	1	m Daily narge	Averag Disch		Source		
		Parameter or Pollutant			alyses ctual data	(specif		(specif		(use codes per		
				, , , ,	eported)	Mass	Conc.	Mass	Conc.	instructions)		
			en demand (COD)									
		Total organic ca	, ,									
SECTIO		W (40 CFR 122.2										
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this		
			mittent or seasonal?									
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.				
Flow	5.2	Briefly describe	the frequency and duration	on of flow	1.							
芷			ate that flow from this outfall is in . See Section 4.2 for flowrate.	ntermittent.	There is discha	arge of HVAC a	nd steam cond	densate, which	ch can vary i	n volume with		
		weather conditions	. See Section 4.2 for nowhate.									
SECTIO	N 6. TRE	EATMENT SYSTEM (40 CFR 122.21(h)(6))										
	6.1											
ster			sulfite tablet dechlorinator that is						nen cold wat	ter is necessary		
Ś		to moderate the ter	mperature of steam condensate	discharge	s during work o	n condensate r	eturn systems.					
nen												
Treatment System												
Ĕ												

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	MANUFACTURIN	G, COMMERCIAL, DISCHARGE ONL				ILITIES	WHICH					
SECTIO			TION (40 CFR 122.21(h)(1))											
	1.1	Provide inform	mation on each of the facility	's outfalls in the tab	le below.									
ıtion		Number	Receiving Water Name	Lati	tude		Lo	ngitude						
Outfall Location		220 W	/hite Oak Creek	35 ° 55	41.67	N	84° 18	36.6	2" W					
utfall														
Ō														
SECTIO	N 2. DIS	CHARGE DAT	E (40 CFR 122.21(h)(2))											
ge Ge	2.1	Are you a nev	w or existing discharger? (C	heck only one respo	nse.)									
schare Date		☐ New d	lischarger		✓ Exis	sting discharge	er → SKIP t	o Sectio	า 3.					
Discharge Date	2.2	Specify your	anticipated discharge date:											
SECTIO	N 3. WA	STE TYPES (4	E TYPES (40 CFR 122.21(h)(3))											
	3.1		f wastes are currently being	discharged if you a	re an existin	g discharger o	or will be dise	charged	if you are	а				
			v discharger? (Check all that apply.) Sanitary wastes ✓ Other nonprocess wastewater (describe/explain											
			urant or cafeteria waste			ctly below)	nastonato	(4000112	or or promi					
တ္တ			ontact cooling water		Stea	m pit sump and s	steam condens	ate						
Type	3.2		ility use cooling water additiv	1002						$=$ \mid				
Waste Types	0.2	Yes	mity use cooming water additive		✓ No	→ SKIP to Se	ection 4.							
×	3.3	List the coolir	ng water additives used and	describe their comp	osition.									
			Cooling Water Additive	s			ition of Add vailable to you)	itives						
			(not)			lii d	valiable to you)							
SECTIO			RACTERISTICS (40 CFR 12				Afalla anal at	4 ll 4l		4.0				
	4.1	this application	mpleted monitoring for all pa on package?	irameters in the tabl	e below at e	acn of your of	uttalis and at	tacned ti	ne resuits	3 to				
		✓ Yes		No; a waiver ha										
	4.2		as requested in the table be	(attach waiver r			rmation) >	SKIP to	Section 5	·				
ဟ	4.2	1 TOVIGE Gata	as requested in the table be	Number of		num Daily	Average	Daily	Sour	ce				
stic		Para	meter or Pollutant	Analyses	Dis	charge	Discha	rge	(use co	odes				
cteri				(if actual data reported)	(spe	cify units) Conc.	(specify the Mass	units) Conc.	per instruction					
Effluent Characteristics		Biochemical	oxygen demand (BOD₅)	, ,	E-04 kg/day		< 5E-04 kg/da		ng/L	N/A				
t C		Total suspen	ded solids (TSS)	1 <3	E-04 kg/day	< 0.57 mg/L	< 3E-04 kg/da	y < 0.5	7 mg/L	N/A				
luer		Oil and greas	se	1 <9	E-04 kg/day	< 1.69 mg/L	< 9E-04 kg/da	y < 1.6	9 mg/L	N/A				
出		Ammonia (as	s N)	1 4E	-05 kg/day	0.0644 mg/L	4E-05 kg/day	0.06	644 mg/L	N/A				
		Discharge flo	DW .	3	1.4E-04 mg					N/A				
		pH (report as	range)	1	7.8 - 7.8 Sto	lUnit				N/A				
		Temperature	(winter)	1	42.5 degC					N/A				
		Temperature	(summer)	2	84. degC					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).

EP.		tion Number	NPDES Permit Number	er	Oak Ridge N	Facility Name ational Laborate	orv			oroved 03/05/19 3 No. 2040-0004
	4.3	le food coliform	believed present, or is sa	niton, wo				od/2		
	4.5	Yes	r believed present, or is sa	illaly wa	ste discriar	•	SKIP to It	,		
	4.4	Provide data as	requested in the table bel	ow.1 (See	instruction	s for specific	s.)			
		Parame	eter or Pollutant	Ana (if ac	nber of nlyses nual data	Discl (specif	im Daily harge y units)	Averag Disch (specif	narge v units)	Source (Use codes per
		Facal california		rep	orted)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
peni		E. coli								
ntin	4.5	Enterococci	1 (ar will it be used)?							
Effluent Characteristics Continued	4.5	Yes	I (or will it be used)?			✓ No =	SKIP to It	em 4.7.		
isti	4.6	Provide data as	requested in the table bel	s.)						
cter					ber of		ım Daily	Averag	-	Source
ıara		Parame	eter or Pollutant		llyses		harge iy units)	Disch (specif		(use codes
t C					ual data orted)	Mass	Conc.	Mass	Conc.	per instructions)
nen		Total Residual	Chlorine		,	-				
E	4.7	Is non-contact of	cooling water discharged (or will it b	e discharge	ed)?	•		•	
		☐ Yes					SKIP to Se	ection 5.		
	4.8	Provide data as	requested in the table bel					Avena	a Daily	_
		_		1	nber of alyses	1	ım Daily harge	Averag Disch		Source (use codes
	Para		eter or Pollutant		tual data		y units)	(specif		per
				rep	orted)	Mass	Conc.	Mass	Conc.	instructions)
			en demand (COD)							
		Total organic ca	, ,							
SECTIO		W (40 CFR 122.								
	5.1		nwater water runoff, leaks, rmittent or seasonal?	, or spills,	are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.		
Flow	5.2		the frequency and duration discharge to this outfall is interm			vhat on weather	conditions. S	ee Section 4.	2 for flowrat	e.
			.		.,					
SECTIO	NE TOE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		n he used)					
tem	0.1	N/A	any additione dyblom(b)	4004 (01 1	o bo accaj.					
Sys										
ent										
Treatment System										
Tre										
		I								

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).

EP.	EPA Identification Number		NPDES Permit Number		Facility Name	Form Approved 03/05/19					
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004					
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))								
Other Information	7.1	Use the space I reviewer should The temperature of travels over land s this location was e	pelow to expand upon any of the ald consider in establishing permit limble lata presented for this outfall was taken direveral feet before it gets to the receiving sixpanded to measure both upstream temperature of 0.1 degrees C and the temperature	nitations. A rectly at the s tream during erature = 11.	ttach additional sheets as team condensate discharge. He stream baseflow conditions. The 7 degrees C and the downstrea	s needed. owever, the discharge at this location nerefore the temperature evaluation at Im temperature = 11.8 degrees C. This					
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	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		C	olumn 2					
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)					
		Section 2:	Discharge Date		w/ attachments						
		Section 3:	Waste Types		w/ attachments						
ent		Section 4:	Effluent Characteristics		w/ attachments						
statem		Section 5:	Flow		w/ attachments						
tion S		Section 6:	Treatment System		w/ attachments						
rtifica		Section 7:	Other Information		w/ attachments						
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments						
ist a	8.2	Certification S	tatement								
Checklist and Certification Statement	I certify under penalty of law that this document and all attachments were prepared under my direction or sup- accordance with a system designed to assure that qualified personnel properly gather and evaluate the inform 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 accurate, and complete. I am aware that there are significant penalties for submitting false information, include possibility of fine and imprisonment for knowing violations.										
		l "	type first and last name)		Official title						
		Johnny O. Moore			Manager, ORNL Site Office						
		Signature			Date signed						

FORM 2E

TN1890090003



EPA Identification Number

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

MANUEACTURING COMMERCIAL MINING AND SILVICULTURAL FACILITIES WHICH

NPDES			MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO			ATION (40 CFR 122.21(h)(1))								
	1.1		ormation on each of the facility	's outfalls in the tabl	e below.						
ation		Outfall Number	Receiving Water Name	Lati	tude		Longi	tude			
Outfall Location		223	White Oak Creek	35 ° 55 ′	41.77 N		84° 18′	36.12"	N		
Outfal											
SECTIO	N 2. DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))								
ge	2.1		new or existing discharger? (C	heck only one respo							
Discharge Date			v discharger		Existing	discharge	er → SKIP to Se	ection 3.			
Disc	2.2	Specify you	ur anticipated discharge date:								
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))								
	3.1		of wastes are currently being	discharged if you ar	e an existing dis	charger o	r will be dischar	ged if you	are a		
			rger? (Check all that apply.) itary wastes		✓ Other nor	nrocess	wastewater (des	scribe/evals	ain		
			taurant or cafeteria waste		directly b		wastewater (de	somberexpie	all I		
ω						ump and co	ondensate				
уре			-contact cooling water								
Waste Types	3.2	i —	acility use cooling water additiv	res?	✓ No → SI	(ID) 0					
Was	3.3	☐ Yes	line varatan a delitiva a vara da anad	ala a anila a tha ain a a nan	2	KIP to Se	ction 4.				
	3.3	List the coc	oling water additives used and Cooling Water Additive			Composi	tion of Additive	es			
			(list)				/ailable to you)				
SECTIO	N 4. EFF		ARACTERISTICS (40 CFR 12								
	4.1		completed monitoring for all pa ation package?	rameters in the table	e below at each	of your ou	ıtfalls and attach	ned the resi	ults to		
		i	miori paokago:	No; a waiver has	s been requested	from my	NPDES permitt	ing authori	ty		
		✓ Yes		(attach waiver re			mation) → SKII	P to Section	n 5.		
	4.2	Provide da	ta as requested in the table be	Number of	ns for specifics.) Maximum	Daily	Average Dai	lv a			
tics		Dou	rameter or Pollutant	Analyses	Dischar		Discharge	-	urce codes		
teris		Pai	rameter or Pollutant	(if actual data	(specify ur	nits)	(specify units)		per		
Iract		Diochomics	al oxygen demand (BOD ₅)	reported) < 5	Mass E-04 kg/day	Conc.	Mass Cor < 5E-04 kg/day	nc. Institu	uctions) N/A		
Cha			ended solids (TSS)			•	3E-03 kg/day	4.85 mg/L	N/A		
Effluent Characteristics		Oil and gre	, ,		• •	•	< 9E-04 kg/day	< 1.63 mg/L	$\overline{}$		
Efflu		Ammonia (• •	•	< 9E-06 kg/day	< 0.017 mg/			
		Discharge	•	1	1E-04 mgd		JE VO Ng/day	0.017 1119/	N/A		
		pH (report		1	7.8 - 7.8 StdUnit				N/A		
		Temperatu		0	See Section 7.1				N/A		
			re (summer)	1	20.9 degC				N/A		
1 Compling	aball ba as		re (summer) ting to sufficiently sensitive test proced			126 for the	analysis of pollutant	to or pollutant	TN/FX		

Temperature (summer) 1 20.9 degC 20.9 degC 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).

		tion Number	NPDES Permit Number	Facility Name			Form Approved 03/05/19 OMB No. 2040-0004					
TN1890090	0003		TN0002941			lational Laborato			Olvic	3 NO. 2040-0004		
	4.3	l	n believed present, or is sa	nitary w	aste dischar	• .	•	,				
		☐ Yes					SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be					Avorage	o Doiby			
		D	ton on Dellotont		mber of nalyses		ım Daily harge	Averag Disch		Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specify units)		(specify units)		` per		
		Facal california		re	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		Fecal coliform										
Effluent Characteristics Continued		E. coli Enterococci										
ntir	4.5		d (or will it be used)?									
ပိ	4.5	Yes	(or will it be asea):			✓ No =	SKIP to It	em 47				
stic	4.6	Provide data as requested in the table below. (See instructions for specifics.)										
teri	""	Trovido data do	Troquestou III tilo tubio bo		mber of		ım Daily	Averag	e Daily	Source		
arac		Parame	eter or Pollutant		alyses		harge	Disch		(use codes		
ch				,	ctual data eported)	(specif	y units) Conc.	(specifi Mass	y units) Conc.	per instructions)		
ient		Total Residual	Chlorine		ропоај	IVIGOS	00110.	Wass	00110.			
EHL	4.7		cooling water discharged (or will it	be discharge	ed)?			•			
_		☐ Yes			g		SKIP to Se	ection 5.				
	4.8											
							ım Daily	Averag		Source		
		Parameter or Pollutant			nalyses actual data		harge y units)	Disch (specifi		(use codes per		
					eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	arbon (TOC)									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	ind 3 of this		
						•						
		Yes →	Complete this section.			□ No -	SKIP to S	ection 6.				
Flow	5.2		the frequency and duration									
ᇤ		Typically, discharg sumps are expecte	les are not occurring from this or ed to be intermittent and depend	uttall wher lent on we	sampling atter ather condition	mpts are made. s. See Section	Steam conde	nsate and dis e.	charges from	n steam pit		
SECTIO	N 6. TRE		EM (40 CFR 122.21(h)(6))									
Ē	6.1	1 '	any treatment system(s)	used (or	to be used).							
/ste		N/A										
ıt Sj												
Treatment System												
reat												
F												

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).

EPA Identification Number TN1890090003			NPDES Permit Number		Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	SWB 110. 2010 0001
SECTIO	N 7. OTH		ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should	pelow to expand upon any of the al I consider in establishing permit lim vere made to obtain temperatures for this o	itations. A	ttach additional sheets as	
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm is are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
statem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
ist a	8.2	Certification S	tatement			
Checklist and Certification Statement		accordance witi submitted. Base responsible for accurate, and c possibility of fin	enalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor omplete. I am aware that there are e and imprisonment for knowing vice	t qualified persons whe mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n t penalties for submitting	and evaluate the information those persons directly ny knowledge and belief, true,
		l "	type first and last name)		Official title	
		Johnny O. Moore			Manager, ORNL Site Office	
	Signature				Date signed	
		l				

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

2E NPDES	3	EPA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))							
	1.1		ormation on each of the facility	s outfalls in the tab	le below.					
ation		Outfall Number	Receiving Water Name	Lat	itude		Longit	ude		
Outfall Location		224	White Oak Creek	35 ° 55	42.13 ["] 1	N	84° 18′	36.07" W		
Out										
SECTIO	N 2. DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))							
ge	2.1	Are you a n	new or existing discharger? (C	heck only one respo	onse.)					
scharç Date			discharger		✓ Existir	ng discharge	er → SKIP to Se	ction 3.		
Discharge Date	2.2	Specify you	ır anticipated discharge date:							
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))							
	3.1		of wastes are currently being	discharged if you a	re an existing	discharger d	or will be dischar	ged if you are a		
			rger? (Check all that apply.)							
		_	tary wastes			nonprocess / below)	wastewater (des	cribe/explain		
		│	taurant or cafeteria waste			tion drain and s	sump			
sed		│ □ Non-	-contact cooling water							
e Ty	3.2	Does the fa	cility use cooling water additiv	/es?						
Waste Types		☐ Yes				SKIP to Se	ction 4.			
~	3.3	List the coo	oling water additives used and Cooling Water Additive		position.	Composi	ition of Additive	e		
			(list)	5			vailable to you)	5		
SECTIO			ARACTERISTICS (40 CFR 12		- h - l		ttelle en dette de			
	4.1		completed monitoring for all pa tion package?	irameters in the tabl	e below at eac	n of your ou	uttalis and attach	ed the results to		
		✓ Yes	nien packago.	No; a waiver ha	s been reques	ted from my	NPDES permitti	ng authority		
	4.0						mation) -> SKIF	to Section 5.		
40	4.2	Provide dai	ta as requested in the table be	Number of		m Daily	Average Dail	V Course		
stics		Dar	rameter or Pollutant	Analyses		narge	Discharge	y Source (use codes		
teris		Fai	ameter of Foliatant	(if actual data	(specify		(specify units)	per instructions)		
arac		Biochemica	al oxygen demand (BOD ₅)	reported) < (Mass 0.03 kg/day	< 3 mg/l	Mass Cor	< 3 mg/L N/A		
Effluent Characteristics			ended solids (TSS)).1 kg/day	•	< 0.1 kg/day	< 11.4 mg/L N/A		
nent		Oil and gre	. ,		0.02 kg/day	_	< 0.02 kg/day	< 1.61 mg/L N/A		
E		Ammonia (a		1 J 4	E-04 kg/day	_		J 0.041 mg/L N/A		
		Discharge 1	,	3	3E-03 mgd			N/A		
		pH (report a		1	7.2 - 7.2 StdUr	nit		N/A		
		Temperatu		2	19.9 degC			N/A		
			re (summer)	1	22.2 degC			N/A		
1 Sampling	chall bo o		ling to sufficiently sensitive test proced	durae (i.a. mathade) ann	provod updor 40 C	ED 136 for the	analysis of pollutants	or pollutant		

Temperature (summer)

1 22.2 degC

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).

		tion Number	NPDES Permit Number	Facility Name Oak Ridge National Laboratory			Form Approved 03/05/19 OMB No. 2040-0004					
TN1890090	0003		TN0002941		Oak Ridge N	lational Laborato	ory		Olvie	3 110. 2040-0004		
	4.3	l	believed present, or is sa	nitary w	aste dischar	• •	•	,				
		☐ Yes					SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be	low.1 (See instructions for specifics.) Number of Maximum Daily				Average Daily Source				
		D	ton on Delletont		mber of nalyses		narge		e Dally large	Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specify units)		(specify units)		` per		
		Facal california		re	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		Fecal coliform										
Effluent Characteristics Continued		E. coli Enterococci										
ntir	4.5		(or will it be used)?									
ပိပ္စ	4.5	Yes	(or will it be used):		✓ No → SKIP to Item 4.7.							
stic	4.6	Provide data as requested in the table below. (See instructions for specifics.)										
teri	""	Trovido data do	1000000011111010000		mber of		ım Daily	Averag	e Daily	Source		
arac		Parame	eter or Pollutant	Ar	alyses		narge		narge	(use codes		
ဒိ				,	ctual data eported)	(specif	y units) Conc.	(specifi Mass	y units) Conc.	per instructions)		
ient		Total Residual	Chlorine		ропод	WIGGS	00110.	Wass	00110.			
1	4.7		cooling water discharged (or will it	be discharge	ed)?			•			
_		☐ Yes					SKIP to Se	ection 5.				
_	4.8	Provide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum Daily Average Daily Source										
						1	m Daily	Averag	-	Source		
		Parame	eter or Pollutant		nalyses actual data	(specif	narge v units)	Disch (specifi		(use codes per		
				()	eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	arbon (TOC)									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this		
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.				
Flow	5.2		the frequency and duration									
Ē		Flows are intermitted	ent and foundation drainage dis	charge is	weather depend	dent. See Secti	on 4.2 for flow	rate.				
SECTIO	N 6. TRE		EM (40 CFR 122.21(h)(6))									
E	6.1	· ·	any treatment system(s)	used (or	to be used).							
/ste		N/A										
ıt Sy												
Treatment System												
reati												
=												

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).

EPA Identification Number		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space reviewer should N/A	below to expand upon any of the ab d consider in establishing permit limi	itations. A	ttach additional sheets as	
SECTIO	8.1		ERTIFICATION STATEMENT (40 C low, mark the sections of Form 2E t			Ibmitting with your application
	0.1	For each section	n, specify in Column 2 any attachm	ents that		
		not all applican	ts are required to provide attachmer	nts.		
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
	Section 3: Waste Types				w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments	
st aı	8.2	Certification S	tatement			
Checklist and Certification Statement		accordance wit submitted. Base responsible for accurate, and c	penalty of law that this document and the a system designed to assure that ed on my inquiry of the person or pe gathering the information, the informa- complete. I am aware that there are the and imprisonment for knowing vio	qualified persons whe mation subsignifican	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,
		l "	type first and last name)		Official title	
		Johnny O. Moore			Manager, ORNL Site Office	
		Signature			Date signed	

FORM nΕ

TN1890090003



EPA Identification Number

2E NPDES	3	EPA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU	TFALL LOCATION	ON (40 CFR 122.21(h)(1))								
	1.1		ation on each of the facility	's outfalls in the	table be	elow.					
ation		Outfall Number	Receiving Water Name		Latitude	;		Lor	gitude		
Outfall Location		227 Whi	te Oak Creek	35 °	55 4	¥3.01 ["]	N	84° 18	35.4	7" W	
SECTIO	N 2. DIS		(40 CFR 122.21(h)(2))								
ge	2.1	1 — '	or existing discharger? (C	heck only one re	•	•					
Discharge Date		☐ New dis			✓	Exist	ing discharge	er → SKIP to	Section	1 3.	
Disc	2.2	Specify your a	nticipated discharge date:								
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))								
	3.1	What types of	wastes are currently being	discharged if yo	ou are ar	existing	discharger o	or will be discl	narged	f you are	еа
		_	r? (Check all that apply.)		✓	Other	nonprocess	wastewater (describ	e/explain	,
			ant or cafeteria waste		•		ly below)	wastowator (4000110	эголріані	'
ဟ						CT blo	owdown, steam	condensate, and	OTCW		
уре	0.0		ntact cooling water								
Waste Types	3.2	Does the facility Yes	y use cooling water additiv	/es?		No =	SKIP to Se	ction 4.			
Wa	3.3	List the cooling water additives used and describe their composition.									
			Cooling Water Additive	s				tion of Addi vailable to you)	tives		
		See Appendix L	(IISI)		See A	ppendix L	(II a	valiable to you)			
SECTIO			CTERISTICS (40 CFR 12		tabla ba	lavu at as	ala afirarimar	tfalls and att	1 +1		
	4.1	this application	pleted monitoring for all pa package?	arameters in the	table be	iow at ea	ich of your ou	ilialis and alli	acned tr	ie resuits	S to
			. package:	No; a waive	r has bee	en reque	sted from my	NPDES perr	nitting a	uthority	
	4.0						dditional infor	mation) → S	KIP to	Section 5	5.
	4.2	Provide data a	s requested in the table be	Number o			ıcs.) um Daily	Average I)ailv	C	
stics		Daram	eter or Pollutant	Analyses			harge	Dischar		Sour (use co	
teris		raidii	cter of ronatant	(if actual dat reported)	a	(spec	ify units) Conc.	(specify ur	nits) Conc.	per instructi	
arac		Biochemical ox	xygen demand (BOD₅)	1 1	< 0.7 kg			< 0.7 kg/day	< 4 r		N/A
Effluent Characteristics			ed solids (TSS)	1	< 0.11 k	•	•	< 0.11 kg/day			N/A
nen		Oil and grease	, ,	1	< 0.28 k	•		< 0.28 kg/day		3 mg/L	N/A
Eff		Ammonia (as I		1	0.016 kg	,	•	0.016 kg/day		27 mg/L	N/A
		Discharge flow	,	66		09 mgd	· · · · · ·				N/A
		pH (report as r		65		- 8.9 Stdl	Jnit				N/A
		Temperature (36	28	s.9 degC					N/A
		Temperature (· · · · · · · · · · · · · · · · · · ·	32		0.6 degC					N/A
1 Sampling	shall he o	' '	o sufficiently sensitive test proce	dures (i.e. methods			CER 136 for the	analysis of nollu	tante or n	allutant	

Temperature (summer)

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).

		ation Number	NPDES Permit Numb	Facility Name				Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	0003		TN0002941		Oak Ridg	e Natio	onal Laborat	tory		OIVIE	3 NO. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	anitary wa	aste disch	arge	•	•	,		
		☐ Yes				✓		SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be			tions f					
					mber of		Maximum Daily Discharge			e Daily narge	Source
		Parame	eter or Pollutant		ralyses ctual data			fy units)		y units)	(Use codes per
				, LE	eported)		Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform									
per		E. coli									
Effluent Characteristics Continued		Enterococci									
S	4.5	l —	I (or will it be used)?				1				
tics		✓ Yes		1 1 10				→ SKIP to Ite	em 4./.		
eris	4.6	Provide data as	requested in the table be	T ,		ions 1		cs.) u m Daily	Avorac	o Daily	
ract		_			mber of alyses			harge	-	e Daily narge	Source (use codes
Shai		Parame	eter or Pollutant		ctual data	L	(speci	fy units)	(specif	y units)) per
i t					eported)		Mass	Conc.	Mass	Conc.	instructions)
Hue	47	Total Residual		63			kg/day	< 0.05 mg/L	< 7.2E-03 k	g/day < 0.05	mg/L N/A
Ē	4.7	l	cooling water discharged	or will it i	oe discha	rged)		NOVID 4 - O -	- ti T		
_	4.8		requested in the table be	low 1 /Co	o inatruot	liono f		SKIP to Se	ection 5.		
	4.0	Provide data as	requested in the table be		mber of			um Daily	Averag	e Daily	Source
		Parame	rameter or Pollutant		alyses			harge		narge	(use codes
		Faranic	leter of Foliatant	(if a	ctual data	-		fy units)	(specif	y units)	per instructions)
		Chemical ovva	en demand (COD)	1	eported)	5.3 kg	Mass	30.6 mg/L	5.3 kg/day	30.6	,
		Total organic ca		1		1.5 kg	-	8.56 mg/L	1.5 kg/day	8.56	•
SECTIO	N 5 FLC	W (40 CFR 122.)	, ,	'		1.0 10	rady	. o.oo mgr	1.0 kg/day		119/2 11// (
OLUTIO	5.1		nwater water runoff, leaks	or spills	s. are anv	of the	e dischard	es vou desc	ribed in Se	ections 1 a	nd 3 of this
			mittent or seasonal?	, 0. 00	.,,	0	, and a , i.e., 3	, ,			
		✓ Yes →	Complete this section.			Г	No =	SKIP to Se	ection 6		
			<u> </u>	f fl	_		110	2 OKII 10 OK	000011 0.		
Flow	5.2		the frequency and duration the frequency and duration the frequency and vary with seasonal wear the frequency and the fr			ng and	l cooling tow	ver systems are	onerated ve	ar round Ou	antities of
		cooling tower blow	down, steam condensate disch								
		See Section 4.2 for	r flowrate.								
OF OTIO	NA TO		-N. (40. OFD. 400.04(L)(0)								
SECTIO			EM (40 CFR 122.21(h)(6) any treatment system(s)		to be use	d)					
еш	6.1	1 '	any treatment system(s) blet-feeder dechlorination box is			,	incide the l	huilding etorm (Arain Sodiun	n culfite table	ite (02%) are
yst			echlorination box continues to b				, iliside tile i	building storm c	irairi. Souluri	i suille table	13 (32 /0) are
Treatment System											
ıtme											
Frea											
	I										

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).

EPA Identification Number			NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should DOE captures sor	pelow to expand upon any of the all d consider in establishing permit lim ne additional data specific to cooling tower I as the corresponding additional data can	nitations. A blowdown d	ttach additional sheets as scharges from non-process wa	s needed. astewater outfalls. A summary of this
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachm ts are required to provide attachme Column 1	nents that	you are enclosing to alert	
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent _	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are has ystem designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vietype first and last name)	t qualified persons when the constant when the constant on the constant of the	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

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

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EFA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))	DIGGINATOL GITLE	NOTH TOO	200 11/1012	- VII LIX				
	1.1		ormation on each of the facility	r's outfalls in the table	below.						
ation		Outfall Number	Receiving Water Name	Latit	ıde		Lo	ongitude			
Outfall Location		230	White Oak Creek	35 ° 55 ′	43.75 "	N	84° 18	34.7	'9" W		
Outfa											
			ATE (40 CFR 122.21(h)(2))	la a la contra de la contra del la contra del la contra del la contra de la contra del la contra de la contra de la contra del la contra	\						
arge e	2.1	I — '	ew or existing discharger? (C discharger	neck only one respor		ng discharge	or 🖎 CKID (o Sootio	n 3		
Discharge Date	2.2		ır anticipated discharge date:		EXISUI	ig discriarge	SNIF I	.0 360110	113.		
SECTIO			(40 CFR 122.21(h)(3))								
	3.1		of wastes are currently being rger? (Check all that apply.)	discharged if you are	an existing	discharger o	r will be dis	charged	if you are	e a	
			tary wastes		✓ Other	nonprocess	wastewater	(describ	e/explain	1	
		_	aurant or cafeteria waste	 Other nonprocess wastewater (describe/explain directly below) 							
es			-contact cooling water		HVAC a	and steam cond	densate				
Тур	3.2		cility use cooling water additive	/es?							
Waste Types	0.2	Yes	ionity add dooning trator additi		✓ No →	SKIP to Se	ction 4.				
) M	3.3	List the coo	ling water additives used and		sition.						
			Cooling Water Additive	s			tion of Add				
			(not)			(11 34	ramable to you				
SECTIO			RACTERISTICS (40 CFR 12								
	4.1		ompleted monitoring for all pation package?	rameters in the table	below at eac	ch of your ou	ıtfalls and a	ttached t	he result	s to	
		1	tion paokago:	No; a waiver has	been reques	ted from my	NPDES pe	rmitting a	authority		
		✓ Yes		(attach waiver red			mation) 👈	SKIP to	Section 5	5.	
	4.2	Provide dat	ta as requested in the table be	Number of		cs.) I m Daily	Average	Daily	0		
stics		Dar	ameter or Pollutant	Analyses		narge	Discha		Sour (use co		
teris		""	different of a character	(if actual data reported)	(specified Mass	y units) Conc.	(specify Mass	units) Conc.	per instructi		
arac		Biochemica	al oxygen demand (BOD ₅)	' '	-03 kg/day		< 2E-03 kg/da			N/A	
t ch			ended solids (TSS)	1 0.02	kg/day	32.5 mg/L	0.02 kg/day	32.	mg/L	N/A	
Effluent Characteristics		Oil and gre	, ,	1 < 9E	-04 kg/day	-	< 9E-04 kg/da		63 mg/L	N/A	
E#		Ammonia (a	as N)	1 1E-	04 kg/day	0.213 mg/L	1E-04 kg/day	0.2	13 mg/L	N/A	
		Discharge f	flow	4	0.03 mgd					N/A	
		pH (report a	as range)	1	8 - 8 StdUnit					N/A	
		Temperatu	re (winter)	3	13.4 degC					N/A	
		Temperatu					N/A				

Temperature (summer)

1 22.4 degC

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).

		tion Number	NPDES Permit Number	Facility Name			Form Approved 03/05/19 OMB No. 2040-0004					
TN1890090	0003		TN0002941			lational Laborato			Olvie	3 110. 2040-0004		
	4.3	l	n believed present, or is sa	initary w	aste dischar	• •	-	,				
		☐ Yes					SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be					Avorage	o Doily			
		D	ton on Dolladont		mber of alyses	Maximum Daily Discharge			e Daily narge	Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specify units)		(specify units)		` per		
		Facal california		Γ	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		Fecal coliform										
Effluent Characteristics Continued		E. coli Enterococci										
ntir	4.5		d (or will it be used)?									
ပိပ္	4.5	Yes	(or will it be asea):		✓ No =	SKIP to It	em 47					
stic	4.6		requested in the table be	.0111 4.7 .								
teri	""	Trovido data do	710940000411111010000		mber of		ım Daily	Averag	e Daily	Source		
arac		Parame	eter or Pollutant		alyses		harge		narge	(use codes		
ਨੁੰ				,	ctual data eported)	Mass	y units) Conc.	Mass	y units) Conc.	per instructions)		
rent		Total Residual	Chlorine	1.	portody	Muoo	00110.	mass	00110.	,		
	4.7		cooling water discharged (or will it	be discharge	ed)?	•		•			
		☐ Yes			· ·		SKIP to Se	ection 5.				
	4.8											
				1	mber of	1	ım Daily	Averag	-	Source		
		Parameter or Pollutant			nalyses ctual data		harge y units)	Disch (specifi		(use codes per		
				, , ,	eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	arbon (TOC)									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	ind 3 of this		
						□ No ₹	SKIP to S	ootion 6				
			Complete this section.				SKIP 10 S	ection 6.				
Flow	5.2		the frequency and duration discharges and steam condens			idant unan saas	onaluso Soc	Soction 4.2	for flowrate			
ш.		TIVAC condensate	discharges and steam condens	sale ale sc	illewilat depen	ident apon seas	orial use. See	: 3 6 6((0)) 4.2 (ioi ilowiate.			
SECTIO			EM (40 CFR 122.21(h)(6))		to be a see a B							
ш	6.1	N/A	any treatment system(s)	used (or	to be used).							
yst		I N/A										
nt S												
Treatment System												
rea												

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).

EPA Identification Number N1890090003			TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

2E NPDES	9	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO	N 1. OU		ATION (40 CFR 122.21(h)(1))										
	1.1		ormation on each of the facility	's outfalls in the tab	le below.								
ation		Outfall Number	Receiving Water Name	Lati	tude		Longit	ude					
Outfall Location		231	White Oak Creek	35 ° 55	45.85 ["] 1	N	84° 18′	32.22" W					
Outfa													
SECTIO	N 2. DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))										
ge	2.1		new or existing discharger? (C	heck only one respo									
Discharge Date			v discharger		✓ Existin	ng discharge	er → SKIP to Se	ection 3.					
Disc	2.2	Specify you	ur anticipated discharge date:										
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))										
	3.1		of wastes are currently being	discharged if you a	re an existing	discharger d	or will be dischar	ged if you are a					
			rger? (Check all that apply.)										
		_	Sanitary wastes Other nonprocess wastewater (describe/explain directly below)										
		Steam condensate. CT blowdown, sump discharge											
/bes			-contact cooling water										
Waste Types	3.2	_	acility use cooling water additive	/es?									
Nasi	0.0	✓ Yes	P 4 180 1 1			SKIP to Se	ction 4.						
	3.3	List the coo	oling water additives used and Cooling Water Additive		osition.	Composi	tion of Additive	ne .					
			(list)				vailable to you)						
		See Appendix	L	S	See Appendix L								
050510				0.04(1.)(1))									
SECTIO	N 4. EFF 4.1		ARACTERISTICS (40 CFR 12 completed monitoring for all page 12)		o bolow at oad	h of your o	ıtfalle and attach	ad the results to					
	4.1		ation package?		e below at eac	on your oc	ilialis aliu allaori	ed the results to					
		✓ Yes		No; a waiver has									
	4.2		ta as requested in the table be				mation) -> SKIF	to Section 5.					
ဟ	7.2	1 TOVIGO GG	ta do reguestos in the table be	Number of	Maximu		Average Dail	y Source					
istic		Pai	rameter or Pollutant	Analyses	Disch		Discharge	(use codes					
cter				(if actual data reported)	(specify Mass	Conc.	(specify units) Mass Cor	per instructions)					
hara		Biochemica	al oxygen demand (BOD ₅)	1 < 0	.3 kg/day	< 4 mg/L	< 0.3 kg/day	< 4 mg/L N/A					
ıt Cl		Total suspe	ended solids (TSS)	1 J 0	.0514 kg/day	J 0.612 mg/L	J 0.0514 kg/day	J 0.612 mg/L N/A					
Effluent Characteristics		Oil and gre	ease	1 J 0	.274 kg/day	J 3.26 mg/L	J 0.274 kg/day	J 3.26 mg/L N/A					
置		Ammonia (as N)	1 0.0	0402 kg/day	0.479 mg/L	0.0402 kg/day	0.479 mg/L N/A					
		Discharge	flow	66	0.22 mgd			N/A					
		pH (report	as range)	63	6.7 - 8.8 StdUr	nit		N/A					
		Temperatu	re (winter)	33	22.1 degC			N/A					
			re (summer)	33	27.4 degC	ED 100 : "		N/A					

Temperature (summer) 33 27.4 degC 27.4 degC

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).

		tion Number	NPDES Permit Numb	er		Facility Name		Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	NO. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	anitary wa	ste discharg	jed (or will it l	be discharge	ed)?		
		☐ Yes				✓ No 🗦	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of	Maximu	•	Average		Source
		Parame	ter or Pollutant		alyses	Disch		Disch		(Use codes
				,	ctual data ported)	(specify Mass	Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			•					
2		E. coli								
inue		Enterococci								
onti	4.5	Is chlorine used	(or will it be used)?							
Effluent Characteristics Continued		✓ Yes	,			□ No -	SKIP to Ite	em 4.7.		
istic	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
cter				Nur	nber of	Maximu	-	Average		Source
ara		Parame	ter or Pollutant		alyses	Disch		Disch		(use codes
ပ်					ctual data ported)	(specify Mass	Conc.	(specify	Conc.	per instructions)
rent		Total Residual (Chlorine	63	,	g/day		< 0.03 kg/da		7 mg/L N/A
E	4.7		ooling water discharged (or will it b						
		✓ Yes	9	No → SKIP to Section 5.						
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
				1	nber of	Maximu	•	Average		Source
		Parame	ter or Pollutant		alyses	Disch (specify		Disch (specify		(use codes per
					ctual data ported)	Mass	Conc.	Mass	Conc.	instructions)
		Chemical oxyge	en demand (COD)	1	7.1	1 kg/day	84.7 mg/L	7.11 kg/day	84.7 ı	ng/L N/A
		Total organic ca	urbon (TOC)	1	1.5	2 kg/day	18.1 mg/L	1.52 kg/day	18.1 ı	mg/L N/A
SECTIO	N 5. FLC	W (40 CFR 122.2								
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desci	ribed in Sed	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes → (Complete this section.			□ No →	SKIP to Se	ection 6.		
>	5.2	Briefly describe	the frequency and duration	on of flow						
Flow	0.2		eam condensate, and cooling to			ittant. See Sec	tion 4.2 for flov	vrate.		
SECTIO	NE TOE	ATMENT SVSTE	EM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		to he used)					
tem	0.1	1 1	blow down from building 5800 (•	,	h a sodium sulfi	ite tablet dechl	orinator utilizi	na 92% sod	ium sulfite
Syst			oling tower blowdown is treated						ng 02 /0 000	iam came
int (
9										
tr										
Treatment System										

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).

		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB NO. 2040-0004
SECTIO	N 7. OTH	ER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should	pelow to expand upon any of the al I consider in establishing permit lim ne additional data specific to cooling tower as the corresponding additional data can	itations. A blowdown di	ttach additional sheets as scharges from non-process wa	s needed. stewater outfalls. A summary of this
SECTIO	N 8. CHE	CKLIST AND CE	ERTIFICATION STATEMENT (40 (CFR 122.2	2(a) and (d))	
	8.1	In Column 1 be For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm s are required to provide attachme	that you ha	ave completed and are su you are enclosing to alert	the permitting authority. Note that
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗌	w/ attachments	
sta	8.2	Certification S	tatement			
Checklist and Certification Statement		accordance with submitted. Base responsible for accurate, and c	enalty of law that this document and a system designed to assure that and on my inquiry of the person or pathering the information, the information. I am aware that there are and imprisonment for knowing vice	qualified persons whe mation sub- significant	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,
		. "	ype first and last name)		Official title	
		Johnny O. Moore			Manager, ORNL Site Office	
		Signature			Date signed	

FORM 2E

TN1890090003



EPA Identification Number

NPDES	7	EPA	MANUFACTURIN	G, COMMERC DISCHARGE					S WHICH			
SECTIO			ON (40 CFR 122.21(h)(1))									
	1.1	Provide inform Outfall	nation on each of the facility	r's outfalls in the	e table	below.						
ıtion		Number F	Receiving Water Name		Latitu	ide			Longitud	е		
Outfall Location		234 Wh	ite Oak Creek	35 °	56 ′	3.68 "	N	84°	18 5.	.31" W		
utfall												
ō												
SECTIO	N 2. DIS	CHARGE DATE	E (40 CFR 122.21(h)(2))									
	2.1		or existing discharger? (C	heck only one r	espon	se.)						
scharg Date		☐ New dis	scharger			✓ Exis	sting dischar	ger → SKI	P to Section	on 3.		
Discharge Date	2.2	Specify your a	Existing discharger → SKIP to Section 3. S (40 CFR 122.21(h)(3)) See of wastes are currently being discharged if you are an existing discharger or will be discharged if you are a harger? (Check all that apply.) Initiary wastes Other nonprocess wastewater (describe/explain directly below) HVAC condensate Interval Accordensate									
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))									
	3.1			discharged if y	ou are	an existin	g discharge	r or will be o	discharged	l if you ar	e a	
		_	,		G.	⊘ Othe	er nonnroces	s wastewa	ter (descri	ne/exnlair	,	
			•					os wastowa	ter (deserii	Jorenpiali	'	
ဟ							. ,					
уре	0.0		Non-contact cooling water									
Waste Types	3.2	Does the facili Yes	ty use cooling water additiv	/es?	Ī	✓ No •	→ SKIP to S	Section 1				
Wa	3.3		g water additives used and	describe their of		110	Z OINII 10 C	00000114.				
	0.0	Ziot and dodini	Cooling Water Additive		7011150	ord or it.		sition of A				
			(list)				(i	favailable to y	ou)			
SECTIO			ACTERISTICS (40 CFR 12									
	4.1	Have you com this application	npleted monitoring for all pa n package?	rameters in the	table	below at e	ach of your	outfalls and	l attached	the result	ts to	
			m paonago.				ested from r					
	4.0						additional inf	ormation) •	→ SKIP to	Section	5.	
	4.2	Provide data a	as requested in the table be	Number o			num Daily	Avera	ge Daily	Soul	***	
stice		Param	neter or Pollutant	Analyses			charge		harge	(use c		
teri		T didii	iotor or r onuscin	(if actual dat reported)	a	(spe	cify units) Conc.	(spec	ify units) Conc.	_ pe instruct		
Effluent Characteristics		Biochemical o	xygen demand (BOD ₅)	1	< 5E-	·03 kg/day		/L < 5E-03 kg	_	mg/L	N/A	
t Ch		Total suspend	led solids (TSS)	1	0.02	kg/day	3.8 mg	/L 0.02 kg/da	y 3.8	B mg/L	N/A	
lnen		Oil and grease	9	1	< 9E-	03 kg/day	< 1.65 mg	/L < 9E-03 kg	/day < 1	.65 mg/L	N/A	
出		Ammonia (as	N)	1	J 2E-	04 kg/day	J 0.0307 mg	/L J 2E-04 kg	/day J 0	.0307 mg/L	N/A	
		Discharge flov	V	5		7E-03 mgd					N/A	
		pH (report as	range)	4		7.2 - 8.4 Sto	dUnit				N/A	
		Temperature ((winter)	3		14.1 degC					N/A	
		Temperature ((summer)	1		19.4 degC					N/A	

¹ Temperature (summer) 1 19.4 degC 19.4 degC 19.4 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).

EP.	A Identifica	ation Number	er			Form Approved 03/05/19				
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	be discharg	ed)?		
		☐ Yes				✓ No -	SKIP to It	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of	I	m Daily	Averag		Source
		Parame	ter or Pollutant		alyses ctual data	Disch (specifi		Disch (specif		(Use codes per
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
70		E. coli								
Effluent Characteristics Continued		Enterococci								
Cont	4.5	Is chlorine used	(or will it be used)?							
) နာ		☐ Yes				✓ No 🗦	SKIP to It	em 4.7.		
isti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
cter					nber of		m Daily	Averag	-	Source
ıara		Parame	ter or Pollutant		alyses	Disch (specifi		Disch	narge y units)	(use codes
t C					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)
nen		Total Residual (Chlorine							
E	4.7	Is non-contact of	ooling water discharged (or will it k	e discharge			•		
		☐ Yes				✓ No →	SKIP to Se	ection 5.		
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
				1	nber of	Maximu	•	Averag		Source
		Parame	eter or Pollutant		alyses ctual data	Disch (specify		Discharge (specify units)		(use codes per
				, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)
		Chemical oxyge	en demand (COD)			•				
		Total organic ca	rbon (TOC)							_
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))							
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.		
Flow	5.2		the frequency and duration							
Ĕ		Individual HVAC co	ondensate sources are intermitte	ent and de	pendent on wea	ather conditions	. See Section	4.2 for flowra	te.	
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))							
ء	6.1	Briefly describe	any treatment system(s)	used (or	to be used).					
ster		N/A								
Š										
rent										
Treatment System										
Tre										

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM nΕ

TN1890090003



EPA Identification Number

2E NPDES	3	EPA	MANUFACTURIN	IG, COMMERC DISCHARGE					LITIES	WHICH			
SECTIO	N 1. OU	TFALL LOCATION	ON (40 CFR 122.21(h)(1))										
	1.1		ation on each of the facility	's outfalls in the	e table	below.							
ıtion		Outfall Number F	Receiving Water Name		Latitu	de		Lor	gitude				
Outfall Location		235 Whi	te Oak Creek	35 °	55 ′	23.67	N	84° 19′	3.2	9" W			
SECTIO			(40 CFR 122.21(h)(2))										
e g	2.1	I — '	or existing discharger? (C	heck only one r	•	´							
Discharge Date			charger			✓ Exis	sting discharge	er → SKIP to	Section	า 3.			
Disc	2.2	Specify your a	nticipated discharge date:										
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))										
	3.1	What types of	wastes are currently being r? (Check all that apply.)	discharged if y	ou are	an existin	g discharger o	or will be discl	narged i	f you are	e a		
			/ wastes		•		r nonprocess	wastewater (describe	e/explain	1		
		Restaur	ant or cafeteria waste				ctly below)						
sec		✓ Non-cor	Non-contact cooling water HVAC & steam condensate RO reject, boiler blowdown										
Waste Types	3.2	Does the facilit	y use cooling water additiv	/es?									
aste		☐ Yes			•	No •	SKIP to Se	ction 4.					
8	3.3	List the cooling	water additives used and		compo	sition.							
			Cooling Water Additive	s				ition of Addit vailable to you)	tives				
							(II &	valiable to your					
SECTIO			CTERISTICS (40 CFR 12					45 11 1 44	1 141		,		
	4.1	Have you com this application	pleted monitoring for all pa	arameters in the	table	below at e	ach of your ou	uttalis and atta	ached tr	ne result	s to		
		_ `	r paokago:	No; a waive	er has b	oeen requ	ested from my	NPDES perr	nitting a	uthority			
		✓ Yes					additional infor	mation) 👈 S	KIP to S	Section 5	5.		
	4.2	Provide data a	s requested in the table be				fics.) num Daily	Average)aily	_			
tics		Dorom	otor or Dollutont	Number of Analyses			charge	Average [Dischar		Sour (use co			
teris		Param	eter or Pollutant	(if actual da		(spe	cify units)	(specify ur	nits)	` per	r		
ıracı		Piochomical o	vygon domand (PODs)	reported)	< N.8	Mass kg/day	Conc.	Mass <a> 0.8 kg/day	Conc. < 4 n	instructi	N/A		
Effluent Characteristics			xygen demand (BOD ₅) ed solids (TSS)	1		kg/day 3 kg/day	•	J 0.28 kg/day		1 mg/L 1 mg/L	N/A		
lent		Oil and grease	,	1		2 kg/day	_	< 0.32 kg/day		3 mg/L	N/A		
Efflu		Ammonia (as I		1		4 kg/day	•	0.024 kg/day		.1 mg/L	N/A		
_		Discharge flow	,	66	3.02	0.09 mgd		- ingrady	Ü. 12		N/A		
		pH (report as r		63		7.3 - 8.6 Std	Unit				N/A		
		Temperature (34		36.8 degC	<u> </u>				N/A		
		Temperature (· · · · · · · · · · · · · · · · · · ·	32		31.9 degC					N/A		
1 Sampling	shall he c	' '	o sufficiently sensitive test proce	-	e) annro		CER 136 for the	analysis of nollu	tante or n	ollutant			

Temperature (summer) 32 31.9 degC 31.9 degC 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).

EP.	A Identifica	ation Number	NPDES Permit Numb	er		Facility Name				proved 03/05/19
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	be discharge	ed)?		
		☐ Yes				✓ No =	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
				Nui	nber of	Maximu	ım Daily	Averag	e Daily	Source
		Parame	ter or Pollutant		alyses		harge	Disch		(Use codes
				,	ctual data ported)	(specif	fy units) Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			portosy	Midde	00110.	WIGGO	00110.	,
70		E. coli								
une		Enterococci								
ontil	4.5		(or will it be used)?							
ပိ	".0	✓ Yes	(or will to dodd).			No =	SKIP to It	em 47		
stic	4.6		requested in the table be	low 1 (Se	e instruction			5111 1.7.		
teri	٦.٥	1 TOVIGO GATA GO	Toquodioa III tilo tablo bo	T ,	nber of		ım Daily	Averag	e Dailv	Source
ırac		Daramo	ter or Pollutant		alyses		harge	Disch		(use codes
Cha		i aranic	ici oi i oilutalit		ctual data		fy units)	(specify		per instructions)
ent		Total Residual (Ohlavina	63	ported)	Mass	Conc.	Mass	Conc.	instructions)
Effluent Characteristics Continued	4.7					02 kg/day	. U. I mg/L	< 4.0E-03 kg	/day < 0.05	508 mg/L N/A
ш	4.7	Yes	ooling water discharged (OI WIII IL L	be discriarge		SKIP to Se	otion E		
	4.8		requested in the table be	low 1 /So	o instruction			CHOIT 5.		
	4.0	FIOVICE Gata as	requested in the table be		mber of		ım Daily	Averag	e Daily	Cauras
		Davama	eter or Pollutant	1	alyses	1	harge	Disch		Source (use codes
		Faranie	ter or Pollutant	(if a	ctual data		y units)	(specify		` per
		01 1	1 (000)	re	ported)	Mass	Conc.	Mass	Conc.	instructions)
			en demand (COD)	1		9 kg/day	J 9.79 mg/L	'		
		Total organic ca		1	0.7	6 kg/day	3.88 mg/L	0.76 kg/day	3.88	mg/L N/A
SECTIO		W (40 CFR 122.2		*11				" 1: 0		10 (11)
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any of t	the discharg	es you desc	ribed in Se	ctions 1 a	ind 3 of this
		✓ Yes → (Complete this section.			∐ No ∃	SKIP to Se	ection 6.		
Flow	5.2		the frequency and duration							
Ĕ			and steam condensate source t. See Section 4.2 for flowrate.		O reject water	and boiler blow	down that disc	harge to this	outfall vary	with weather
		and are intermitten	i. See Section 4.2 for nowrate.							
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		to be used).					
ten		The Steam Plant re	everse osmosis treatment syste	m uses an	oxygen scaven	ger/dechlorinat	ting agent (Che	mTreat 1254	Potassium	Sulfite) and an
Sys			Freat RL9907 containing Diethy							
ent			The boiler water is treated with 4 Potassium and Sodium Hydr							
Treatment System		`	,	,.		•		·		-
Tre										
	I	I								

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

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

FORM 2E

TN1890090003



EPA Identification Number

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

MANUEACTURING COMMERCIAL MINING AND SILVICULTURAL FACILITIES WHICH

DISCHARGE ONLY NONPROCESS WASTEWATER	NPDES			MANUFACTURIN		CILITIES	WHICH					
Section 2. Discharge DATE (40 CFR 122.21(h)(2))	SECTIO	N 1. OU										
Number Receiving water Name Latitude Longitude 243 First Creek 35 ° 55 ′ 25.94 ″ N 84 ″ 19 ′ 13.36 ″ W SECTION 2. DISCHARGE DATE (40 CFR 122.21(h)(2)) Are you a new or existing discharger? (Check only one response.) New discharger 2.1 Are you a new or existing discharger? (Check only one response.) New discharger 2.2 Specify your anticipated discharge date: SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3)) 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 Non-contact cooling water additives waste Non-contact cooling water additives? Yes 3.2 Does the facility use cooling water additives? Yes 3.3 List the cooling water additives used and describe their composition. Cooling Water Additives Composition of Additives (If available to you) Yes No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Parameter or Pollutant No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Parameter or Pollutant No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Parameter or Pollutant No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Total suspended solids (TSS) No; a swaiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Parameter or Pollutant No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Parameter or Pollutant No; a swaiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Parameter or Poll		1.1		ormation on each of the facility	s outfalls in the table	below.						
SECTION 2. DISCHARGE DATE (40 CFR 122.21(h)(2)) 2.1 Are you a new or existing discharger? (Check only one response.) New discharger 2.2 Specify your anticipated discharge date: SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3)) 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 cafteria waste Non-contact cooling water 3.2 Does the facility use cooling water additives? Yes 3.3 List the cooling water additives used and describe their composition. Cooling Water Additives SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) 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 weiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Parameter or Pollutant Analyses Biochemical oxygen demand (BODs) Total suspended solids (TSS) Total su	ation			Receiving Water Name	Latit			Lo	ongitude			
SECTION 2. DISCHARGE DATE (40 CFR 122.21(h)(2)) 2.1 Are you a new or existing discharger? (Check only one response.) New discharger 2.2 Specify your anticipated discharge date: SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3)) 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 Non-contact cooling water 3.2 Does the facility use cooling water additives? Yes 3.3 List the cooling water additives used and describe their composition. Cooling Water Additives SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) 4.1 Have you completed monitoring for all parameters in the table below at each of your cutfalls and attached the results to this application package? Yes No: a weiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Parameter or Pollutant Analyses Biochemical oxygen demand (BODs) Total suspended solids (TSS) Total suspended solids (TSS) Total suspended solids (TSS) 1 6E0 4kg/day 1.14 mg/L NA Ammonia (as N) Discharge flow Ammonia (as N) Discharge flow Discharge (peedity units) Discharge flow Discharge flow Total suspended solids (TSS) 1 6E0 4kg/day 1.11 mg/L NA NA NA NA NA NA NA NA NA N	III Loc		243	First Creek	35 ° 55 ′	25.94 " N		84° 1	9 13.3	86" W		
Are you a new or existing discharger? (Check only one response.) New discharger New d	Outfa											
Are you a new or existing discharger? (Check only one response.) New discharger New d												
New discharger Section 3.	SECTIO			· · · · · · · · · · · · · · · · · · ·								
SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3)) 3.1	rge	2.1		• • •	heck only one respor			> 0KID	4-0-4-	. 0		
SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3)) 3.1	cha Date	2.2				Existin	g discharge	er -> SKIP	to Sectio	n 3.		
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 Other nonprocess wastewater (describe/explain directly below) Steam condensate Non-contact cooling water	Dis	2.2	Specily yo	ur anticipated discharge date:								
Non-contact cooling water additives Non-contact cooling water additives	SECTIO	N 3. WA										
Sanitary wastes Restaurant or cafeteria waste Restaurant or cafeteria waste Non-contact cooling water additives? Yes No → SKIP to Section 4. Section 4. Effluent Characteristics (40 CFR 122.21(h)(4))		3.1			discharged if you are	an existing o	lischarger o	r will be dis	charged	if you are	e a	
Restaurant or cafeteria waste Non-contact cooling water			l		1	Other n	onnrocess	wastewater	· (describ	e <i>l</i> exnlair	1	
Non-contact cooling water Steam condensate				Restaurant or cafeteria waste directly below)								
SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) 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. Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (if actual data reported) Number of Analyses (if actual data reported) Number of Analyses (if actual data Name Analyses (specify units) Number of Analyses (specify units) Nu	ဟ			Steam condensate								
SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) 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. Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (if actual data reported) Number of Analyses (if actual data reported) Number of Analyses (if actual data Name Analyses (specify units) Number of Analyses (specify units) Nu	уре											
SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) 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. Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (if actual data reported) Number of Analyses (if actual data reported) Number of Analyses (if actual data Name Analyses (specify units) Number of Analyses (specify units) Nu	te T	3.2	I —			M- N	01/10 +- 0-	A				
SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) 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	Was	3 3				2	SKIP to Se	Ction 4.				
SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) 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. Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (if actual data reported) Maximum Daily Discharge (specify units) Source (use codes per (use codes (specify units)) Biochemical oxygen demand (BOD₅) 1 < 2E-03 kg/day < 4 mg/L Total suspended solids (TSS) 1 < 6E-04 kg/day < 1.14 mg/L Oil and grease 1 J J2E-03 kg/day J 3.18 mg/L Oil and grease 1 J J2E-03 kg/day J 3.18 mg/L Ammonia (as N) 1 6E-05 kg/day 0.11 mg/L Discharge flow 3 3.6E-04 mg/d PH (report as range) 1 7.5 - 7.5 StdUnit Temperature (winter) 2 94.1 degC		3.3	LIST THE CO.			SILIOI I.	Composi	tion of Add	ditives			
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. Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (if actual data reported) Parameter or Pollutant Number of Analyses (if actual data reported) Biochemical oxygen demand (BOD₅) 1 < 2E-03 kg/day < 4 mg/L < 2E-03 kg/day < 4 mg/L < 2E-03 kg/day < 4 mg/L < 6E-04 kg/day < 1.14 mg/L < 6E-04 kg/day < 1.14 mg/L < 6E-04 kg/day < 1.14 mg/L < 6E-05 kg/day												
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. Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (if actual data reported) Parameter or Pollutant Number of Analyses (if actual data reported) Biochemical oxygen demand (BOD₅) 1 < 2E-03 kg/day < 4 mg/L < 2E-03 kg/day < 4 mg/L < 2E-03 kg/day < 4 mg/L < 2E-03 kg/day < 1.14 mg/L < 6E-04 kg/day < 1.14 mg/L < 6E-04 kg/day < 1.14 mg/L < 6E-04 kg/day < 1.14 mg/L < 6E-05 kg/day												
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. Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (if actual data reported) Namss Conc. Biochemical oxygen demand (BOD₅) Total suspended solids (TSS) Oil and grease 1 J 2E-03 kg/day < 4 mg/L < 2E-03 kg/day < 4 mg/L < 6E-04 kg/day < 1.14 mg/L < 6E-04 kg/day < 1.14 mg/L < 6E-04 kg/day < 1.14 mg/L	SECTIO	N 4. EFF										
No; a waiver has been requested from my NPDES permitting authority (attach waiver request and additional information) → SKIP to Section 5. Provide data as requested in the table below.¹ (See instructions for specifics.) Parameter or Pollutant Number of Analyses (if actual data reported) Number of Analyses (specify units) Number o		4.1			rameters in the table	below at eacl	n of your ou	ıtfalls and a	ttached t	he result	s to	
Parameter or Pollutant Parameter or Pollutant Parameter or Pollut			i		No: a waiver has	been reauest	ed from mv	NPDES pe	ermittina a	authority		
Parameter or Pollutant Number of Analyses (if actual data reported) Discharge (specify units) Discharge (s					(attach waiver red	quest and add	litional infor		_	,		
Parameter or Pollutant		4.2	Provide da	ta as requested in the table be		s for specifics	S.)	A	Daile	_		
Discharge flow 3 3.6E-04 mgd N/A	tics		D-					_	-			
Discharge flow 3 3.6E-04 mgd N/A	eris		Pa	rameter or Pollutant	(if actual data	(specify	units)	(specify	units)) per	r	
Discharge flow 3 3.6E-04 mgd N/A	ıract		Piochomio	al avygan damand (PODs)							,	
Discharge flow 3 3.6E-04 mgd N/A	Cha			, ,			•		•	_		
Discharge flow 3 3.6E-04 mgd N/A	ient			, ,			-	_	-	_		
Discharge flow 3 3.6E-04 mgd N/A	Efflu					• •	-	_	-	_		
PH (report as range)				,		 	J. 17 Hig/L	oz oo ngrua	, 0.1	g, L		
Temperature (winter) 2 94.1 degC N/A			<u>_</u>				it					
16 The state (times)			<u> </u>									
I I I I I I I I I I I I I I I I I I I				ure (wiriter) ure (summer)	3	99.5 degC					N/A	

Temperature (summer) 3 99.5 degC 99.5 degC

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).

		tion Number	Number NPDES Permit Number TN0002941			Facility Name Oak Ridge National Laboratory				Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003						·		OIVIL	3 NO. 2040-0004		
	4.3	l <u> </u>	believed present, or is sa	nitary w	aste dischar	• (Ū	,				
		☐ Yes		1 (0			SKIP to It	tem 4.5.				
	4.4	Provide data as	requested in the table be		ee instructior mber of		s.) I m Daily	Avorag	e Daily	0		
		Danama	ster er Dellutent		nalyses		narge		arge	Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specif	y units)	(specif	y units)	` per		
		Fecal coliform		Γ	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		E. coli										
Effluent Characteristics Continued		Enterococci										
ontir	4.5		(or will it be used)?									
ပိ	4.0	Yes	(or will it be decay:			✓ No =	SKIP to It	em 4 7				
stic	4.6		requested in the table be	low.1 (Se	ee instruction							
teri					mber of		ım Daily	Averag	e Daily	Source		
arac		Parame	eter or Pollutant		nalyses		narge		narge	(use codes		
S				,	ctual data eported)	Mass	y units) Conc.	Mass	y units) Conc.	per instructions)		
rent		Total Residual	Chlorine	1	portody	Mass	00110.	Mass	00110.	,		
Effi	4.7		cooling water discharged (or will it	be discharge	ed)?			•			
		☐ Yes	,		Ü		SKIP to Se	ection 5.				
	4.8	Provide data as	requested in the table be	low.1 (Se	ee instructior	ns for specific	s.)					
			Numbe				m Daily	Averag		Source		
		Parame	eter or Pollutant		nalyses actual data	Discharge (specify units)		Discharge (specify units)		(use codes per		
					eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	arbon (TOC)									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	ind 3 of this		
		Yes →	Complete this section.			□ No -	SKIP to S	ection 6.				
Flow	5.2		the frequency and duration									
Ē		Steam condensate	is expected to be intermittent a	nd depend	dent on season	al weather cond	itions. See Se	ection 4.2 for	flowrate.			
SECTIO	N 6. TRE		EM (40 CFR 122.21(h)(6))									
Ε	6.1	· ·	any treatment system(s)	used (or	to be used).							
/ste		N/A										
ıt Sj												
Treatment System												
reat												
F												

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	ER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should The temperature of travels over land s this location was e	below to expand upon any of the all diconsider in establishing permit limited at a presented for this outfall was taken directed feet before it gets to the receiving staxpanded to measure both upstream temperature of 0 degrees C and the temperatures	nitations. A ectly at the s tream during erature = 10.	ttach additional sheets as team condensate discharge. H stream baseflow conditions. TI 7 degrees C and the downstrea	s needed. owever, the discharge at this location herefore the temperature evaluation at temperature = 10.7 degrees C. This
SECTIO			ERTIFICATION STATEMENT (40			
	8.1	For each section	low, mark the sections of Form 2E on, specify in Column 2 any attachments are required to provide attachments. Column 1	nents that	ou are enclosing to alert	
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
staten		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		✓ Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are the a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor- complete. I am aware that there are e and imprisonment for knowing vic- type first and last name)	t qualified ersons wh mation sul significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	MANUFACTURIN	ND SILVICUL CESS WAST		CILITIES	WHICH					
SECTIO			ON (40 CFR 122.21(h)(1))									
	1.1	Provide informa	ation on each of the facility	/'s outfalls in the	table	below.						
tion		Number R	eceiving Water Name		Latitu	de		L	ongitude	:		
Outfall Location		249 First	Creek	35 °	55 ′	31.83 "	N	84°	9 17.9	97" W		
ıtfall												
ō												
CECTIO	N 2 DIC	CHARCE DATE	(40 CFR 122.21(h)(2))									
	2.1		· · · · · · · · · · · · · · · · · · ·	heck only one re	espons	se)						
scharg Date				Thousand and the	•	·	sting discharg	er → SKIP	to Sectio	n 3.		
Discharge Date	2.2	Specify your ar	narger? (Check all that apply.) nitary wastes Other nonprocess wastewater (describe/explain directly below) HVAC & steam cond & sump and OTCW, CT blowdown facility use cooling water									
	N3 WA	STE TYPES (40)	so of wastes are currently being discharged if you are an existing discharger or will be discharged if you are a arger? (Check all that apply.) nitary wastes Staurant or cafeteria waste Which is a staurant or cafeteria waste Other nonprocess wastewater (describe/explain directly below) HVAC & steam cond & sump and OTCW, CT blowdown									
OLOTIO	3.1			discharged if yo	u are	an existin	g discharger	or will be di	scharged	if you are	e a	
					_							
		—			•			wastewate	r (describ	e/explain	۱	
			HVAC & steam cond & sump and OTCW, CT blowdown									
/bes			Non-contact cooling water									
Waste Types	3.2	i — '	y use cooling water additiv	/es?		٦	> 01/15 / 0					
Was	3.3	100	water additives used and	dosariba thair a	omnos		→ SKIP to Se	ection 4.				
	3.5	List tile cooling	Cooling Water Additive		ompos	oluoi i.	Compos	ition of Ad	ditives			
		See Appendix L	(list)		Soc	Appendix I		available to you	ı)			
		Oce Appendix L			366	Appendix i	-					
SECTIO	N 4. EFF	LUENT CHARA	CTERISTICS (40 CFR 12	2.21(h)(4))								
	4.1		oleted monitoring for all pa	arameters in the	table b	oelow at e	ach of your o	utfalls and a	attached t	he result	s to	
		this application	package?	No. a waiver	r hae h	een reall	ested from m	, NPDES n	ermittina :	authority		
		✓ Yes					additional info				5.	
	4.2	Provide data as	s requested in the table be	T '				A	. D.:!	_		
tics		Danama	stan an Dallastant	Number of Analyses			num Daily charge	Averag Disch		Sour (use co		
teris		Paramo	eter or Pollutant	(if actual data		(spe	cify units)	(specify	units)	per		
arac		Biochemical ox	xygen demand (BOD₅)	reported)	< 1 kg	Mass /dav	Conc. < 4 mg/L	Mass < 1 kg/day	Conc.	mg/L	N/A	
S S		Total suspende	, ,	1	_ `	kg/day	•	J 1.08 kg/day		 29 mg/L	N/A	
<u> </u>			. ,	1		7 kg/day	< 1.57 mg/l					
l en		Oil and grease		1	< 0.58	77 kg/day	< 1.57 Hig/L	. < 0.397 kg/d	ay < 1.:	57 mg/L	N/A	
Effluent Characteristics		Oil and grease Ammonia (as N		1	_	n kg/day 11 kg/day	-	. < 0.397 kg/d . 0.0191 kg/d	-	755 mg/L	N/A N/A	
Efflue			l)		0.019	• •	0.0755 mg/L	_	-	· —		
Efflue		Ammonia (as N	N)	1	0.019	11 kg/day	0.0755 mg/L	_	-	· —	N/A	
Efflue		Ammonia (as N Discharge flow	I) ange)	1	0.019	01 kg/day 0.0668 mgd	0.0755 mg/L	_	-	· —	N/A 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).

		on Number NPDES Permit Number Facility Name								proved 03/05/19 3 No. 2040-0004	
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	3 NO. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	initary wa	ste discharg	ed (or will it	be discharge	ed)?			
		☐ Yes				✓ No =	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
					nber of	1	ım Daily	Averag		Source	
		Parame	ter or Pollutant		alyses ctual data		harge fy units)	Disch (specify		(Use codes per	
				,	ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
8		E. coli									
Effluent Characteristics Continued		Enterococci									
ont	4.5	Is chlorine used	(or will it be used)?				1				
၂		✓ Yes				□ No -	SKIP to Ite	em 4.7.			
isti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
cter					mber of	1	ım Daily	Averag		Source	
lara		Parame	ter or Pollutant		alyses		harge fy units)	Disch (specify		(use codes	
ب ت					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine	1	< 0.	01 kg/day	< 0.05 mg/L	< 0.01 kg/da	y < 0.05	mg/L N/A	
畫	4.7	Is non-contact c	ooling water discharged (or will it b	e discharge	d)?					
		✓ Yes			No → SKIP to Section 5.						
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction						
				1	mber of	1	ım Daily	Average		Source	
		Parameter or Pollutant			alyses ctual data		harge fy units)	Disch (specify		(use codes per	
					ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)	1	< 2.	26 kg/day	< 8.95 mg/L	/L < 2.26 kg/day < 8.9		mg/L N/A	
		Total organic ca	irbon (TOC)	1	0.5	76 kg/day	2.28 mg/L	0.576 kg/da	y 2.28	mg/L N/A	
SECTIO	N 5. FLC	W (40 CFR 122.2					·				
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharg	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes →	Complete this section.			□ No -	SKIP to Se	ection 6.			
>	5.2	Briefly describe	the frequency and duration	on of flow	,						
Flow	0.2		ump and steam condensate is s			eather. Coolin	g tower blowdo	own is intermi	ttent. See S	Section 4.2 for	
		flowrate.									
SECTIO	NE TOE	ATMENT SVSTE	EM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		to be used)						
tem	0.1	'	ower is drained for winterization	•	,	ulfite (92%) tah	olet feeder insta	alled on the di	rain line is i	used on the	
Syst			lual chlorine and bromine in the			(0270) tab	700 100 doi 1110 to		un mio, io c	3000 011 1110	
Treatment System											
tme											
rea											

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).

EP/	A Identificat	ication Number NPDES Permit Number			Facility Name Form Approved 03/05/1							
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004						
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))									
Other Information	7.1	reviewer should None of these sou joint connections). specific to cooling	pelow to expand upon any of the all consider in establishing permit liming resusually reach the receiving stream du Multiple attempts were made to obtain ten tower blowdown discharges from non-proclitional data can be found in the WQPP Re	nitations. A pring dry-wea perature at cess wastewa	ttach additional sheets as ther conditions (the discharge I his outfall and flow was not fou ter outfalls. A summary of this	s needed. ikely infiltrates the ground at leaky pipe and. DOE captures some additional data						
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each section	n 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 of all applicants are required to provide attachments. Column 1 Column 2									
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)						
		Section 2:	Discharge Date		w/ attachments							
		Section 3:	Waste Types	•	w/ attachments							
ent		Section 4:	Effluent Characteristics		w/ attachments							
tatem		Section 5:	Flow		w/ attachments							
tion S		Section 6:	Treatment System		w/ attachments							
rtifica		Section 7:	Other Information		w/ attachments							
л Се		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments							
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vic	t qualified ersons wh mation sul significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,						

FORM 2E

TN1890090003



EPA Identification Number

NPDES		CLA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))	DIGGINATOL GITLE	HOIII NO	200 117 1011	ZVVV CIN						
	1.1	Provide inf	ormation on each of the facility	s outfalls in the table	below.								
ation		Outfall Number	Receiving Water Name	Latit	ude		Le	ongitude					
Outfall Location		250	First Creek	35 ° 55 ′	33.2 "	N	84° 1	9 18.8	1" W				
Outfa													
SECTIO			ATE (40 CFR 122.21(h)(2))										
rge	2.1	I — '	new or existing discharger? (C	heck only one respor			3 01/15	:	•				
Discharge Date	2.2		/ discharger		✓ Exist	ing discharge	er → SKIP	to Section	1 3.				
Dis	2.2	Specify you	ur anticipated discharge date:										
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))										
	3.1		of wastes are currently being	discharged if you are	an existing	discharger o	r will be dis	charged	if you are	a			
			arger? (Check all that apply.) itary wastes	1	✓ Other	nonprocess	wastewater	(describ	e/explain	1			
		—	•	l		ly below)	wastowatci	(describ	o/oxpiaii i				
ဟူ			Steam condensate										
lype	2.0		-contact cooling water	·									
Waste Types	3.2	Does the ta	acility use cooling water additiv		✓ No -	SKIP to Se	ction 1						
Was	3.3		oling water additives used and			ONII 10 OC	Cuon 4.						
	0.0	Elot ti lo do	Cooling Water Additive		- Ortion		tion of Add						
			(list)			(if av	/ailable to you)					
SECTIO	N 4. EFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2.21(h)(4))									
	4.1		completed monitoring for all pa	rameters in the table	below at ea	ch of your ou	ıtfalls and a	ttached t	ne results	s to			
		this applica	ation package?	No; a waiver has	hoon roguo	etad from my	NDDES no	rmitting s	outhority.				
		✓ Yes		(attach waiver red						5.			
	4.2	Provide da	ta as requested in the table be	elow.1 (See instruction	s for specif	ics.)							
siics				Number of Analyses		um Daily harge	Average Discha	-	Sour (use co				
Effluent Characteristics		Pa	rameter or Pollutant	(if actual data	(spec	ify units)	(specify	units)	` per				
ract		Disabamia	al average demand (DOD.)	reported) < 2E	-03 kg/day	Conc.	Mass < 2E-03 kg/da	Conc. ay < 1 r	instructi	ions) N/A			
Cha			al oxygen demand (BOD ₅) ended solids (TSS)		-03 kg/day -03 kg/day	•	< 2E-03 kg/da	•	19/L 12 mg/L	N/A			
ient		Oil and gre	. ,		-03 kg/day -03 kg/day	_	< 3E-03 kg/da	-	59 mg/L	N/A			
Effi		Ammonia (05 kg/day	0.0554 mg/L		-	554 mg/L	N/A			
_		Discharge	,	35	3E-03 mgd		- = 00 hg/dd)	3.00	y, <u>-</u>	N/A			
		pH (report		1	8 - 8 StdUnit					N/A			
		Temperatu		3	16.2 degC					N/A			
		— <u> </u>	re (summer)	1	24.3 degC					N/A			

Temperature (summer)

1 24.3 degC

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).

EP.	A Identifica	ion Number NPDES Permit Number Facility Name								proved 03/05/19	
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	be discharg	ed)?			
		☐ Yes				✓ No -	SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
					nber of	I	m Daily		e Daily	Source	
		Parame	eter or Pollutant		alyses ctual data	Disch (specifi		Disch	narge y units)	(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
70		E. coli									
Effluent Characteristics Continued		Enterococci									
ont	4.5	Is chlorine used	(or will it be used)?								
) s		☐ Yes				✓ No 🗦	SKIP to It	Item 4.7.			
risti	4.6	Provide data as	Provide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum I								
ctel		Number of Maximum Dail Parameter or Pollutant Analyses Discharge						_	e Daily	Source	
ıara		Parame	eter or Pollutant			Disch (specifi		Disch	narge y units)	(use codes	
5					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine								
置	4.7	Is non-contact of	cooling water discharged (or will it k	e discharge	d)?					
		☐ Yes		✓ No →	SKIP to Se	ection 5.					
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
				1	nber of	Maximu	•	Averag		Source	
		Parame	eter or Pollutant		alyses ctual data	Disch (specify		Discharge (specify units)		(use codes per	
				, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)			•			-	•	
		Total organic ca	arbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.			
>	5.2	Briefly describe	the frequency and duration	on of flow	<u>'</u> .						
Flow			discharges are dependent on v			ent years (since	e early 2007) fl	ow has not b	een detecte	d at the end of	
		the pipe in dry-wea	ther conditions. However, it is	possible th	at dry-weather	discharges do c	ccur at times v	when they ar	e not observ	red.	
SECTIO	N 6. TRE	ATMENT SYSTEM (40 CFR 122.21(h)(6))									
	6.1	Briefly describe any treatment system(s) used (or to be used).									
ter		N/A	, , , , , ,	,	,						
Sys											
ent											
Treatment System											
Tre											

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).

EP.	A Identificat	tion Number	NPDES Permit Number	Facility Name Form Approved 03/05					
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004			
SECTIO	N 7. OTH	IER INFORMAT	ON (40 CFR 122.21(h)(7))						
Other Information	7.1	reviewer should Multiple attempts	below to expand upon any of the a d consider in establishing permit lin were made to sample a discharge from th sentative Outfall 302 since this outfall mos	mitations. A	ttach additional sheets as low was not found. The data re				
SECTIO			ERTIFICATION STATEMENT (40						
	8.1	For each section	plow, mark the sections of Form 2E on, specify in Column 2 any attach ts are required to provide attachm	ments that		ubmitting with your application. the permitting authority. Note that			
			Column 1		С	olumn 2			
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)			
		Section 2:	Discharge Date		w/ attachments				
		Section 3:	Waste Types		w/ attachments				
nent		Section 4:	Effluent Characteristics		w/ attachments				
Staten		Section 5:	Flow		w/ attachments				
tion S		Section 6:	Treatment System		w/ attachments				
rtifica		Section 7:	Other Information		w/ attachments				
nd Ce		✓ Section 8:	Checklist and Certification Statem	nent	w/ attachments				
Checklist and Certification Statement	8.2	accordance with submitted. Bas responsible for accurate, and of possibility of firms.	statement penalty of law that this document as the a system designed to assure the ed on my inquiry of the person or gathering the information, the info complete. I am aware that there ar the and imprisonment for knowing w type first and last name)	at qualified persons whormation sub re significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,			

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1	Provide informa	ation on each of the facility	r's outfalls in the	e table	below.							
ıtion		Number R	eceiving Water Name		Latitu	ıde		ı	_ongitude)			
Outfall Location		261 Fifth	Creek	35 °	55 ′	38.92 "	N	84°	18	52" W			
ıtfall													
ō													
CECTIO	N 2 DIC	CHARCE DATE	(40 CFR 122.21(h)(2))										
	2.1		or existing discharger? (C	heck only one r	espon	se.)							
scharg Date		☐ New dis		,			sting dischar	ger → SKIF	to Section	n 3.			
Discharge Date	2.2	Specify your ar	nticipated discharge date:										
	N3 WA	STF TYPES (40)	YPES (40 CFR 122.21(h)(3))										
020110	3.1		nat types of wastes are currently being discharged if you are an existing discharger or will be discharged if you are a										
		_	discharger? (Check all that apply.) Sanitary wastes Other nonprocess wastewater (describe/explain										
		— '			L.		er nonproces ctly below)	s wastewate	er (describ	e/explair	1		
			ant or cafeteria waste				ndation drain						
ypes			tact cooling water			_							
Waste Types	3.2	i —	y use cooling water additiv	/es?	[✓ No •	N OKIDA A						
Was	3.3	List the cooling	water additives used and	describe their		110	→ SKIP to S	Section 4.					
	3.3	List tile coolling	Cooling Water Additive		JOHIDO	SILIOI I.	Compo	sition of A	Iditives				
			(list)				- (it	favailable to yo	u)				
SECTIO	N 4. EFF		CTERISTICS (40 CFR 12										
	4.1	Have you comp this application	oleted monitoring for all pa	rameters in the	table	below at e	ach of your	outfalls and	attached 1	he result	s to		
			package:	No; a waive	er has l	oeen requ	ested from r	ny NPDES p	ermitting	authority			
	4.0	✓ Yes		(attach wai	er rec	uest and a	additional inf	ormation) 🗕			5.		
	4.2	Provide data as	s requested in the table be	Number o			num Daily	Averag	e Daily	Soui			
stics		Param	eter or Pollutant	Analyses			charge		narge	(use co			
Effluent Characteristics		i arani	otor or r onatant	(if actual da reported)	ta	(spe	cify units) Conc.	(specif	y units) Conc.	pei instruct			
larac		Biochemical ox	xygen demand (BOD₅)	1	< 0.0	2 kg/day		/L < 0.02 kg/da		mg/L	N/A		
t Ch		Total suspende	ed solids (TSS)	1	J 8E-	03 kg/day	J 1.52 mg	/L J 8E-03 kg/d	day J 1.	52 mg/L	N/A		
luen		Oil and grease		1	J 0.0	1 kg/day	J 2.18 mg	/L J 0.01 kg/da	y J 2.	18 mg/L	N/A		
出		Ammonia (as N	l)	1	7E-0	4 kg/day	0.127 mg	/L 7E-04 kg/da	ay 0.1	27 mg/L	N/A		
		Discharge flow		1		1E-03 mgd					N/A		
		pH (report as ra	ange)	1		8.3 - 8.3 Sto	lUnit				N/A		
		Temperature (\	winter)	1		12. degC					N/A		
		Temperature (s	summer)	0		See Section	7.1				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).

EP.	A Identifica	tion Number				proved 03/05/19				
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ed (or will it	be discharge	ed)?		
		☐ Yes	, ,	,	-	_ `	SKIP to Ite	,		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of		m Daily	Averag	e Daily	Source
		Parame	ter or Pollutant	An	alyses		narge	Disch	narge	(Use codes
		raramo	sor or ronatant	,	ctual data		y units)	(specif		per Instructions.)
		Fecal coliform		re	ported)	Mass	Conc.	Mass	Conc.	ITISTI UCTIONS.)
Effluent Characteristics Continued		E. coli								
lţi.		Enterococci								
S	4.5	l	(or will it be used)?							
<u>.S</u>		Yes					SKIP to It	tem 4.7.		
rist	4.6	Provide data as requested in the table below.¹ (See instructions for specifics.)								
cte		Parameter or Pollutant Number of Maximum Dai Analyses Discharge						Averag		Source
Jara		Parame	ter or Pollutant		alyses ctual data		narge y units)	Disch (specif		(use codes per
2					ported)	Mass	Conc.	Mass	Conc.	instructions)
nen		Total Residual (Chlorine		, ,					
=	4.7	Is non-contact of	ooling water discharged (or will it k	e discharge	d)?				
_		Yes	0		•		SKIP to Se	ection 5.		
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction					
					mber of		m Daily	Averag	e Daily	Source
		Parame	eter or Pollutant	1	alyses		narge	Disch		(use codes
		raidine	act of foliatalit		ctual data	(specif		(specify units) Mass Conc.		per instructions)
		Chamical average	en demand (COD)	Te	ported)	Mass	Conc.	IVIASS	Conc.	il istructions)
			· ,							
		Total organic ca								
SECTIO		W (40 CFR 122.2		:!!		(la a alia ala ann		ما المالية	-ti 1 -	
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any or	the discharge	es you desc	nbed in Se	ctions 1 a	na 3 of this
		✓ Yes →	Complete this section.			□ No -	SKIP to Se	ection 6.		
*	5.2	Briefly describe	the frequency and duration	on of flow	'.					
Flow			dation drainage are dependent	on precipit	ation and seaso	onal water table	levels can be	weather dep	endent. See	e Section 4.2
		for flowrate.								
CECTIO	N.C. TDE	ATMENT OVOTE	M /40 CED 122 21/b/(6)							
SECTIO	6.1	EATMENT SYSTEM (40 CFR 122.21(h)(6)) Briefly describe any treatment system(s) used (or to be used).								
em	0.1	N/A	any treatment system(s)	useu (oi	io de useu).					
yst		19/7								
nt S										
mei										
Treatment System										
F										

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).

		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19 OMB No. 2040-0004					
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	SWB 110. 2010 0001					
SECTIO	N 7. OTH		ON (40 CFR 122.21(h)(7))								
Other Information	7.1	reviewer should	pelow to expand upon any of the al I consider in establishing permit lim vere made to obtain temperatures for this o	itations. A	ttach additional sheets as						
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each sectio	Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your application. or each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that of all applicants are required to provide attachments. Column 1 Column 2								
			Column 1		C	olumn 2					
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)					
		Section 2:	Discharge Date		☐ w/ attachments						
		Section 3:	Waste Types		w/ attachments						
ent		Section 4:	Effluent Characteristics		w/ attachments						
statem		Section 5:	Flow		☐ w/ attachments						
tion S		Section 6:	Treatment System		w/ attachments						
rtifica		Section 7:	Other Information		w/ attachments						
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments						
ist a	8.2	Certification S	tatement								
Checklist and Certification Statement		accordance witi submitted. Base responsible for accurate, and c possibility of fin	enalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor omplete. I am aware that there are e and imprisonment for knowing vice	t qualified persons whe mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n t penalties for submitting	and evaluate the information those persons directly ny knowledge and belief, true,					
		l "	type first and last name)		Official title						
		Johnny O. Moore			Manager, ORNL Site Office						
		Signature			Date signed						
		l									

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

2E NPDES	9	EPA	MANUFACTURIN	TURAL FACIL EWATER	ITIES V	VHICH							
SECTIO	N 1. OU	TFALL LOCATION	ON (40 CFR 122.21(h)(1))										
	1.1	Provide informa	ation on each of the facility	s outfalls in the	table	below.							
ation		Outfall Number	eceiving Water Name		Latitu	de		Long	itude				
Outfall Location		263 Fifth	Creek	35 °	55 ′	40.42"	N	84° 18′	52.96	" W			
SECTIO			(40 CFR 122.21(h)(2))										
ge	2.1	I — '	or existing discharger? (C	heck only one re	•								
Discharge Date		☐ New disc			l	✓ Exist	ting discharge	er → SKIP to S	Section	3.			
Disc	2.2	Specify your ar	ticipated discharge date:										
SECTIO	N 3. WA	STE TYPES (40	TYPES (40 CFR 122.21(h)(3))										
	3.1		t types of wastes are currently being discharged if you are an existing discharger or will be discharged if you are a										
			discharger? (Check all that apply.)										
		- '	Sanitary wastes Other nonprocess wastewater (describe/explain										
			ant or cafeteria waste				. ,	team condensate					
/pes		│	tact cooling water										
e Ty	3.2	i — '	y use cooling water additiv	/es?		_							
Waste Types		☐ Yes					SKIP to Se	ction 4.					
>	3.3	List the cooling	water additives used and Cooling Water Additive		ompos	sition.	Composi	tion of Additiv	100				
			(list)	5				railable to you)	/es				
SECTIO			CTERISTICS (40 CFR 12					15 11 1 11					
	4.1	Have you comp this application	pleted monitoring for all pa	rameters in the	table l	oelow at ea	ach of your ou	ıtfalls and attac	hed the	e results	s to		
			раскаде:	No; a waive	r has b	een reque	sted from my	NPDES permi	tting au	ıthority			
		✓ Yes		(attach waiv	er req	uest and a	dditional infor	mation) 👈 SK					
	4.2	Provide data as	s requested in the table be	1				Average Da	silv.				
tics		Davama	oton on Dellutont	Number o Analyses			um Daily charge	Discharg	- 1	Source (use cod			
teris		Parame	eter or Pollutant	(if actual data		(spec	cify units)	(specify unit	s)	, ber			
ıracı		Picohomical ov	ygen demand (BOD₅)	reported)	< 2F	Mass 03 kg/day	Conc.	Mass Co	onc. < 4 mg	instructio	N/A		
Cha		Total suspende	, ,	1		03 kg/day 04 kg/day	•	< 6E-04 kg/day	< 1.14	_	N/A		
ient		Oil and grease	. ,	1		04 kg/day	_	< 8E-04 kg/day	< 1.54	· —	N/A		
Effluent Characteristics		Ammonia (as N		1		4 kg/day	•	1E-04 kg/day		mg/L	N/A		
_		Discharge flow	<u>, </u>	4		4E-03 mgd		- c	3.101	···ʊ·=	N/A		
		pH (report as ra		1		7.4 - 7.4 Stdl	 Jnit				N/A		
		Temperature (v		4		68.2 degC					N/A		
		Temperature (s		2		59.7 degC					N/A		
1 Sampling	shall he co	. ,	sufficiently sensitive test proced) approx		CER 136 for the	analysis of nolluta	nte or no	llutant			

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).

EP.	A Identifica	tion Number NPDES Permit Number Facility Name								proved 03/05/19	
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ged (or will it	be discharge	ed)?			
		☐ Yes				✓ No -	SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
					mber of	1	m Daily		e Daily	Source	
		Parame	ter or Pollutant		alyses ctual data	Disch (specif	narge	Disch	narge y units)	(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
50		E. coli									
Effluent Characteristics Continued		Enterococci									
Conf	4.5	Is chlorine used	(or will it be used)?			•	•	•	•	•	
) ဗ		☐ Yes				✓ No →	SKIP to It	Item 4.7.			
risti	4.6	Provide data as	Provide data as requested in the table below.1 (See instructions for specifics Number of Maximum								
cte			Number of Maximum Dail Parameter or Pollutant Analyses Discharge						o o out		
Jara		Parame	ter or Pollutant		alyses ctual data	Uisch (specif		Disch (specif	narge y units)	(use codes per	
i c					ported)	Mass	Conc.	Mass	Conc.	instructions)	
nen		Total Residual (Chlorine							•	
盟	4.7	Is non-contact of	ooling water discharged (or will it b	e discharge	d)?					
		☐ Yes				✓ No →	SKIP to Se	ection 5.			
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction						
				1	mber of	Maximu	•	Averag		Source	
		Parame	eter or Pollutant		alyses ctual data	Disch (specify		Discharge (specify units)		(use codes per	
				, , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)								
		Total organic ca	rbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.			
*	5.2	Briefly describe	the frequency and duration	on of flow	·.						
Flow		I	ges steam condensate almost o	continuous	y, but there are	occasions whe	en it does not d	lischarge. Su	mp discharç	ges from steam	
		pits are intermittent	. See Section 4.2 for flowrate.								
SECTIO	N 6. TRE	EATMENT SYSTEM (40 CFR 122.21(h)(6))									
	6.1		any treatment system(s)		to be used).						
sten		N/A									
Š											
ent											
Treatment System											
Tr											
		I.									

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).

EP.	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19						
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004						
SECTIO	N 7. <u>OT</u> H	IER INFORMATI	ON (40 CFR 122.21(h)(7))									
Other Information	7.1	reviewer should The temperature of travels over land s this location was e	below to expand upon any of the all consider in establishing permit limited to consider in establishing permit limited that presented for this outfall was taken directly everal feet before it gets to the receiving support to measure both upstream temperature of 0.1 degrees C and the temperature	nitations. A rectly at the s tream during erature = 16.	ttach additional sheets as team condensate discharge. H stream baseflow conditions. TI 7 degrees C and the downstrea	s needed. owever, the discharge at this location herefore the temperature evaluation at temperature = 16.8 degrees C. This						
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each section	Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your application. or each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that of all applicants are required to provide attachments. Column 1 Column 2									
			Column 1		С	olumn 2						
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)						
		Section 2:	Discharge Date		☐ w/ attachments							
		Section 3:	Waste Types		w/ attachments							
ent		Section 4:	Effluent Characteristics		w/ attachments							
staten		Section 5:	Flow		□ w/ attachments							
tion S		Section 6:	Treatment System		w/ attachments							
rtifica		Section 7:	Other Information		w/ attachments							
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments							
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are the a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor- complete. I am aware that there are e and imprisonment for knowing vic- type first and last name)	t qualified persons when mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,						

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1	Provide informa	ation on each of the facility	/'s outfalls in the	table	below.							
tion		Number R	Receiving Water Name		Latitu	ıde			Lon	gitude			
Outfall Location		264 Fifth	Creek	35 °	55 ′	40.28 "	N	84°	18	53.1	5" W		
ıtfall													
ਂ ਹ													
CECTIO	N 2 DIC	CHARCE DATE	(40 CFR 122.21(h)(2))										
	2.1		or existing discharger? (C	heck only one r	espon	se.)							
scharg Date		☐ New dis		,			sting discha	rger → S	KIP to	Section	13.		
Discharge Date	2.2	Specify your ar	nticipated discharge date:					-					
	N3 WA	STF TYPES (40)	TYPES (40 CFR 122.21(h)(3))										
020110	3.1		wastes are currently being	discharged if y	ou are	an existin	g discharge	r or will b	e disch	arged i	f you are	a	
			discharger? (Check all that apply.) Sanitary wastes Other nonprocess wastewater (describe/explain										
		— '			•		er nonproce: ctly below)	ss wastev	vater (c	escribe	e/explain		
			ant or cafeteria waste				m sump and st	eam conde	nsate				
ypes			ntact cooling water			_							
Waste Types	3.2	i —	y use cooling water additiv	ves?	Г	✓ No•	> OKIDA	o " 4					
Was	3.3	List the cooling	water additives used and	describe their o		110	SKIP to	Section 4.					
	3.5	List tile cooling	Cooling Water Additive		ЮПРО	SILIOI I.	Compo	sition of	Additi	ives			
			(list)					f available t					
SECTIO	N 4. EFF	LUENT CHARA	CTERISTICS (40 CFR 12	2.21(h)(4))									
	4.1	Have you comp this application	pleted monitoring for all pa	arameters in the	table	below at e	ach of your	outfalls a	ınd atta	ched th	e results	s to	
			package:	No; a waive	r has l	oeen requ	ested from i	my NPDE	S perm	nitting a	uthority		
		✓ Yes		(attach wai	er rec	uest and a	additional in					5.	
	4.2	Provide data a	s requested in the table be	Number o			num Daily	Δνο	rage D	aily	Carre		
stics		Daram	eter or Pollutant	Analyses			charge		ischarg		Sour (use co		
teris		Faiaiii	etel of Foliutalit	(if actual dat		(spe	cify units) Conc.	(sp	pecify uni	ts)	per instructi		
Effluent Characteristics		Biochemical ox	xygen demand (BOD₅)	1	< 1E-	-03 kg/day		1/L < 1E-03	_	< 4 n		N/A	
t ch			ed solids (TSS)	1	0.02	kg/day	64.1 mg	J/L 0.02 kg	/day	64.1	mg/L	N/A	
luen		Oil and grease	•	1	< 5E-	-04 kg/day	< 1.49 mg	_J /L < 5E-04	kg/day	< 1.4	9 mg/L	N/A	
E		Ammonia (as N	۷)	1	 2E-0	5 kg/day	0.0632 mg	_J /L 2E-05 k	g/day	0.06	32 mg/L	N/A	
		Discharge flow	,	1		9E-05 mgd						N/A	
		pH (report as r	ange)	1		8.1 - 8.1 Sto	lUnit					N/A	
		Temperature (winter)	1		18.9 degC						N/A	
		Temperature (summer)	0		See Section	7.1					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).

EP/	A Identifica	ification Number NPDES Permit Number Facility Name								proved 03/05/19
TN1890090	0003		TN0002941		Oak Ridge Na	itional Laborato	ry		OME	3 No. 2040-0004
	4.3	Is fecal coliform	s fecal coliform believed present, or is sanitary waste discharged (or will it be disc							
		☐ Yes								
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructions					
					nber of	Maximu	•	Average		Source
		Parame	ter or Pollutant		alyses tual data	Disch (specify		Disch (specify		(Use codes per
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
pa		E. coli								
Effluent Characteristics Continued		Enterococci								
Sont	4.5	Is chlorine used	(or will it be used)?							•
) sɔ		☐ Yes			[✓ No →	SKIP to Ite	em 4.7.		
isti	4.6	Provide data as	Provide data as requested in the table below.1 (See instructions for specifics.)							
cter			Number of Maximum Daily Average Daily Source							
ara		Parame	eter or Pollutant		alyses	Disch (specify				(use codes
<u>ဂ</u>					tual data corted)	Mass	Conc.	(specify Mass	Conc.	per instructions)
nen		Total Residual (Chlorine				001101			,
E	4.7		cooling water discharged (or will it b	e discharge	d)?				
		☐ Yes	0 (SKIP to Se	ction 5.		
	4.8	Provide data as	requested in the table be	low.1 (Se	e instructions	s for specific	s.)			
				1	nber of	Maximu	•	Average		Source
		Parame	eter or Pollutant		alyses	Disch		Disch (specify		(use codes per
				(actual data (specify units) reported) Mass Conc.			Mass	Conc.	instructions)
		Chemical oxyge	en demand (COD)							
		Total organic ca	arbon (TOC)							
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))							
	5.1	<u> </u>	nwater water runoff, leaks	, or spills	, are any of t	he discharge	es you desci	ibed in Se	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes →	Complete this section.		[□ No →	SKIP to Se	ection 6.		
*	5.2	Briefly describe	the frequency and duration	on of flow						
Flow		Steam condensate	discharges and discharges from			ected to be inte	ermittent and d	lependent on	weather co	nditions. See
		Section 4.2 for flow	rate.							
SECTIO	N 6. TRE	ATMENT SYSTE	ATMENT SYSTEM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		to be used).					
tem		N/A	,,							
Sys										
ent										
Treatment System										
Trea										

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))		·	
Other Information	7.1	Use the space I reviewer should	below to expand upon any of the a d consider in establishing permit lin were made to obtain temperatures at this o	nitations. A	ttach additional sheets as	
SECTIO			ERTIFICATION STATEMENT (40			
	8.1	For each sectio	low, mark the sections of Form 2E on, specify in Column 2 any attachn ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifical		Section 7:	Other Information		w/ attachments	
od Cel		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance witi submitted. Base responsible for accurate, and c possibility of fin	tatement penalty of law that this document and a system designed to assure that ed on my inquiry of the person or pugathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified persons who rmation sul e significan	personnel properly gather to manage the system, or bmitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1	Provide informa	ation on each of the facility	's outfalls in the	table b	oelow.							
ıtion		Number R	eceiving Water Name	I	Latitud	de		l	_ongitude)			
Outfall Location		265 Fifth	Creek	35 °	55 ′	40.85 "	N	84°	18 53.6	61" W			
ıtfall													
ŏ													
SECTIO	N 2 DIS	CHARGE DATE	(40 CFR 122.21(h)(2))										
	2.1		or existing discharger? (C	heck only one re	esponse	e.)							
scharg Date		☐ New disc		,,	-		sting discharg	jer → SKIF	to Section	n 3.			
Discharge Date	2.2	Specify your an	nticipated discharge date:					·					
	N3 WA	STE TYPES (40)	CFR 122.21(h)(3))										
020110	3.1	What types of w	vastes are currently being	discharged if yo	u are a	an existin	g discharger	or will be d	ischarged	if you are	e a		
			? (Check all that apply.)			0.0			/ d 15				
		Sanitary			✓		er nonprocess ctly below)	s wastewate	er (describ	e/explain	۱		
40			ant or cafeteria waste				m and sump cor	idensate, OTO	CW, CT blow	/down			
ypes			tact cooling water			_							
Waste Types	3.2	I — '	y use cooling water additiv	es?		1	► OKID (O						
Was	3.3	100	water additives used and	describe their or	omnosi		→ SKIP to S	ection 4.					
	3.5	List tile coolling	Cooling Water Additive		JITIDUSI	ILIOIT.	Compos	sition of Ac	Iditives				
		See Appendix L	(list)		Saa	Appendix		available to yo	u)				
		Oce Appendix L			066	Appendix	L						
SECTIO	N 4. EFF	LUENT CHARA	CTERISTICS (40 CFR 12	2.21(h)(4))									
	4.1		oleted monitoring for all pa	rameters in the	table b	elow at e	each of your c	utfalls and	attached t	he result	s to		
		this application	package?	No: a waiver	has h	een reau	ested from m	v NPDES n	ermitting	authority			
		✓ Yes		(attach waive	er requ	iest and a	additional info						
	4.2	Provide data as	s requested in the table be	1 `				A	a Daile				
tics		D	-4	Number of Analyses			num Daily scharge		je Daily narge	Sour (use co			
teris		Parame	eter or Pollutant	(if actual data		(spe	ecify units)	(specif	y units)	per	r		
Effluent Characteristics		Biochemical ox	ygen demand (BOD ₅)	reported)	< 2E-0	Mass 3 kg/day	Conc. < 4 mg/l	Mass < 2E-03 kg/d	Conc.	mg/L	N/A		
S 1		Total suspende	, ,	1	_	kg/day	ŭ	3E-03 kg/da	•	mg/L	N/A		
nen		Oil and grease	. ,	1	< 9E-0	04 kg/day	< 1.59 mg/l	< 9E-04 kg/c	-	59 mg/L	N/A		
Eff	l	Ammonia (as N		1	 5E-05	kg/day	0.0965 mg/l	5E-05 kg/da	ay 0.0	965 mg/L	N/A		
	1												
		Discharge flow	•	7	(0.036 mgd					N/A		
		<u> </u>		7		0.036 mgd 7.7 - 8.1 Sto					N/A N/A		
		Discharge flow	ange)		7			_					

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).

		tion Number	NPDES Permit Numb	er	OMB No. 20				oroved 03/05/19	
TN1890090	0003		TN0002941		Oak Ridge N	ational Laborato	ory		OIVIE	NU. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharç	ged (or will it	be discharge	ed)?		
		Yes				✓ No =	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructior	s for specific	s.)			
					nber of	1	ım Daily	Averag	-	Source
		Parame	ter or Pollutant		alyses		harge	Disch		(Use codes
				,	ctual data ported)	Mass	fy units) Conc.	(specify Mass	Conc.	per Instructions.)
		Fecal coliform			,					
2		E. coli								
nue		Enterococci								
onti	4.5	Is chlorine used	(or will it be used)?							
Effluent Characteristics Continued		✓ Yes	(**************************************			□ No -	SKIP to Ite	em 4.7.		
stic	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction					
teri					nber of		ım Daily	Averag	e Daily	Source
arac		Parame	ter or Pollutant	An	alyses		harge	Disch	arge	(use codes
Ch		i didilic	sor or ronatant	,	ctual data	(specif	fy units)	(specify Mass		per instructions)
ent		Total Residual 0	Phlorino	7	ported)	E-03 kg/day	< 0.05 mg/L		Conc.	,
n H	4.7		cooling water discharged (or will it b			. \ 0.03 IIIg/L	2.7L-03 kg	/uay < 0.00	ing/L N/A
ш	4.7	✓ Yes	ooning water discharged (OI WIII IL L	e discriarge		SKIP to Se	ection 5		
	4.8		requested in the table he	low 1 (Se	a instruction			otion 5.		
	7.0	Provide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum Daily Average Daily s								Source
		Daramo	Parameter or Pollutant		alyses	1	harge	Disch		(use codes
		Falailic	tel of Foliatalit	(if a	ctual data		y units)	(specify		per per
		Ohamiaal avaraa	un demand (COD)	re	ported)	Mass	Conc.	Mass	Conc. lay < 8.95	instructions)
			en demand (COD)	1		E-03 kg/day	< 8.95 mg/L	_	•	
070710		Total organic ca	, ,	I	2E	-03 kg/day ·	2.95 mg/L	2E-03 kg/da	ay 2.95 i	mg/L N/A
SECTIO		W (40 CFR 122.2				(la a alia a la a unu		ماند ۵۰	ations 4 a	
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any or	tne discharg	es you desci	nbed in Se	ctions 1 a	na 3 ot this
			Complete this section.			□ No -	SKIP to Se	action 6		
							ONII LO OR	Scholl 0.		
Flow	5.2		the frequency and duration, sump condensate, cooling tow			vallab acalina	water disabara		ttant and us	m
ш .			s on cooling and heating dema				water discriarge	es are interm	ileni anu va	i y witii weatilei
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))							
٤	6.1	Briefly describe	any treatment system(s)	used (or	to be used).					
stei		Dechlorination feed	I and backup tablet feeder used	d on cooling	tower blowdo	wn.				
Sy										
nen										
Treatment System										
Tre										

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should DOE captures sor	pelow to expand upon any of the ald consider in establishing permit limine additional data specific to cooling tower I as the corresponding additional data can	nitations. <i>A</i> blowdown o	ttach additional sheets as ischarges from non-process wa	s needed. astewater outfalls. A summary of this
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachm ts are required to provide attachme Column 1	nents that	you are enclosing to alert	
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document ar h a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor complete. I am aware that there are e and imprisonment for knowing vie type first and last name)	t qualified ersons wh mation su e significar	personnel properly gather to manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

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

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

NPDES	7	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1	Provide informa	ation on each of the facility	r's outfalls in the	table	below.							
tion		Number R	Receiving Water Name		Latitu	ıde			Longit	ude			
Outfall Location		267 Fifth	Creek	35 °	55 ′	47.02 "	N	84°	18	58.85 ["]	W		
ıtfall													
ŏ												-	
SECTIO	N 2 DIS	CHARGE DATE	(40 CFR 122.21(h)(2))										
	2.1		or existing discharger? (C	heck only one re	espon	se.)							
scharg Date		☐ New disc		,			sting discha	rger → Sk	(IP to Se	ction 3.			
Discharge Date	2.2	Specify your ar	nticipated discharge date:										
	N3 WA	STF TYPES (40)	CFR 122.21(h)(3))										
020110	3.1		wastes are currently being	discharged if yo	ou are	an existin	g discharge	r or will be	discharg	ged if yo	u are a	а	
		new discharger	r? (Check all that apply.)										
		Sanitary			Į.		er nonproce otly below)	ss wastew	ater (des	cribe/ex	plain		
40			ant or cafeteria waste				C & steam co	ndensate & C	TCW				
ypes			ntact cooling water			_							
Waste Types	3.2	i — '	y use cooling water additiv	/es?	[✓ No •	N OKID (0 (4					
Was	3.3	List the cooling	water additives used and	describe their o		110	→ SKIP to	Section 4.				\dashv	
	5.5	List tile coolling	Cooling Water Additive		ompo	SILIOI I.	Comp	sition of	Additive	S			
			(list)					f available to					
SECTIO	N 4. EFF		CTERISTICS (40 CFR 12										
	4.1	Have you comp this application	pleted monitoring for all pa	rameters in the	table	below at e	ach of your	outfalls ar	nd attache	ed the re	esults	to	
			package:	No; a waive	r has l	been requ	ested from	my NPDES	S permitti	ng autho	ority		
	4.0	✓ Yes		(attach waiv				formation)	→ SKIP	to Sect	ion 5.		
	4.2	Provide data as	s requested in the table be	Number o			num Daily	Δver	age Dail	v l	Source	_	
stics		Paramo	eter or Pollutant	Analyses			charge	Dis	charge		use code		
teris		i aiaiii	otor or r onatant	(if actual dat reported)	а	(spe	cify units) Conc.	(spe	ecify units) Con	c in:	per struction	ns)	
Effluent Characteristics		Biochemical ox	xygen demand (BOD₅)	1	< 0.1	kg/day		J/L < 0.1 kg/d	_	< 4 mg/L		N/A	
t C		Total suspende	ed solids (TSS)	1	0.6 k	cg/day	22 mg	g/L 0.6 kg/da	ау	22 mg/L		N/A	
luen		Oil and grease		1	J 0.0	9 kg/day	J 3.26 mg	g/L J 0.09 kg	/day	J 3.26 mg	g/L	N/A	
#		Ammonia (as N	١)	1	5E-0	3 kg/day	0.178 mg	J/L 5E-03 kg	ı/day	0.178 mg	g/L	N/A	
		Discharge flow		5		0.036 mgd						N/A	
		pH (report as ra	ange)	3		7.7 - 8 StdU	nit					N/A	
		Temperature (\	winter)	4		13.9 degC						N/A	
		Temperature (s	summer)	2		21. degC						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).

		tion Number	NPDES Permit Numb					Form Approved 03/05/19 OMB No. 2040-0004				
TN1890090	0003		TN0002941		Oak Ridge N	ational Laborato	ory		OIVIE	1 NU. 2040-0004		
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharç	jed (or will it l	be discharge	ed)?				
		Yes				✓ No -3	SKIP to Ite	em 4.5.				
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)					
					nber of	1	m Daily	Average		Source		
		Parame	ter or Pollutant		alyses	Disch		Disch		(Use codes		
				,	tual data oorted)	(specify Mass	Conc.	(specify	Conc.	per Instructions.)		
		Fecal coliform			,					,		
9		E. coli										
nue		Enterococci										
onti	4.5		(or will it be used)?									
Effluent Characteristics Continued		✓ Yes	(0			□ No -	SKIP to Ite	em 4.7.				
stic	4.6		requested in the table be	low.1 (Se	e instruction							
teri		1101140 4414 40	1044000041111110110101010	Г ,	nber of		m Daily	Average	e Daily	Source		
ırac		Daramo	ter or Pollutant		alyses	Disch	narge	Disch	arge	(use codes		
Ch		i didilic	ici oi i oilatait		tual data	(specify	_	(specify		per instructions)		
ent		Total Residual 0	Ohlavina	3	ported)	Mass 2 kg/day	Conc. 0.2 mg/L	0.01 kg/day	Conc. 0.2 m			
#II	4.7		cooling water discharged (Ĭ.		 	. U.Z IIIg/L	U.UT Kg/day	0.2 111	y/L IN/A		
ш	4.7	✓ Yes	cooling water discharged (OI WIII IL L	e discriarge		· SKIP to Se	otion E				
	4.8		requested in the table be	low 1 (Co	o instruction			CHOIT 5.				
	4.0	FIOVICE data as	Provide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum Daily Average Daily Source									
		Davama	1	alyses	Disch	•	Disch		(use codes			
		Parame	eter or Pollutant	(if actual data (specify units)				(specify		per		
			1 (00D)	re	ported)	Mass	Conc.	Mass	Conc.	instructions)		
			en demand (COD)	1.		kg/day	437 mg/L	10 kg/day	437 n			
		Total organic ca		1	0.0	3 kg/day	1.28 mg/L	0.03 kg/day	1.28	mg/L N/A		
SECTIO		W (40 CFR 122.2				0 0	<u> </u>	" !! 0	41 4	10 (4)		
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any of	the discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this		
		✓ Yes → (Complete this section.			□ No →	SKIP to Se	ection 6.				
Flow	5.2		the frequency and duration									
Ē		This outfall dischar	ges continuously, but sources a	are intermit	ent discharges	are dependant	on weather. S	ee Section 4.	2 for flowrat	e.		
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))									
	6.1		any treatment system(s)		to be used).							
sten		Carbon filter dechlo	prinator used on intake of once	through co	oling water for	dechlorination						
Š												
ent												
Treatment System												
5	l											
—												

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).

EPA Identification Number TN1890090003		tion Number	NPDES Permit Number	Facility Name Oak Ridge National Laboratory		Form Approved 03/05/19 OMB No. 2040-0004
TN1890090	1003		TN0002941	Oak Ridge	National Laboratory	3115 113 23 13 333 1
SECTIO	N 7. OTH		ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should N/A	pelow to expand upon any of the ab I consider in establishing permit lim	itations. A	ttach additional sheets as	
SECTIO			ERTIFICATION STATEMENT (40 (de maithire a saith seasan ann li antinn
	8.1	For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm s are required to provide attachme	ents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
nent		Section 4:	Effluent Characteristics		w/ attachments	
Staten		Section 5:	Flow		w/ attachments	
ation (Section 6:	Treatment System		w/ attachments	
ıtifica		Section 7:	Other Information		w/ attachments	
nd Ce		✓ Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and c possibility of fin	tatement enalty of law that this document and a system designed to assure that ed on my inquiry of the person or pogathering the information, the information. I am aware that there are e and imprisonment for knowing vic	qualified ersons wh mation sul significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO			ON (40 CFR 122.21(h)(1))									
	1.1	Provide inform Outfall	nation on each of the facility	's outfalls in th	e table	below.						
ation		Number F	Receiving Water Name		Latitu	ıde		ا	_ongitude	9		
Outfall Location		281 Mel	Iton Branch	35 °	55 [']	0.6 "	N	84°	18 7.0	05 ["] W		
utfall												
ō												
SECTIO	N 2 DIS	 CHARGE DATE	E (40 CFR 122.21(h)(2))									
	2.1		or existing discharger? (C	heck only one i	espon	se.)						
scharg Date			scharger	•	-		sting dischar	ger → SKIF	to Section	n 3.		
Discharge Date	2.2	Specify your a	anticipated discharge date:				-					
	N 3. WA	L STE TYPES (40	CFR 122.21(h)(3))									
	3.1	What types of	wastes are currently being	discharged if y	ou are	an existin	g discharger	or will be d	ischarged	if you are	а	
			er? (Check all that apply.)		_	- Oth			or (dogorib	o lovelain		
		—	y wastes		1		er nonproces ctly below)	s wastewate	er (descrit	e/expiain		
			rant or cafeteria waste				m condensate,	foundation dra	in, CT blowd	down		
ypes			ntact cooling water									
Waste Types	3.2	i —	ty use cooling water additiv	es?	Г	¬	> 01/10 / 0					
Was	3.3	100	a water additives used and	dogoribo thoir			→ SKIP to S	Section 4.				
	3.3	List the cooling	g water additives used and Cooling Water Additive		COMPO	SILIOIT.	Compo	sition of Ad	Iditives			
		See Appendix L	(list)		00	e Appendix	- (if	available to yo				
		See Appendix L			36	е Аррепиіх	L					
SECTIO	N 4. EFF	LUENT CHARA	ACTERISTICS (40 CFR 12	2.21(h)(4))								
	4.1		pleted monitoring for all pa	rameters in the	table l	below at e	each of your	outfalls and	attached t	the results	s to	
		this application	n package?	No. a maine	ar hae k	neen regu	ested from n	w NDDES n	ermitting	authority		
		✓ Yes					additional inf				5.	
	4.2	Provide data a	as requested in the table be	· ` `								
Sics				Number	- 1		num Daily scharge		je Daily narge	Sour (use co		
erist		Param	neter or Pollutant	Analyse (if actual da		(spe	ecify units)		y units)) per		
ract		Disabansiaala		reported)		Mass	Conc.	Mass	Conc.	instructi		
Cha			exygen demand (BOD ₅)	1	4 kg/	-	-	L 4 kg/day L 2 kg/day		mg/L	N/A	
ent		· ·	ded solids (TSS)	1	2 kg/ J 2 kg	-	-	L J 2 kg/day		5 mg/L 86 mg/L	N/A N/A	
Effluent Characteristics		Oil and grease Ammonia (as		5		g/day cg/day	-	L J 2 kg/day 'L J 0.06 kg/da		0703 mg/L		
ш		<u> </u>	,	79	U.Z K	0.6 mgd	0.120 illy	_ 0 0.00 kg/ua	. J U.	or oo mg/L	N/A N/A	
		Discharge flow		67		6.6 - 8.3 Sto	II Init				N/A	
		pH (report as		35		28.3 degC	101III			<u> </u>	N/A	
		Temperature (,	35		29. degC					N/A	
	l					23. utqu					11//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).

EP	A Identifica	tion Number	NPDES Permit Numb	er		Facility Name				proved 03/05/19
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	anitary wa	ste discharg	ed (or will it	be discharge	ed)?		
		☐ Yes				✓ No -	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	elow.1 (Se	e instruction	s for specific	s.)			
					mber of		ım Daily	Averag		Source
		Parame	ter or Pollutant		alyses		harge	Disch		(Use codes
				,	ctual data ported)	Mass	y units) Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			,					
2		E. coli								
Effluent Characteristics Continued		Enterococci								
onti	4.5	Is chlorine used	(or will it be used)?							
S,		✓ Yes				□ No -	SKIP to It	em 4.7.		
stic	4.6	Provide data as	requested in the table be	elow.1 (Se	e instruction					
teri				T ,	nber of		ım Daily	Averag	e Daily	Source
arac		Parame	ter or Pollutant		alyses		harge	Disch		(use codes
ਤੰ					ctual data ported)	(specif	y units) Conc.	(specify Mass	(units) Conc.	per instructions)
ent		Total Residual (Chloring	63	, ,	7 kg/day		< 0.0189 kg/		,
∰	4.7		cooling water discharged					- 0.0 100 kg/		
	'''	✓ Yes	ooming water albertainged	(01 11111 10)	o alcortargo		SKIP to Se	ection 5		
	4.8		requested in the table be	elow 1 (Se	e instruction			7011011 01		
		Number of Maximum Daily Average Daily								
		Parameter or Pollutant			alyses		harge	Disch		(use codes
					ctual data ported)	(specif	y units) Conc.	(specify	Conc.	per instructions)
		Chemical oxyge	en demand (COD)	1	, ,	kg/day		20 kg/day	29.7	,
		Total organic ca	· ,	1		g/day	8.71 mg/L	' '	8.71	
SECTIO	N 5 FLC	W (40 CFR 122.2				,		10.19/110)		
OLUTIO	5.1		nwater water runoff, leaks	or spills	are any of	he dischard	es vou desc	ribed in Se	ctions 1 a	nd 3 of this
	0.1		mittent or seasonal?	, 01 001110	, are arry or	aro alcorial g	00 ,00 0000			
		✓ Yes →	Complete this section.			□ No -	SKIP to Se	oction 6		
			<u> </u>				SKIF W S	ection 6.		
Flow	5.2		the frequency and duration			f	- 4 Th	معاد داد الدالد		al bt tb.a
ш			of non-process wastewater fro e outfall can vary considerably							
			See Section 4.2 for flowrate.							
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))						
Ε	6.1	Briefly describe	any treatment system(s)	used (or	to be used).					
ste			the cooling tower is treated to			nd bromine wit	h a liquid-feed	dechlorinatio	n system. S	odium bisulfite
t Sy		is dispensed at the	tower discharge and feed rate	is operator	controlled.					
=	ı									
ne										
Treatment System										

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should Cooling tower wat is ongoing and red wastewater outfall annually to TDEC.		nitations. A intermittent to the additiona to the corresp	ttach additional sheets as nermal load to the receiving str data specific to cooling tower onding additional data can be fo	s needed. eam. Thermal monitoring at this outfall blowdown discharges from non-process
SECTIO			ERTIFICATION STATEMENT (40 (
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachm ts are required to provide attachme Column 1	nents that	ou are enclosing to alert	
			Column 1		C	Oluffili Z
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vic	t qualified ersons wh mation sul significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1		ation on each of the facility	's outfalls in the	e table	below.							
ıtion		Outfall Number	Receiving Water Name		Latitu	ıde			Longitu	de			
Outfall Location		291 Trib	utary to Clinch River	35 °	56 ′	17.65 "	N	84°	16 3	1.83″	w		
utfal													
SECTIO	N 2. DIS		(40 CFR 122.21(h)(2))										
ge	2.1		or existing discharger? (C	heck only one r									
Discharge Date		☐ New dis				✓ Exis	sting dischar	ger → SK	IP to Sect	ion 3.			
Disc	2.2	Specify your a	nticipated discharge date:										
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))										
	3.1		wastes are currently being	discharged if y	ou are	an existin	g discharge	r or will be	discharge	ed if you	are a		
			r? (Check all that apply.)		[·	✓ Othe	er nonproces	s wastewa	iter (desci	ibe/expl	ain		
		—	ant or cafeteria waste				ctly below)		(
ဟ			ntact cooling water			boile	r blowdown, H	VAC condens	sate				
Type	3.2		y use cooling water additiv	res?									
Waste Types	0.2	Yes	y acc coming mater address		[•	✓ No	→ SKIP to S	Section 4.					
×	3.3	List the cooling	water additives used and		compo	sition.							
			Cooling Water Additive	s				sition of A					
			(not)				Λ,	available to	jouj				
SECTIO			CTERISTICS (40 CFR 12		4 - l- l -	la a lavo a 4 a			-1 -441	1.41			
	4.1	this application	pleted monitoring for all pa n package?	rameters in the	table	below at e	each of your	outīalis an	d attached	i the res	Suits to		
		✓ Yes					ested from r						
	4.2		s requested in the table be				additional inf	ormation)	→ SKIP t	o Sectio	n 5.		
w	7.2	1 TOVIGE Gata a	5 requested in the table be	Number			num Daily	Avera	age Daily	Sc	ource		
stic		Param	eter or Pollutant	Analyses	6	Dis	charge	Dis	charge		e codes		
cteri				(if actual dat reported)	a	(spe	cify units) Conc.	(spe	cify units) Conc	instr	per ructions)		
Effluent Characteristics		Biochemical ox	xygen demand (BOD₅)	1	< 5E	-03 kg/day		/L < 5E-03 k	_	1 mg/L	N/A		
t C		Total suspende	ed solids (TSS)	1	0.02	kg/day	3.8 mg	/L 0.02 kg/d	ay 3	8.8 mg/L	N/A		
luer		Oil and grease)	1	< 9E	-03 kg/day	< 1.65 mg	/L < 9E-03 k	g/day <	1.65 mg/L	N/A		
<u> </u>		Ammonia (as 1	N)	1	J 2E-	04 kg/day	J 0.0307 mg	/L J 2E-04 k	g/day J	0.0307 m	g/L N/A		
		Discharge flow	1	5		7E-03 mgd					N/A		
		pH (report as r	ange)	4		7.2 - 8.4 Sto	dUnit				N/A		
		Temperature (winter)	3		14.1 degC					N/A		
		Temperature (summer)	1		19.4 degC					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).

EP.	A Identifica	tion Number	NPDES Permit Number					Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	jed (or will it l	be discharg	ed)?		
		☐ Yes				✓ No -3	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of	1	m Daily	Averag		Source
		Parame	ter or Pollutant		alyses ctual data	Disch (specifi		Disch (specif		(Use codes per
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
70		E. coli								
Effluent Characteristics Continued		Enterococci								
ont	4.5	Is chlorine used	(or will it be used)?							
၂		☐ Yes				✓ No →	SKIP to It	em 4.7.		
isti	4.6	Provide data as requested in the table below.1 (See instructions for specifics.)								
cter		Number of Maximum Daily Analyses Discharge							e Daily	Source
lara		Parame	ter or Pollutant		alyses	Disch (specifi		Disch (specif		(use codes
5					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)
nen		Total Residual (Chlorine							
置	4.7	Is non-contact cooling water discharged (or will it be discharged)?								
		☐ Yes								
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
			1	nber of	Maximu	•	Averag		Source	
		Parame		alyses ctual data	Disch (specify		Disch (specifi		(use codes per	
				, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)
		Chemical oxyge	en demand (COD)			•			•	•
		Total organic ca	rbon (TOC)							
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))							
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.		
*	5.2	Briefly describe	the frequency and duration	on of flow						
Flow			eating facilities during the winter				drain during co	old months. H	HVAC conde	ensate sources
		may be present into	ermittently and vary with the sea	asons. See	Section 4.2 for	r flowrate.				
SECTIO	N 6. TRE	EATMENT SYSTEM (40 CFR 122.21(h)(6))								
	6.1	Briefly describe any treatment system(s) used (or to be used).								
sten		N/A								
Š										
ent										
Treatment System										
Tre										

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).

EPA Identification Number		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should Multiple attempts v	pelow to expand upon any of the all d consider in establishing permit lim were made to sample a discharge from this entative Outfall 234 since this outfall most	nitations. <i>A</i> s outfall and	ttach additional sheets as flow was not found. The data re	s needed.
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40			
	8.1		ubmitting with your application. the permitting authority. Note that			
			Column 1			
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are has ystem designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing virtype first and last name)	t qualified ersons wh mation su significan	personnel properly gather to manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

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

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

NPDES	7	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1	Provide inform Outfall	ation on each of the facility	s outfalls in the	table	below.							
ıtion		Number F	Receiving Water Name		Latitu	ıde			Longitud	е			
Outfall Location		302 Whi	te Oak Creek	35 °	55 ′	27.71 "	N	84°	18 57.	.38" W			
utfall													
0													
SECTIO	N 2. DIS	CHARGE DATE	(40 CFR 122.21(h)(2))										
ge	2.1	Are you a new	or existing discharger? (C	heck only one re									
schare Date			charger			Exist	sting dischar	ger → SKI	P to Section	on 3.			
Discharge Date	2.2	Specify your a	nticipated discharge date:										
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))										
	3.1		wastes are currently being	discharged if yo	u are	an existin	g discharge	r or will be	discharged	if you ar	e a		
			w discharger? (Check all that apply.) Sanitary wastes ✓ Other nonprocess wastewater (describe/explain										
		—	Restaurant or cafeteria waste June nonprocess wastewater (describe/explain directly below)										
တ္တ			Steam condensate and steam sump discharge										
Type	3.2		y use cooling water additiv	/AS?		_							
Waste Types	5.2	Yes	y use cooming water additive	100:	•	✓ No ·	→ SKIP to S	Section 4.					
×	3.3	List the cooling	water additives used and	describe their c	ompos	sition.							
			Cooling Water Additive	s				sition of A f available to y					
			(not)				\1	available to y	ou)				
SECTIO			CTERISTICS (40 CFR 12					45.11					
	4.1	Have you com this application	pleted monitoring for all pa n package?	irameters in the	table I	below at e	acn of your	outfalls and	attached	tne result	is to		
		✓ Yes		No; a waive									
	4.2		s requested in the table be	(attach waiv				formation) •	→ SKIP to	Section	5.		
w	4.2	FTOVIGE data a	s requested in the table be	Number o			num Daily	Avera	ge Daily	Sou	rce		
stice		Param	eter or Pollutant	Analyses		Dis	charge	Disc	charge	(use c			
teri				(if actual data reported)	1	(spe	cify units) Conc.	(spec	cify units) Conc.	_ pe instruct			
Effluent Characteristics		Biochemical ox	xygen demand (BOD₅)	1	< 2E-	-03 kg/day		/L < 2E-03 kg	_	mg/L	N/A		
t C		Total suspend	ed solids (TSS)	1	< 2E-	-03 kg/day	< 1.12 mg	/L < 2E-03 kg	ı/day < 1	.12 mg/L	N/A		
lner		Oil and grease)	1	< 3E-	-03 kg/day	< 1.59 mg	/L < 3E-03 kg	ı/day < 1	.59 mg/L	N/A		
出		Ammonia (as I	N)	1	9E-0	5 kg/day	0.0554 mg	/L 9E-05 kg/	day 0.0)554 mg/L	N/A		
		Discharge flow	1	35		3E-03 mgd					N/A		
		pH (report as r	ange)	1		8 - 8 StdUni	t				N/A		
		Temperature (winter)	3		16.2 degC					N/A		
		Temperature (summer)	1		24.3 degC					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).

		tion Number	NPDES Permit Number	mit Number Facility Name Form Approved 03/05/ Oak Ridge National Laboratory OMB No. 2040-000								
TN1890090	0003		TN0002941				•		Olvie	5 110. 2040-0004		
	4.3	l <u> </u>	n believed present, or is sa	nitary w	aste dischar	• (Ū	,				
		☐ Yes					SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be				s.) I m Daily	Avorage	o Doiby			
		D	ton on Dellotont		mber of nalyses		harge		e Daily narge	Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specif	y units)	(specif	y units)	` per		
		Facal california		Γ	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		Fecal coliform										
Effluent Characteristics Continued		E. coli Enterococci										
ntir	4.5		d (or will it be used)?									
ပိ	4.5	Yes	(or will it be asea):			✓ No =	SKIP to It	em 47				
stic	4.6	Provide data as requested in the table below.1 (See instructions for specifics.)										
teri	""	Number of Maximum Daily							e Daily	Source		
arac		Parame	eter or Pollutant		nalyses		harge	1	narge	(use codes		
S				,	ctual data eported)	Mass	y units) Conc.	Mass	y units) Conc.	per instructions)		
rent		Total Residual	Chlorine	1	portody	Midoo	00110.	mass	00110.	,		
Effi	4.7		cooling water discharged (ed)?	•		•					
		☐ Yes					SKIP to Se	ection 5.				
	4.8	Provide data as requested in the table below.1 (See instructions for specifics.)										
				1	mber of		ım Daily	Averag		Source		
		Parame	eter or Pollutant		nalyses actual data		harge y units)	Disch (specifi		(use codes per		
					eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	arbon (TOC)									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	and 3 of this		
		Yes →	Complete this section.			□ No -	SKIP to S	ection 6.				
Flow	5.2		the frequency and duration									
Ē		Dry-weather flows	are infrequent and some of the	larger of th	ne recorded flow	ws may be influe	enced by rain e	events. See S	ection 4.2 fo	or flowrate.		
SECTIO	N 6. TRE	REATMENT SYSTEM (40 CFR 122.21(h)(6))										
Ε	6.1	· ·	any treatment system(s)	used (or	to be used).							
/ste		N/A										
ıt Sj												
Treatment System												
reat												
F												

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).

	EPA Identification Number N1890090003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

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

FORM 2E

TN1890090003



EPA Identification Number

NPDES		CLA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU	FALL LOCA	TION (40 CFR 122.21(h)(1))	DIOGIN WOL OIL	THOM NO	2200 117 1011	ZVVV CIN				
	1.1		rmation on each of the facility	r's outfalls in the tab	e below.						
ation		Outfall Number	Receiving Water Name	Lati	tude		Le	ongitude			
Outfall Location		304 V	Vhite Oak Creek	35 ° 55	28.21 "	N	84° 1	8 55.8	7" W		
Outfa											
			TE (40 CFR 122.21(h)(2))	مرمور معار معام ومعام	naa \						
arge e	2.1		ew or existing discharger? (C discharger	neck only one respo		ting discharge	ar 📤 SKID	to Section	. 3		
Discharge Date	2.2		anticipated discharge date:		L LAIS	urig disoriarge	J J OKII	10 0601101	10.		
SECTIO			40 CFR 122.21(h)(3))								
	3.1		of wastes are currently being ger? (Check all that apply.)	discharged if you ar	e an existinç	g discharger o	r will be dis	charged	if you are	a	
			ary wastes		✓ Other	r nonprocess	wastewater	describ	e/explain		
			aurant or cafeteria waste			tly below)		(
တ္တ			contact cooling water		HVAC	C & steam conde	nsate, steam	sump disch	arge		
Гуре	3.2		cility use cooling water additive	(05)							
Waste Types	0.2	Yes	only use cooming water additive	763 :	✓ No =	SKIP to Se	ction 4.				
Wa	3.3		ing water additives used and	describe their comp		2 01111 10 00					
			Cooling Water Additive				tion of Add				
			(list)			(if a)	vailable to you)			
SECTIO	N 4. EFF	LUENT CHA	RACTERISTICS (40 CFR 12	2.21(h)(4))							
	4.1		empleted monitoring for all pa	rameters in the table	e below at ea	ach of your ou	ıtfalls and a	ttached t	ne results	s to	
		this applicat	ion package?	No; a waiver has	heen realie	seted from my	NPDES no	rmitting s	authority		
		✓ Yes		(attach waiver re).	
	4.2	Provide data	a as requested in the table be								
Sics		_		Number of Analyses		um Daily charge	Average Discha	-	Sour (use co		
erist		Para	ameter or Pollutant	(if actual data	(spec	cify units)	(specify	units)	` per		
ract		Disabansiaal	Lauren damand (DOD)	reported) < 5	Mass E-04 kg/day	Conc.	Mass < 5E-04 kg/da	Conc. ay < 1 r	instructi	ons) N/A	
Cha			oxygen demand (BOD ₅)		E-04 kg/day E-04 kg/day	•	< 3E-04 kg/da	•		N/A	
Effluent Characteristics		Oil and grea	nded solids (TSS)		E-04 kg/day E-04 kg/day	_	< 9E-04 kg/da	-	33 mg/L 33 mg/L	N/A	
Efflu		Ammonia (a			-05 kg/day	•	3E-05 kg/day	-	667 mg/L	N/A	
_		Discharge fl	•	48	0.12 mgd		on Ngrud	0.00		N/A	
		pH (report a		14	7.5 - 8.7 Stdl	Unit				N/A	
		Temperature		11	16.5 degC					N/A	
		Temperature	· ,	6	23.5 degC					N/A	

Temperature (summer)

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).

EP/ TN1890090		tion Number	NPDES Permit Number	er		Facility Name ational Laborato	orv			proved 03/05/19 3 No. 2040-0004	
		la food soliform	believed present, or is sa	niton, wo			·	od/3			
	4.3	S recal collorm	believed present, or is sa	nitary wa	•	, ,	oe discharg ▶ SKIP to It	,			
	4.4	Provide data as	requested in the table bel	ow.1 (Se	e instruction	s for specific	s.)				
		Parame	eter or Pollutant	An (if ac	nber of alyses ctual data	Disch (specif	y units)	Averag Disch (specif	narge v units)	Source (Use codes per	
		E a al a al'é ama		re	ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
pen		E. coli									
ntin	4.5	Enterococci	1 (11 14 1 10 0								
Effluent Characteristics Continued	4.5	S chlorine used Yes	I (or will it be used)?			✓ No -	SKIP to It	tem 4.7.			
istic	4.6	Provide data as	requested in the table bel	ow.1 (See instructions for specifics.)							
cter			·	Nur	nber of	Maximu		Averag	-	Source	
ara		Parame	eter or Pollutant		alyses	Disch		Disch		(use codes	
ပ ပ				,	ctual data ported)	(specify	Conc.	(specifi Mass	Conc.	per instructions)	
ient		Total Residual	Chlorine			mass	001101	muoo	001101	,	
	4.7		cooling water discharged (or will it b	e discharge	ed)?					
		☐ Yes				✓ No →	SKIP to Se	ection 5.			
	4.8	Provide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum Daily Average Daily Source									
		_		1	nber of alyses	Discharge		Averag Disch		Source (use codes	
		Parameter or Pollutant			aryses ctual data	(specify		(specif		per	
				re	ported)	Mass	Conc.	Mass	Conc.	instructions)	
			en demand (COD)								
		Total organic ca	, ,								
SECTIO		W (40 CFR 122.									
	5.1		nwater water runoff, leaks, mittent or seasonal?	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.			
Flow	5.2		the frequency and duration			t and based on t	woother condi	tiona Coa Ca	estion 4.2 for	flourata	
ш .		A small discharge	nom this outlan is continuous, bu	ut sources	are intermitten	t and based on	weather condi	110115. 366 36	CUOII 4.2 IOI	nowrate.	
OF OTIO	VA TD5	EATMENT SYSTEM (40 CFR 122.21(h)(6))									
SECTIO					to be used						
em	6.1	N/A	any treatment system(s) u	usea (or	to be used).						
yst		I N/A									
Treatment System											
tme											
real											
_											

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).

	EPA Identification Number N1890090003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM nΕ

TN1890090003



EPA Identification Number

2E NPDES	3	EPA	MANUFACTURIN		ID SILVICUL		ITIES	WHICH						
SECTIO	N 1. OU	FALL LOCATION	ON (40 CFR 122.21(h)(1))											
	1.1		ation on each of the facility	's outfalls in the	table	below.								
ıtion		Outfall Number	Receiving Water Name		Latitu	de		Long	jitude					
Outfall Location		310 Whi	te Oak Creek	35 °	55 ′	36.27 "	N	84° 18′	45.8′	" W				
SECTIO			(40 CFR 122.21(h)(2))											
ge	2.1	l — '	or existing discharger? (C	heck only one r	•									
Discharge Date			charger		Į.	✓ Exis	ting discharge	er → SKIP to S	Section	3.				
Diso	2.2	Specify your a	nticipated discharge date:											
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))											
	3.1		wastes are currently being	discharged if yo	ou are	an existing	g discharger o	or will be discha	arged i	f you are	еа			
			w discharger? (Check all that apply.) Sanitary wastes Other nonprocess wastewater (describe/explain											
		—			•		r nonprocess tly below)	wastewater (d	escribe	e/explain	ı			
		Restaur	ant or cafeteria waste					team condensate						
sed		☐ Non-cor	ntact cooling water											
e Ty	3.2	Does the facilit	y use cooling water additiv	/es?										
Waste Types		Yes			•		➤ SKIP to Se	ction 4.						
>	3.3	List the cooling	water additives used and		ompos	sition.	•	4. CALIM						
			Cooling Water Additive	S				tion of Additival	ves					
SECTIO	N 4. EFF		ACTERISTICS (40 CFR 12											
	4.1		pleted monitoring for all pa	arameters in the	table l	oelow at ea	ach of your ou	utfalls and attac	ched th	e result	s to			
		this application	праскаде <i>?</i>	No: a waive	r has h	een reque	ested from my	NPDES permi	itting a	uthority				
		✓ Yes						mation) → SK			5.			
	4.2	Provide data a	s requested in the table be											
tics		_		Number of Analyses			um Daily charge	Average Da Discharg		Sour (use co				
erist		Param	eter or Pollutant	(if actual dat		(spec	cify units)	(specify unit	s)	, per				
ract		D: 1 : 1	1 (202)	reported)	.05	Mass	Conc.		onc.	instructi	,			
Chai			xygen demand (BOD ₅)	1		03 kg/day	ŭ	< 2E-03 kg/day	< 4 m	<u> </u>	N/A			
Effluent Characteristics		· '	ed solids (TSS)	1		3 kg/day	•	1E-03 kg/day < 9E-04 kg/day		mg/L 7 mg/L	N/A			
n]#:		Oil and grease		1		04 kg/day	•	< 9E-04 kg/day 3E-05 kg/day		· —	N/A			
ш		Ammonia (as I	,	1	ა⊑-0:	5 kg/day 1E-04 mgd	U.UOOO Mg/L	o⊏-∪o kg/day	0.05	58 mg/L	N/A N/A			
		Discharge flow		1		6.7 - 6.7 Std	l Init		-		N/A N/A			
		pH (report as r	<u> </u>	1			UIIIL				N/A N/A			
		Temperature (· · · · · · · · · · · · · · · · · · ·	3		94.5 degC 86. degC					N/A N/A			
1 Compling	chall bo o	Temperature (summer) to sufficiently sensitive test proce	-) approx		CER 136 for the	analysis of nolluta	nte or n	Mutant	IN/A			

Temperature (summer)

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).

EP/ TN1890090		tion Number	NPDES Permit Number	t Number Facility Name Form Approved 03/05/1 Oak Ridge National Laboratory OMB No. 2040-000							
		la facal coliform		niton				24/0			
	4.3	S recal collion	believed present, or is sa	nitary wa		•	oe discharg ▶ SKIP to It	,			
	4.4	Provide data as	requested in the table bel	ow.1 (Se	e instruction	s for specific	s.)				
		Parame	eter or Pollutant	Ana (if ac	nber of alyses tual data	Disch (specif	y units)	Averag Disch (specif	narge v units)	Source (Use codes per	
		E a a l'a a l'é a ma		rep	orted)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
pen		E. coli									
ntin	4.5	Enterococci	1. (1) 2 (1 1) 2								
Effluent Characteristics Continued	4.5	S chlorine used	I (or will it be used)?			✓ No 3	SKIP to It	em 4.7.			
istic	4.6	Provide data as	requested in the table bel	ow.1 (Se	ow.1 (See instructions for specifics.)						
cter				Nur	nber of		m Daily	Averag	-	Source	
ara		Parame	eter or Pollutant		alyses	Disch		Disch		(use codes	
ပ ပ				,	tual data oorted)	(specify Mass	Conc.	(specifi Mass	Conc.	per instructions)	
ient		Total Residual	Chlorine			mass	001101	muoo	001101	,	
E	4.7		cooling water discharged (or will it b	e discharge	ed)?					
		☐ Yes				✓ No →	SKIP to Se	ection 5.			
	4.8	Provide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum Daily Average Daily Source									
		_		1	nber of alyses	Maximum Daily Discharge		Averag Disch		Source (use codes	
		Parame	eter or Pollutant		tual data	(specify		(specif		per	
				` re	oorted)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)								
		Total organic ca	arbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.									
	5.1		nwater water runoff, leaks, rmittent or seasonal?	, or spills	are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.			
Flow	5.2		the frequency and duration								
ᇤ		The flow is intermit	tent and the frequency is depen-	dent on sea	asonal weathe	r conditions. Se	e Section 4.2	for flowrate.			
SECTIO	N 6. TRE		EM (40 CFR 122.21(h)(6))								
n n	6.1	Briefly describe	any treatment system(s) ι	used (or t	o be used).						
ste		N/A									
t Sy											
nen											
Treatment System											
Ļ											

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).

EP.	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19				
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004				
SECTIO	N 7. OTH	ER INFORMATI	ON (40 CFR 122.21(h)(7))							
Other Information	7.1	The temperature of travels over land statistics to the temperature of the travels over the travels over the temperature of the	below to expand upon any of the a d consider in establishing permit lind data presented for this outfall was taken diseveral feet before it gets to the receiving sexpanded to measure both upstream tempature of 0.1 degrees C and the temperature	nitations. A rectly at the s stream during erature = 17.	ttach additional sheets as team condensate discharge. H stream baseflow conditions. To degrees C and the downstrea	s needed. owever, the discharge at this location herefore the temperature evaluation at m temperature = 16.9 degrees C. This				
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40							
	8.1	In Column 1 below, mark the sections of Form 2E that you have completed and are submitting with your appropriate for each section, specify in Column 2 any attachments that you are enclosing to alert the permitting author								
			Column 1		С	olumn 2				
		✓ Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)				
		✓ Section 2:	Discharge Date		w/ attachments					
		✓ Section 3:	Waste Types		w/ attachments					
nent		Section 4:	Effluent Characteristics		w/ attachments					
Staten		Section 5:	Flow		w/ attachments					
ation (Section 6:	Treatment System		w/ attachments					
ırtific		✓ Section 7:	Other Information		w/ attachments					
Š		✓ Section 8:	Checklist and Certification Statem	ent	w/ attachments					
Checklist and Certification Statement	8.2	accordance wit submitted. Bas responsible for accurate, and o possibility of fin	statement penalty of law that this document as th a system designed to assure that ed on my inquiry of the person or p gathering the information, the info- complete. I am aware that there are the and imprisonment for knowing v type first and last name)	nt qualified persons wh rmation su e significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,				
		Signature			Date signed					

FORM 2E

TN1890090003



EPA Identification Number

NPDES		CLA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))	DIGGINALOE GIVE	HOIII NOO	200 11/1011	ZVVV CIN						
	1.1		ormation on each of the facility	s outfalls in the table	below.								
ation		Outfall Number	Receiving Water Name	Latitu	ıde		Lo	ongitude					
Outfall Location		312	White Oak Creek	35 ° 55 ′	42.88 ["] N	N	84° 1	8 35.3	1" W				
Outfa													
			ATE (40 CFR 122.21(h)(2))		\								
arge e	2.1	l — '	new or existing discharger? (Cl r discharger	neck only one respon		ng discharge	or 📤 QKID	to Soction	. 3				
Discharge Date	2.2		ır anticipated discharge date:		EXISUI	ig discriarge	SI 7 ONIF	10 0601101	13.	-			
ä	2.2	opoony you	ar artiolpatod disoriargo dato.										
SECTIO			(40 CFR 122.21(h)(3))										
	3.1		of wastes are currently being	discharged if you are	an existing	discharger o	r will be dis	charged	if you are	a			
			rger? (Check all that apply.) tary wastes	ſ	✓ Other i	nonprocess	wastewater	· (describ	e/explain				
		_	taurant or cafeteria waste	Ĺ		/ below)		(4000	o. o. qo.o				
တ္တ			Non-contact cooling water Non-contact cooling water										
Type	3.2		acility use cooling water additive	1052						$=$ \mid			
Waste Types	5.2	Yes	cility use cooling water additive		✓ No →	SKIP to Se	ction 4.						
Wa	3.3		oling water additives used and	describe their compo						-			
			Cooling Water Additive				tion of Add						
			(list)			(ıf a\	/ailable to you)					
SECTIO	N 4. EFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2.21(h)(4))									
	4.1	Have you c	completed monitoring for all pa		below at eac	h of your ou	ıtfalls and a	ttached tl	ne results	s to			
		this applica	tion package?	N			NDDEO		0. 20				
		✓ Yes		No; a waiver has (attach waiver red						;			
	4.2	Provide dat	ta as requested in the table be					01111 10					
S				Number of	Maximu	-	Average		Sour				
Effluent Characteristics		Par	Parameter or Pollutant Analyses (if actual data Discharge (specify units) Cypecify units) (use codes per										
acte				reported)	Mass	Conc.	Mass	Conc.	instruction				
Char			al oxygen demand (BOD ₅)		-04 kg/day	•	< 5E-04 kg/da	•	_	N/A			
ent (ended solids (TSS)		-04 kg/day	Ū	< 6E-04 kg/da	•	I mg/L	N/A			
#Ine		Oil and gre			-04 kg/day	•	< 9E-04 kg/da	•	67 mg/L	N/A			
ш		Ammonia (•)5 kg/day	0.0572 mg/L	3E-05 kg/day	0.05	572 mg/L	N/A			
		Discharge t		1	0.01 mgd 8 - 8 StdUnit					N/A			
		pH (report a	- ,	1	11.9 degC					N/A N/A			
		Temperatu	, ,										
		_I remperatu	re (summer)	Ι'	Temperature (summer) 1 22.2 degC N/A								

Temperature (summer)

1 22.2 degC

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).

		tion Number	NPDES Permit Number	er	er Facility Name Oak Ridge National Laboratory				Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	0003		TN0002941				·		Olvie	3 110. 2040-0004		
	4.3	l <u> </u>	n believed present, or is sa	initary w	aste dischar		Ū	,				
		☐ Yes					SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be					Avorage	o Doily			
		D	ton on Dolladont		mber of alyses		ım Daily narge		e Daily narge	Source (Use codes		
	### ### ##############################	Parame	eter or Pollutant	(if a	ctual data	(specif	y units)	(specif	y units)	` per		
		Facal california		re	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		Fecal coliform										
panı		E. coli Enterococci										
ntir	15		d (or will it be used)?									
ပိ	4.5	Yes	(or will it be asea):			✓ No =	SKIP to It	em 4 7				
stic	4.6		requested in the table be	low 1 (Se	ee instruction			.0111 4.7 .				
teri	""	Trovido data do	710940000411111010000		mber of		ım Daily	Averag	e Daily	Source		
arac		Parame	eter or Pollutant		alyses		narge		narge	(use codes		
ဒို				,	ctual data eported)	(specif	y units) Conc.	(specifi Mass	y units) Conc.	per instructions)		
ient		Total Residual	Chlorine		portog	WIGGS	00110.	Wass	00110.			
1	4.7		cooling water discharged (or will it	be discharge	ed)?			•			
_		☐ Yes					SKIP to Se	ection 5.				
	4.8											
				1	mber of	1	m Daily	Averag		Source		
		Parame	eter or Pollutant		nalyses ctual data		narge y units)	Disch (specifi		(use codes per		
				, , ,	eported)	Mass	Conc.	Mass	Conc.	instructions)		
			en demand (COD)									
		Total organic ca	, ,									
SECTIO		<u> </u>										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this		
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.				
Flow	5.2		the frequency and duration									
Ē		Discharges of HVA	AC and steam condensate are in	ntermittent	and vary with s	season and wea	ther. See Sect	tion 4.2 for flo	wrate.			
SECTIO	N 6. TRE	EATMENT SYSTE	EM (40 CFR 122.21(h)(6))									
Ε	6.1	Briefly describe	any treatment system(s)	used (or	to be used).							
ste		N/A										
t Sy												
Treatment System												
eatı												
=												

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space to reviewer should N/A	pelow to expand upon any of the al I consider in establishing permit lim	itations. <i>F</i>	attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 (low, mark the sections of Form 2E			hmitting with your application
	0.1	For each sectio	n, specify in Column 2 any attachm s are required to provide attachme	nents that		
		not an applicant	Column 1	110.	C	olumn 2
		Section 1:	Outfall Location] w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date] w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
staten		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
g Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance witi submitted. Base responsible for accurate, and c possibility of fin	tatement enalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vic	t qualified ersons wh mation su significar	personnel properly gather no manage the system, or bmitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

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

MANUFACTURING COMMERCIAL MINING AND SILVICULTURAL FACILITIES WHICH

NPDES			MANUFACTURIN	ING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU	FALL LOC	ATION (40 CFR 122.21(h)(1))									
	1.1		ormation on each of the facility	s outfalls in the tab	le below.							
Outfall Location		Outfall Number	Receiving Water Name	Lati	tude		Lon	gitude				
Loc		313	White Oak Creek	35 ° 55	, 47.11 ["]	N	84° 18′	30.9	6" W			
ıtfall												
ō												
SECTIO	N 2 DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))									
	2.1		new or existing discharger? (C	heck only one respo	nse.)							
scharg Date			/ discharger	, , , , , , , , , , , , , , , , , , , ,		ing discharge	er → SKIP to	Section	1 3.			
Discharge Date	2.2	Specify you	ur anticipated discharge date:									
	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))									
	3.1		of wastes are currently being	discharged if you a	re an existing	discharger o	r will be disch	arged i	f you are	а		
			arger? (Check all that apply.)		Other			ما اسم م ما	- <i>l</i>			
		_	itary wastes			nonprocess ly below)	wastewater (d	iescride	3/expiain			
ω		_	taurant or cafeteria waste			. ,	& steam conden	sate				
уре			-contact cooling water									
Waste Types	3.2	Does the fa	acility use cooling water additiv	/esː?	✓ No →	SKIP to Se	otion 1					
Was	3.3		oling water additives used and	describe their comm		SKIF W SE	GIIOH 4.			-		
	0.0	2.00 0.00	Cooling Water Additive	- COLIGOTII		tion of Addit	ives					
			(list)			(If a)	/ailable to you)					
SECTIO	N 4. EFF		ARACTERISTICS (40 CFR 12									
	4.1		completed monitoring for all pa ation package?	rameters in the tabl	e below at ea	ich of your ou	ıtfalls and atta	iched th	ne results	s to		
				No; a waiver ha	s been reque	sted from my	NPDES perm	nitting a	uthority			
		✓ Yes		(attach waiver re	equest and ac	dditional infor				j.		
	4.2	Provide da	ta as requested in the table be	Number of			Average D	vlie	0			
stics		Day	rameter or Pollutant	Analyses		harge	Discharge	- 1	Sour (use co			
teris		l a	Tameter of Fondtant	(if actual data reported)	(speci	fy units) Conc.	(specify un	its) Conc.	per			
arac		Biochemica	al oxygen demand (BOD ₅)	. ,	.04 kg/day		J 0.04 kg/day		mg/L	N/A		
t ch			ended solids (TSS)		1.1 kg/day	< 1.11 mg/L	< 0.1 kg/day	< 1.1	1 mg/L	N/A		
Effluent Characteristics		Oil and gre	ease	1 J 0	.2 kg/day	J 2 mg/L	J 0.2 kg/day	J 2 m	ng/L	N/A		
出		Ammonia (as N)	1 0.0	01 kg/day	0.137 mg/L	0.01 kg/day	0.13	7 mg/L	N/A		
		Discharge	flow	5	0.4 mgd					N/A		
		pH (report	as range)	2	7.3 - 7.7 StdL	Jnit				N/A		
		Temperatu	re (winter)	3	15.6 degC					N/A		
		Temperatu	re (summer)	2	22.4 degC					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).

EP/	A Identifica	tion Number	NPDES Permit Numb	er					Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	0003		TN0002941		Oak Ridge N	lational Laborato	ory		OME	3 No. 2040-0004		
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ged (or will it	be discharg	ed)?				
		☐ Yes				✓ No ÷	SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructior	ns for specific	s.)					
					mber of	1	ım Daily	Averag		Source		
		Parame	ter or Pollutant		alyses ctual data		harge y units)	Disch (specif		(Use codes per		
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)		
		Fecal coliform										
þa		E. coli										
Effluent Characteristics Continued		Enterococci										
ont	4.5	Is chlorine used	(or will it be used)?				•	•				
) 53		Yes				✓ No =	SKIP to It	em 4.7.				
isti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction	ns for specific	s.)					
cter					mber of		ım Daily	Averag	•	Source		
ıara		Parame	ter or Pollutant		alyses		harge iy units)	Disch (specif		(use codes		
t C					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)		
nen		Total Residual (Chlorine		, ,							
Eff	4.7	Is non-contact c	ooling water discharged (or will it b	oe discharge	ed)?	•	1				
		☐ Yes				✓ No →	SKIP to Se	ection 5.				
	4.8	Provide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum Daily Average Daily Source										
						1	ım Daily	Averag		Source		
		Parameter or Pollutant			alyses ctual data		harge y units)	Disch (specifi		(use codes per		
					eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)			•	•			•		
		Total organic ca	rbon (TOC)									
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))				•					
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this		
		application inter	mittent or seasonal?									
		✓ Yes →	Complete this section.			□ No -	SKIP to S	ection 6.				
>	5.2	Briefly describe	the frequency and duration	on of flow	,							
Flow	0.2		condensate discharges vary sea			Il 313 is continuo	ous but the rat	e of flow out o	of the East C	Campus/Swan		
			eather conditions. See Section									
OFOTIO	NA TRE	ATMENT OVOTE	THE (40 OFF) 400 O4 (L) (O))									
SECTIO			EM (40 CFR 122.21(h)(6)) any treatment system(s)		to be week							
em	6.1	'	Swan Pond has a 4-head aerat	•	,							
yst		The East Campus/	Swall Pollu llas a 4-lleau aei al	ion system	•							
nt S												
Treatment System												
real												
-												

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).

		tion Number	NPDES Permit Number	Facility Name Form Approved 03/0 Oak Ridge National Laboratory OMB No. 2040-					
TN1890090	1003		TN0002941	Oak Ridge	National Laboratory	3115 113 23 13 333 1			
SECTIO	N 7. OTH		ON (40 CFR 122.21(h)(7))						
Other Information	7.1	reviewer should N/A	pelow to expand upon any of the ab I consider in establishing permit lim	itations. A	ttach additional sheets as				
SECTIO			ERTIFICATION STATEMENT (40 (demoitting write way many lighting			
	8.1	For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm s are required to provide attachme	ents that	you are enclosing to alert	the permitting authority. Note that			
			Column 1		С	olumn 2			
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)			
		Section 2:	Discharge Date		w/ attachments				
		Section 3:	Waste Types		w/ attachments				
nent		Section 4:	Effluent Characteristics		w/ attachments				
Staten		Section 5:	Flow		w/ attachments				
ation (Section 6:	Treatment System		w/ attachments				
ıtifica		Section 7:	Other Information		w/ attachments				
nd Ce		✓ Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments				
Checklist and Certification Statement	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 Manager, ORNL Site Office Signature Date signed							

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

9	EPA	MANUFACTURIN					TIES WHICH	
N 1. OU								
1.1		ormation on each of the facility	s outfalls in the tabl	le below.				
	Outfall Number	Receiving Water Name	Lati	tude		Longi	tude	
	314	White Oak Creek	35 ° 55 ′	48.36 ["] N	N .	84° 18′	28.64" W	
N 2. DIS	CHARGE DA	ATE (40 CFR 122.21(h)(2))						
2.1			heck only one respo					
				✓ Existin	ng discharge	er → SKIP to S	ection 3.	
2.2	Specify you	ur anticipated discharge date:						
N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))						
3.1			discharged if you ar	e an existing o	discharger d	or will be discha	rged if you ar	e a
		·				wastewater (de	scribe/explair	n
					,	OTCW, CT blowdo	wn, RO, sump	
3.2	_	acility use cooling water additive	/es?					
	100	P 4 180 1 1			SKIP to Se	ction 4.		
3.3	List the cod			osition.	Composi	ition of Additiv	es	
		(list)						
	See Appendix	L	S	See Appendix L				
				a balaw at aga	h of vour o	itfalls and attack	and the regul	to to
4.1			iranieters in the table	e delow at eac	il oi your ot	ilialis aliu aliaci	ied trie resur	15 10
4.2		to an requested in the table be				mation) > SKI	P to Section	5.
4.2	Frovide da	ta as requested in the table be	1 `			Average Da	ily Sou	rce
	Pa	rameter or Pollutant	Analyses	Disch	narge	Discharge	(use o	odes
								
	Biochemica	al oxygen demand (BOD₅)	' '	_			< 4 mg/L	N/A
	Total suspe	ended solids (TSS)	1 5.7	E-03 kg/day	6.97 mg/L	5.7E-03 kg/day	6.97 mg/L	N/A
	Oil and gre	ease	1 J 1.	.9E-03 kg/day	J 2.35 mg/L	J 1.9E-03 kg/day	J 2.35 mg/L	N/A
	Ammonia (as N)	1 6.4	IE-05 kg/day	0.0784 mg/L	6.4E-05 kg/day	0.0784 mg/L	N/A
	Discharge	flow	65	0.065 mgd				N/A
	pH (report	as range)	63	7.1 - 8.8 StdUn	nit			N/A
	Temperatu	re (winter)	32	18.6 degC				N/A
1		1		°				
	N 1. OUT 1.1 N 2. DIS 2.1 2.2 N 3. WA 3.1	1.1 Provide info Outfall Number 314 N 2. DISCHARGE DA 2.1 Are you a r New 2.2 Specify you N 3. WASTE TYPES 3.1 What types new dischar Res Non 3.2 Does the fa Yes 3.3 List the coor See Appendix N 4. EFFLUENT CHA 4.1 Have you of this application of the september of the septembe	N 1. OUTFALL LOCATION (40 CFR 122.21(h)(1)) 1.1 Provide information on each of the facility Outfall Number 314 White Oak Creek N 2. DISCHARGE DATE (40 CFR 122.21(h)(2)) 2.1 Are you a new or existing discharger? (Cook New discharger 2.2 Specify your anticipated discharge date: N 3. WASTE TYPES (40 CFR 122.21(h)(3)) 3.1 What types of wastes are currently being new discharger? (Check all that apply.) Sanitary wastes Restaurant or cafeteria waste Non-contact cooling water additive Yes 3.2 Does the facility use cooling water additive Yes 3.3 List the cooling water additives used and Cooling Water Additive (list) See Appendix L N 4. EFFLUENT CHARACTERISTICS (40 CFR 12 4.1 Have you completed monitoring for all pathis application package? Yes 4.2 Provide data as requested in the table be Parameter or Pollutant Biochemical oxygen demand (BODs) Total suspended solids (TSS) Oil and grease Ammonia (as N) Discharge flow pH (report as range)	NANUFACTORINS, COMMERCIAL, DISCHARGE ONL' N1. OUTFALL LOCATION (40 CFR 122.21(h)(1)) 1.1 Provide information on each of the facility's outfalls in the table Outfall Number Receiving Water Name	N1. OUTFALL LOCATION (40 CFR 122.21(h)(1)) 1.1 Provide information on each of the facility's outfalls in the table below. Outfall Number 314 White Oak Creek 35° 55′ 48.36″ 1 N2. DISCHARGE DATE (40 CFR 122.21(h)(2)) 2.1 Are you a new or existing discharger? (Check only one response.) New discharger 2.2 Specify your anticipated discharge date: N3. WASTE TYPES (40 CFR 122.21(h)(3)) 3.1 What types of wastes are currently being discharged if you are an existing new discharger? (Check all that apply.) Sanitary wastes Restaurant or cafeteria waste Non-contact cooling water additives? Non-contact cooling water additives? Yes 3.3 List the cooling water additives used and describe their composition. Cooling Water Additives ((ist) See Appendix L N4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) 4.1 Have you completed monitoring for all parameters in the table below at each this application package? Yes Nor, a waiver has been request and additives required their composition. Number of Analyses Biochemical oxygen demand (BODs) Total suspended solids (TSS) Oil and grease 1 J.1.9E-03 kg/day Provide data as requested in the table below.¹ (See instructions for specific (specific actual data reported) Massing See Appendix L Namber of Analyses Biochemical oxygen demand (BODs) Total suspended solids (TSS) Oil and grease 1 J.1.9E-03 kg/day Discharge flow Parameter or Pollutar 65 Oil 65 gd Ph (report as range) Discharge flow Ph (report as range)	N1. OUTFALL LOCATION (40 CFR 122.21(h)(1)) 1.1 Provide information on each of the facility's outfalls in the table below. Outfall Number Receiving Water Name Latitude 314 White Oak Creek 35° 55′ 48.36″ N N2. DISCHARGE DATE (40 CFR 122.21(h)(2)) 2.1 Are you a new or existing discharger? (Check only one response.) New discharger Existing discharged atte: N3. WASTE TYPES (40 CFR 122.21(h)(3)) What types of wastes are currently being discharged if you are an existing discharger new discharger? (Check all that apply.) Sanitary wastes Restaurant or cafeteria waste Non-contact cooling water additives? Non-contact cooling water additives? Yes 3.3 List the cooling water additives used and describe their composition. Cooling Water Additives (If a) See Appendix L N4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4)) Have you completed monitoring for all parameters in the table below at each of your or this application package? Yes No, a waiver has been requested from my (attach waiver request and additional inform this application package? Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (specify units) Residual data (squad data) Parameter or Pollutant Biochemical oxygen demand (BODs) Oil and grease 1 J 19E-03 kg/day 4 mg/L Discharge flow Ph (report as range) 65 0.065 mgd 7.1-8.8 StdUnit	N1. OUTFALL LOCATION (40 CFR 122.21(h)(1)) 1.1 Provide information on each of the facility's outfalls in the table below. Outfall Number Receiving Water Name Latitude Longing Water Name Latitude Latitude	N. I. OUTFALL LOCATION (40 GFR 122.21(h)(1)) 1.1 Provide information on each of the facility's outfalls in the table below. Outfall Number N. I. OUTFALL LOCATION (40 GFR 122.21(h)(1)) Provide information on each of the facility's outfalls in the table below. Latitude Longitude Longitude Longitude Longitude N. I. OUTFALL LOCATION (40 GFR 122.21(h)(1)) N. I. Outfall Receiving Water Name Latitude Longitude Longit

¹ Temperature (summer) 34 47.2 degC 47.2 degC

		tion Number	NPDES Permit Numb	er		Facility Name		Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	3 NO. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it l	be discharge	ed)?		
		Yes				✓ No 🗦	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of		m Daily	Average	-	Source
		Parame	ter or Pollutant		alyses	Disch		Disch		(Use codes
				,	ctual data ported)	(specify Mass	Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			,					
2		E. coli								
nue		Enterococci								
onti	4.5	Is chlorine used	(or will it be used)?	1				l		
Effluent Characteristics Continued		✓ Yes	(□ No -	SKIP to Ite	em 4.7.		
stic	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction					
teri					nber of		m Daily	Average	e Daily	Source
arac		Parame	ter or Pollutant	An	alyses	Disch		Disch		(use codes
Ch				,	ctual data ported)	(specify Mass	v units) Conc.	(specify	(units)	per instructions)
ent		Total Residual (Phloring	63	,	08 kg/day		< 4.6E-03 kg		,
n]#	4.7		ooling water discharged (1 4.0L-00 Kg	/day 10.00	
ш	7.7	✓ Yes	ooning water discharged (OI WIII ILL	o disoriargo		SKIP to Se	ection 5		
	4.8		requested in the table be	low 1 (Se	e instruction					
	1.0	1 10 vido data do	Toquotiou III tilo tablo bo	m Daily	Average	e Daily	Source			
		Paramo	eter or Pollutant		nber of alyses	Disch	narge	Disch	arge	(use codes
		raramo	ter of ronatant		ctual data	(specify		(specify		per instructions)
		Chamical avaga	en demand (COD)	1	ported)	Mass 26 kg/day	Conc. 32.2 mg/L	Mass 0.026 kg/da	Conc. y 32.2 i	,
			. ,	1			•	5.1E-03 kg/d	•	
OFOTIO	N.E. EL O	Total organic ca	, ,	ı	5.11	E-03 kg/day	6.26 HIG/L	5.1E-03 kg/0	Jay 0.20	mg/L N/A
SECTIO		W (40 CFR 122.2		مالنسو سو	ana any af (ومراموا مراد	a vav da a	uile a al ius Ca	otiono 1 o	and O of this
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any or t	ne discharge	es you desci	nbed in Se	ctions i a	nd 3 of this
						.	01/15 / 0			
		✓ Yes → (Complete this section.			□ No →	SKIP to Se	ection 6.		
Flow	5.2		the frequency and duration							
ヹ			cooling tower is triggered auto							
		expected to vary wi	quency varies with weather cor ith ambient temperatures and d	lemands fo	r heating and co	ooling. Freguer	ncy of groundw	and steam c ater/foundati	on discharg	e from sumps
		may vary with rainfa	all and seasonal water table flu	ctuations. F	RO intermittently	y discharges to	this outfall only	y when in use	. See Section	on 4.2 for
		flowrate.								
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		to be used).					
tem		l '	ablet feeder is used for dechlor	•	,					
Sys										
ent										
Treatment System										
Frea										

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).

EP.	A Identificat	tion Number	NPDES Permit Number	Facility Name Form Approved 03					
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004			
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))						
Other Information	7.1	reviewer should The temperature of travels over land so this location was echange in temperature. DOE captures son	lata presented for this outfall was taken direveral feet before it gets to the receiving sexpanded to measure both upstream temperature of 0 degrees C and the temperatures additional data specific to cooling tower	imitations. Attach additional sheets as needed. directly at the steam condensate discharge. However, the discharge at this last ream during stream baseflow conditions. Therefore the temperature evaluation are stream baseflow conditions. Therefore the temperature evaluation perature = 14.9 degrees or and the downstream temperature = 14.9 degree are included here all indicate these temperature values are within the permitter blowdown discharges from non-process wastewater outfalls. A summary and be found in the WQPP Report submitted annually to TDEC.					
SECTIO			ERTIFICATION STATEMENT (40						
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachn ts are required to provide attachme	nents that	ou are enclosing to alert	the permitting authority. Note that			
			Column 1		C	olumn 2			
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)			
		Section 2:	Discharge Date		w/ attachments				
		Section 3:	Waste Types	•	w/ attachments				
ent		Section 4:	Effluent Characteristics		w/ attachments				
tatem		Section 5:	Flow		w/ attachments				
tion S		Section 6:	Treatment System		w/ attachments				
rtifica		Section 7:	Other Information		w/ attachments				
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments				
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement menalty of law that this document and a system designed to assure that ed on my inquiry of the person or progathering the information, the informplete. I am aware that there are and imprisonment for knowing vitype first and last name)	t qualified persons when mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,			

FORM 2E

TN1890090003



EPA Identification Number

NPDES		CLA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER							
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))							
	1.1		ormation on each of the facility	's outfalls in the table	e below.					
ation		Outfall Number	Receiving Water Name	Latit	ude		L	ongitude	;	
Outfall Location		341	First Creek	35 ° 55 ′	27.1 "	N	84° 1	9 14.2	26" W	
Outfa										
SECTIO			ATE (40 CFR 122.21(h)(2))							
rge	2.1	l — '	new or existing discharger? (C	heck only one respor			> OKID	4- 04-	0	
Discharge Date	2.2		r discharger ur anticipated discharge date:		EXIST	ting discharge	er > SKIP	to Sectio	n 3.	
Dis	2.2	Specify you	ar articipated discriarge date.							
SECTIO			(40 CFR 122.21(h)(3))							
	3.1		of wastes are currently being	discharged if you are	e an existing	discharger o	r will be dis	scharged	if you are	a
			rger? (Check all that apply.) itary wastes		✓ Other	nonprocess	wastewater	· (describ	e/explain	
		_	taurant or cafeteria waste			tly below)		(
S			-contact cooling water		HVAC	& steam conde	nsate, steam	sump		
Тур	3.2		acility use cooling water additive	res?						
Waste Types	0.2	☐ Yes	tomey add dooming tracer address		✓ No -	SKIP to Se	ction 4.			
×	3.3	List the coo	oling water additives used and		osition.					
			Cooling Water Additive	s			tion of Ado			
			(not)			\in co	ranabio to you	/		
SECTIO			ARACTERISTICS (40 CFR 12							
	4.1		completed monitoring for all pa ation package?	rameters in the table	below at ea	ach of your ou	ıtfalls and a	ttached t	he results	s to
		''	mion package:	No; a waiver has	been reque	sted from my	NPDES pe	ermitting a	authority	
		✓ Yes		(attach waiver re			mation) 👈	SKIP to	Section 5).
	4.2	Provide da	ta as requested in the table be	Number of		ıcs.) um Daily	Average	Naily	Carre	
stics		Pai	rameter or Pollutant	Analyses		charge	Disch	-	Sour (use co	
teris		"	different of a character	(if actual data reported)	(spec	ify units) Conc.	(specify Mass	units) Conc.	per instructi	
arac		Biochemica	al oxygen demand (BOD₅)	' '	E-03 kg/day		< 5E-03 kg/da		H mg/L	N/A
t Ch		Total suspe	ended solids (TSS)	1 J 4E	-03 kg/day	J 0.7 mg/L	J 4E-03 kg/da	ay J 0.7	7 mg/L	N/A
Effluent Characteristics		Oil and gre	ase	1 < 8E	E-03 kg/day	< 1.52 mg/L	< 8E-03 kg/da	ay < 1.	52 mg/L	N/A
出		Ammonia (as N)	1 J 2E	-04 kg/day	J 0.0332 mg/L	J 2E-04 kg/da	ay J 0.0)332 mg/L	N/A
		Discharge	flow	4	0.022 mgd					N/A
		pH (report	as range)	1	8 - 8 StdUnit					N/A
		Temperatu	re (winter)	3	20.4 degC					N/A
		Temperatu	re (summer)	1	22.3 degC					N/A

Temperature (summer)

1 22.3 degC

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).

EP.	A Identifica	tion Number	NPDES Permit Number	er					Form Approved 03/05/19		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	jed (or will it l	be discharg	ed)?			
		☐ Yes				✓ No -3	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
					nber of		m Daily		e Daily	Source	
		Parame	ter or Pollutant		alyses ctual data	Disch (specifi		Disch	narge y units)	(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
70		E. coli									
Effluent Characteristics Continued		Enterococci									
Cont	4.5	Is chlorine used	(or will it be used)?								
) နာ		☐ Yes				✓ No →	SKIP to It	em 4.7.			
isti	4.6	Provide data as	Yes Provide data as requested in the table below.¹ (See instructions for specifics.) Number of Analyses (if actual data reported) Maximum Double Control								
cter				Nui	nber of	1	•	_	e Daily	Source	
ıara		Parame	ter or Pollutant					Disch	narge y units)	(use codes	
t C						$\overline{}$	Conc.	Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine								
E	4.7	Is non-contact of	ooling water discharged (or will it k	e discharge	d)?					
		☐ Yes				✓ No →	SKIP to Se	ection 5.			
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
			1	nber of	Maximu	•	Averag		Source		
		Parame	Parameter or Pollutant		alyses ctual data	Disch (specify		Disch (specif		(use codes per	
				, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)			•			•		
		Total organic ca	rbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.			
M	5.2	Briefly describe	the frequency and duration	on of flow							
Flow		Discharge from this	outfall is continuous but the flo	w rate vari	es. Steam pit s			nd steam an	d HVAC con	densate	
		discharges vary wit	th ambient temperature and hea	ating/coolin	g demand. See	Section 4.2 for	flowrate.				
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		to be used).						
sten		N/A	, , , , , ,	,	•						
Sys											
ent											
Treatment System											
Tre											

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space to reviewer should N/A	pelow to expand upon any of the al I consider in establishing permit lim	itations. <i>F</i>	attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 (low, mark the sections of Form 2E			hmitting with your application
	0.1	For each sectio	n, specify in Column 2 any attachm s are required to provide attachme	nents that		
		not an applicant	Column 1	110.	C	olumn 2
		Section 1:	Outfall Location] w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date] w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
staten		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
g Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance witi submitted. Base responsible for accurate, and c possibility of fin	tatement enalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing vic	t qualified ersons wh mation su significar	personnel properly gather no manage the system, or bmitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

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

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	MANUFACTURIN	NG, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO			ON (40 CFR 122.21(h)(1))									
	1.1	Provide informa	ation on each of the facility	's outfalls in th	e table	below.						
tion		Number R	eceiving Water Name		Latitu	ıde		L	.ongitude	!		
Outfall Location		363 Fifth	Creek	35 °	55 '	39.26 "	N	84°	18 52.1	8" W		
ıtfall												
ŏ											\neg	
SECTIO	N 2 DIS	CHARGE DATE	(40 CFR 122.21(h)(2))									
	2.1		or existing discharger? (C	heck only one	respon	se.)						
scharg Date		New disc		,	-		sting dischar	ger > SKIP	to Sectio	n 3.		
Discharge Date	2.2	Specify your ar	nticipated discharge date:									
	N3 WA	STF TYPES (40)	CFR 122.21(h)(3))									
020110	3.1	What types of v	wastes are currently being	discharged if y	ou are	an existin	g discharger	or will be di	scharged	if you are	э а	
			? (Check all that apply.)									
		—	Sanitary wastes Other nonprocess wastewater (describe/explain directly below)									
40			ant or cafeteria waste				C & steam cond	l, steam sump	CT Bdwn, i	rrigatn		
ypes			tact cooling water			_						
Waste Types	3.2	i —	y use cooling water additiv	es?	Г	¬	> 01/10 (0	<i>1</i> 1 4				
Was	3.3	100	water additives used and	describe their	compo		→ SKIP to S	ection 4.			-	
	3.5	List the cooling water additives used and describe their composition. Cooling Water Additives Composition of Additives										
		(list) See Appendix L				e Appendix		available to yo	u)			
		Oce Appendix L			36	е дрреник	L					
SECTIO	N 4. EFF	LUENT CHARA	CTERISTICS (40 CFR 12	2.21(h)(4))								
	4.1		oleted monitoring for all pa	rameters in the	e table	below at e	ach of your	outfalls and	attached t	he result	s to	
		this application	package?	No. a waiv	er has l	neen redu	ested from m	v NPDES n	ermittina :	authority		
		✓ Yes		(attach wai	ver rec	uest and a	additional info					
	4.2	Provide data as	s requested in the table be	· ` `				A	a Daile	_		
tics		D	stan an Dallastant	Number Analyse			num Daily charge	Averag Disch		Sour (use co		
teris		Parame	eter or Pollutant	(if actual da	nta	(spe	ecify units)	(specif	/ units)	per instructi	r	
arac		Biochemical ox	xygen demand (BOD₅)	reported)		Mass kg/day	Conc. 11 mg/	Mass L 0.96 kg/day	Conc.	ng/L	N/A	
, ch		Total suspende	, ,	1		kg/day	_	L 0.92 kg/day		mg/L	N/A	
Effluent Characteristics		Oil and grease	. ,	1	J 0.4	kg/day	_	L J 0.4 kg/day		ng/L	N/A	
壨		Ammonia (as N		1	0.01	9 kg/day	0.214 mg/	L 0.019 kg/da	y 0.2	14 mg/L	N/A	
		Discharge flow		74		0.094 mgd	•				N/A	
		pH (report as ra	ange)	71		7.4 - 8.9 Sto	dUnit				N/A	
	1			20		20.2 40.00					NI/A	
		Temperature (v	winter)	38		20.2 degC					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).

		tion Number	NPDES Permit Numb	er	Facility Name Oak Ridge National Laboratory				Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ry		OIVIE	110. 2040-0004		
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	oe discharge	ed)?				
		Yes				✓ No -	SKIP to Ite	em 4.5.				
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction							
					nber of	Maximu	•	Averag	-	Source		
		Parame	ter or Pollutant		alyses tual data	Disch (specif		Disch (specify		(Use codes per		
				,	oorted)	Mass	Conc.	Mass	Conc.	Instructions.)		
		Fecal coliform										
pa		E. coli										
Effluent Characteristics Continued		Enterococci										
Son	4.5	Is chlorine used	(or will it be used)?									
) sɔ		✓ Yes				□ No -2	SKIP to Ite	em 4.7.				
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction							
cte					nber of	Maximu	-	Averag	-	Source		
ıara		Parame	ter or Pollutant		alyses tual data	Disch (specif		Disch (specify		(use codes per		
t C				,	oorted)	Mass	Conc.	Mass	Conc.	instructions)		
nen		Total Residual (Chlorine	68	0.0	5 kg/day	0.5 mg/L	< 4.7E-03 kg	/day < 0.06	3 mg/L N/A		
- 5	4.7	Is non-contact c	ooling water discharged (or will it b	e discharge	d)?		•				
		✓ Yes										
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction							
					nber of	Maximu	•	Averag		Source		
		Parameter or Pollutant			alyses tual data	Disch (specify		Disch (specify		(use codes per		
					ported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)	1	11	kg/day	126 mg/L	11 kg/day	126 n	ng/L N/A		
		Total organic ca	rbon (TOC)	1	1.8	kg/day	21.2 mg/L	1.8 kg/day	21.2 r	ng/L N/A		
SECTIO	N 5. FLO	W (40 CFR 122.2	21(h)(5))									
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	are any of t	he discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this		
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.				
Flow	5.2		the frequency and duration									
ᇤ			down, steam and HVAC condery with temperature and season				inwater harves	st irrigation sy	stem discha	rges are		
			y man temperature and ecoco.	000 000								
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6)))								
٤	6.1	Briefly describe	any treatment system(s)	used (or	o be used).							
ste		Dechorination boxe maintained at Outfa	es using 92% sodium sulfite tab	lets are ins	alled in-line wi	h blowdown dis	charges. Ther	e is seconda	ry dechlorina	ation		
t Sy		maintained at Outia	ત્રા ૩૦૩.									
nen												
Treatment System												

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).

EPA Identification Number TN1890090003			NPDES Permit Number		Facility Name	Form Approved 03/05/19 OMB No. 2040-0004				
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB NO. 2040-0004				
SECTIO	N 7. OTH	ER INFORMATION	ON (40 CFR 122.21(h)(7))							
Other Information	7.1	reviewer should	pelow to expand upon any of the al I consider in establishing permit lim ne additional data specific to cooling tower as the corresponding additional data can	itations. A blowdown di	ttach additional sheets as scharges from non-process wa	s needed. stewater outfalls. A summary of this				
SECTIO	N 8. CHE	CKLIST AND CE	ERTIFICATION STATEMENT (40 (CFR 122.2	2(a) and (d))					
	8.1	In Column 1 be For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm s are required to provide attachme	that you ha	ave completed and are su you are enclosing to alert	the permitting authority. Note that				
			Column 1		C	olumn 2				
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)				
		Section 2:	Discharge Date		w/ attachments					
		Section 3:	Waste Types	•	w/ attachments					
ent		Section 4:	Effluent Characteristics		☐ w/ attachments					
tatem		Section 5:	Flow		w/ attachments					
tion S		Section 6:	Treatment System		w/ attachments					
rtifica		Section 7:	Other Information		w/ attachments					
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗌	w/ attachments					
sta	8.2	Certification S	tatement							
Checklist and Certification Statement		accordance with submitted. Base responsible for accurate, and c	enalty of law that this document and a system designed to assure that and on my inquiry of the person or pure gathering the information, the information. I am aware that there are and imprisonment for knowing vice	qualified persons whe mation sub- significant	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,				
		. "	ype first and last name)		Official title					
		Johnny O. Moore			Manager, ORNL Site Office					
		Signature			Date signed					

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

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

FORM 2E

TN1890090003



EPA Identification Number

NPDES	7	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1	Provide informa	ation on each of the facility	's outfalls in the	table	below.							
tion		Number R	Receiving Water Name	I	Latitu	ıde			Lo	ngitude	!		
Outfall Location		365 Fifth	n Creek	35 °	55 ′	41.14 "	N	84°	18	53.7	5″ W		
ttall													
ño													
			(40 CFR 122.21(h)(2))	h		\							
arge	2.1	Are you a new New dis	or existing discharger? (C	neck only one re	•		sting discha	rgor 📥	CKID t	o Soction	2 3		
Discharge Date	2.2		nticipated discharge date:		'		surig discriz	ilgei 🔻	ONIF U	0 0601101	13.		
SECTIO			CFR 122.21(h)(3))	dia ala anno differe			- Cl		ا المالة المالة				
	3.1		wastes are currently being r? (Check all that apply.)	discharged if yo	u are	an existin	ig discharge	er or will	be disc	nargea	if you are	a	
			discharger? (Check all that apply.) Sanitary wastes Other nonprocess wastewater (describe/explain										
		Restaur	ant or cafeteria waste				ctly below)	_					
bes		☐ Non-cor	Non-contact cooling water foundation drainage										
Waste Types	3.2	Does the facilit	y use cooling water additiv	/es?		_							
Vast		Yes					→ SKIP to	Section	4.				
>	3.3	List the cooling	water additives used and Cooling Water Additive		ompo	sition.	Comp	osition	of Vdd	itivos			
			(list)	5				if available		ILIVES			
CECTIO	N.A. EEE	LUENT CHADA	CTEDICTICS (40 CED 12	2 24/5\/4\\									
SECTIO	4.1		ACTERISTICS (40 CFR 12) pleted monitoring for all pa		table l	below at e	each of vou	· outfalls	and at	tached t	ne result:	s to	
		this application											
		✓ Yes		No; a waiver (attach waive								5	
	4.2	Provide data a	s requested in the table be					nonnauc	211/ 2	OINII TO	occuon	,	
છ				Number of	•		num Daily		/erage		Sour		
eristi		Param	eter or Pollutant	Analyses (if actual data			scharge ecify units)		Discha (specify ι		(use co		
racte		B: 1 : 1	1/000	reported)		Mass	Conc		ass	Conc.	instructi		
Chal			xygen demand (BOD ₅)	1	_	1 kg/day		g/L < 0.01	0 ,	< 1 r	_	N/A	
Effluent Characteristics		· · ·	ed solids (TSS)	1		1 kg/day 2 kg/day		g/L J 0.01 g/L < 0.02	• .		33 mg/L 35 mg/L	N/A N/A	
n <u>H</u>		Oil and grease		1	_	2 kg/day 4 kg/day		g/L 7E-04			36 mg/L	N/A	
		Ammonia (as N Discharge flow	,	9	7	3E-03 mgd		9, - 1, -0-	- ng/uay	0.00	,oo mg/L	N/A	
		pH (report as r		1		7.5 - 7.5 Sto						N/A	
		Temperature (<u> </u>	3		12.2 degC						N/A	
		Temperature (· · · · · · · · · · · · · · · · · · ·	1		22.3 degC						N/A	
			1	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).

EP/ TN1890090		tion Number	NPDES Permit Number	er		Facility Name ational Laborato	orv	Form Approved 03/05/19 OMB No. 2040-0004			
		la food soliform		niton, wo				04/3			
	4.3	S recal collorm	believed present, or is sa	nitary wa	-		oe discharg ▶ SKIP to It	,			
	4.4	Provide data as	requested in the table bel	ow.1 (Se	e instruction	s for specific	s.)				
		Parame	eter or Pollutant	An (if ad	nber of alyses tual data	Maximu Disch (specify		Averag Disch (specify	narge	Source (Use codes per	
		E 1 116		re	oorted)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
pen		E. coli									
ntin	4.5	Enterococci	1 (11) (1 10)								
Effluent Characteristics Continued	4.5	S chlorine used Yes	I (or will it be used)?			✓ No →	SKIP to It	em 4.7.			
istic	4.6	Provide data as	requested in the table bel	ow.1 (Se	e instruction	s for specific	s.)				
cter			·	Nur	nber of	Maximu		Averag	Source		
ara		Parame	eter or Pollutant		alyses	Disch		Disch		(use codes	
ပ ပ					tual data oorted)	(specify	Conc.	(specify Mass	Conc.	per instructions)	
rent		Total Residual	Chlorine			mass	001101	mass	001101	,	
E	4.7		cooling water discharged (or will it b	e discharge	d)?		<u> </u>			
		☐ Yes		✓ No → SKIP to Section 5.							
	4.8	Provide data as	requested in the table bel					A	D : 11		
		_		1	nber of alyses	Maximu Disch	•	Averag Disch		Source (use codes	
		Parame	eter or Pollutant		atyses ctual data	y units)	(specify		per		
				` re	ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)								
		Total organic ca	arbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.)									
	5.1		nwater water runoff, leaks, rmittent or seasonal?	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.			
Flow	5.2		the frequency and durations is intermittent. Flows tend to i			See Section 4.	2 for flowrate.				
SECTIO	N 6 TRE	I ATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		to be used)						
tem	0.1	N/A	any addanone dy dom(d)	acca (c.	io de decaj.						
Sys											
ent											
Treatment System											
Tre											

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).

EP. TN1890090		tion Number	NPDES Permit Number TN0002941	Oak Ridge	Facility Name National Laboratory	Form Approved 03/05/19 OMB No. 2040-0004
		IER INFORMATIO	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space to reviewer should N/A	pelow to expand upon any of the al I consider in establishing permit lim	nitations. A	ttach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 (low, mark the sections of Form 2E			Ibmitting with your application
	0.1	For each sectio	n, specify in Column 2 any attachmes are required to provide attachmes	nents that		
		пот ап аррпоатт	Column 1	1110.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatemo		Section 5:	Flow		w/ attachments	
ion S		Section 6:	Treatment System		w/ attachments	
tificat		Section 7:	Other Information		w/ attachments	
od Cel		Section 8:	Checklist and Certification Stateme	ent _	w/ attachments	
Checklist and Certification Statement	8.2	accordance witi submitted. Base responsible for accurate, and c possibility of fin	tatement enalty of law that this document ar h a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor omplete. I am aware that there are e and imprisonment for knowing vie	t qualified persons when mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES	7	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1	Provide informa	ation on each of the facility	's outfalls in the	table	below.							
ition		Number R	eceiving Water Name		Latitu	ıde			Lon	gitude			
Outfall Location		367 Fifth	Creek	35 °	55 ′	42.08 "	N	84°	18	54.64	" W		
ıtfall													
ŏ												\neg	
SECTIO	N 2 DIS	CHARGE DATE	(40 CFR 122.21(h)(2))										
	2.1		or existing discharger? (C	heck only one r	espon	se.)							
scharg Date		☐ New disc		,			sting dischar	ger → S	KIP to	Section	3.		
Discharge Date	2.2	Specify your ar	nticipated discharge date:					-					
	N3 WA	STF TYPES (40)	CFR 122.21(h)(3))										
020110	3.1		wastes are currently being	discharged if y	ou are	an existin	g discharge	or will b	e disch	arged it	you are	a	
			v discharger? (Check all that apply.) Sanitary wastes Other nonprocess wastewater (describe/explain										
		— '			4		er nonproces ctly below)	s wastev	vater (c	lescribe	/explain		
			ant or cafeteria waste				ng tower blowd	lown-seaso	onal				
ypes			tact cooling water			_							
Waste Types	3.2	i — '	y use cooling water additiv	res?	Г	¬	N OKIDA (
Was	3.3	100	water additives used and	describe their	omno		→ SKIP to S	section 4				-	
	3.3	List tile coolling	Cooling Water Additive		ЮПРО	SILIOI I.	Compo	sition of	Additi	ves			
		See Appendix L	(list)		90	e Appendix I		available t	o you)				
		Oce Appendix L			06	е дрреник і	L						
SECTIO	N 4. EFF	LUENT CHARA	CTERISTICS (40 CFR 12	2.21(h)(4))									
	4.1		oleted monitoring for all pa	rameters in the	table	below at e	ach of your	outfalls a	nd atta	ched th	e results	s to	
		this application	package?	No: a waive	r has l	neen reau	ested from r	nv NPDF	Sperm	nitting a	ıthority		
		✓ Yes		(attach wai	er rec	uest and a	additional inf					j.	
	4.2	Provide data as	s requested in the table be	_ `				A	D	-:l	_		
tics		D	-4	Number of Analyses			num Daily charge		rage D ischar		Sour (use co		
teris		Param	eter or Pollutant	(if actual da		(spe	ecify units)	(sp	ecify uni	ts)	per		
Effluent Characteristics		Biochemical ox	xygen demand (BOD₅)	reported)	0.42	Mass kg/day	4.5 mg	/L 0.42 kg	$\overline{}$	3.5 4.5 n		N/A	
, S		Total suspende	, ,	1	_	94 kg/day	-	/L J 0.194	-		 6 mg/L	N/A	
nen		Oil and grease	. ,	1	J 0.3	44 kg/day	J 3.66 mg	/L J 0.344	kg/day		mg/L	N/A	
Eff		Ammonia (as N		1	0.02	84 kg/day	0.302 mg	/L 0.0284	kg/day	0.302	2 mg/L	N/A	
		Discharge flow	•	9		0.166 mgd						N/A	
		pH (report as ra	ange)	7		7.9 - 8.8 Sto	dUnit					N/A	
	i .	T , ,	1.4.	7		04.2 40						NI/A	
		Temperature (\	winter)	<i>'</i>		24.3 degC						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).

EP/	A Identifica	tion Number	NPDES Permit Number					Form Approved 03/05/19			
TN1890090	0003		TN0002941		Oak Ridge	National Labora	tory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discha	arged (or will i	t be discharge	ed)?			
		Yes				✓ No	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructio	ons for specifi	cs.)				
					nber of		um Daily	Average	_	Source	
		Parame	ter or Pollutant		alyses ctual data		charge ify units)	Disch (specify		(Use codes per	
				,	ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
þa		E. coli									
Effluent Characteristics Continued		Enterococci									
Soni	4.5	Is chlorine used	(or will it be used)?				•				
) so		✓ Yes				☐ No	→ SKIP to Ite	tem 4.7.			
risti	4.6	Provide data as	ovide data as requested in the table below.1 (See instructions fo								
cte					um Daily	Average		Source			
nara		Parame	ter or Pollutant		alyses ctual data		charge ify units)	Disch (specify		(use codes per	
t C					ported)	Mass	Conc.	Mass	Conc.	instructions)	
lner		Total Residual 0	Chlorine	7	(0.5 kg/day	0.8 mg/L	< 0.09 kg/da	y < 0.16	mg/L N/A	
置	4.7	Is non-contact c	ooling water discharged (or will it b	e dischar	ged)?					
		✓ Yes					SKIP to Se	ection 5.			
	4.8	Provide data as	requested in the table be								
				1	nber of		um Daily charge	Average Disch		Source	
		Parame	ter or Pollutant		alyses ctual data		ify units)	(specify		(use codes per	
				(ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	n demand (COD)	1	3	3.43 kg/day	36.5 mg/L	3.43 kg/day	36.5 ı	mg/L N/A	
		Total organic ca	rbon (TOC)	1	1	1.34 kg/day	14.2 mg/L	1.34 kg/day	14.2 ı	mg/L N/A	
SECTIO	N 5. FLO	W (40 CFR 122.2									
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any o	of the dischar	ges you desc	ribed in Sed	ctions 1 a	nd 3 of this	
		✓ Yes → (Complete this section.			□ No•	→ SKIP to Se	ection 6.			
Flow	5.2		the frequency and duration								
正		Cooling tower blow	down is typically intermittent, tri	iggered aut	omatically by	y conductivity of	tower circulation	and based o	n cooling de	emand.	
SECTIO	N 6. TRE	ATMENT SYSTE	M (40 CFR 122.21(h)(6))								
æ	6.1	1 1	any treatment system(s)	,		,					
ste		A sodium sulfite tal	blet feeder will be used to dech	lorinate co	oling tower d	ischarges.					
t Sy											
Treatment System											
eatr											
Ļ											

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).

EP.	EPA Identification Number		NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. <u>OT</u> H	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should Multiple attempts v collected at represspecific to cooling	below to expand upon any of the all consider in establishing permit limwere made to sample a discharge from this sentative Outfall 014 since this outfall most tower blowdown discharges from non-proditional data can be found in the WQPP Re	nitations. A s outfall for the closely rese cess wastew	ttach additional sheets as e permit application. The data mbles the discharges here. DO ater outfalls. A summary of this	reported on this form for this outfall were E captures some additional data
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40			
	8.1	For each section	low, mark the sections of Form 2E on, specify in Column 2 any attachn ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	✓	w/ attachments	
nent		Section 4:	Effluent Characteristics		w/ attachments	
staten		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are the a system designed to assure that ed on my inquiry of the person or person of the person of	t qualified persons when mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES		CLA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))	DIOGINATOL GIVE	HOIII NO	200 117.011						
	1.1		ormation on each of the facility	's outfalls in the table	below.							
ation		Outfall Number	Receiving Water Name	Latit	ude		Lo	ngitude				
Outfall Location		368	Fifth Creek	35 ° 55 ′	45.25 "	N	84° 18	57.3	9" W			
Outfa												
SECTIO			ATE (40 CFR 122.21(h)(2))									
rge	2.1	I — '	new or existing discharger? (C	heck only one respor		:	- NOKIDA	- 0	- 0			
Discharge Date	2.2		r discharger ur anticipated discharge date:		EXIST	ing discharge	er > Skip t	o Sectioi	1 3.			
		. , ,										
SECTIO			(40 CFR 122.21(h)(3))									
	3.1		of wastes are currently being rger? (Check all that apply.)	discharged if you are	an existing	discharger o	or will be disc	charged	if you are	a		
			itary wastes		✓ Other	nonprocess	wastewater	(describ	e/explain			
		Rest	taurant or cafeteria waste		direct	ly below)						
sec		☐ Non-	-contact cooling water		steam	condensate and	d steam sump					
Waste Types	3.2	Does the fa	acility use cooling water additive	/es?								
aste		☐ Yes			✓ No -3	SKIP to Se	ction 4.					
>	3.3	List the coo	oling water additives used and		sition.							
			Cooling Water Additive	es .			ition of Add vailable to you)	itives				
SECTIO	N 4 EEE	LUENT CH	ADACTEDISTICS (40 CED 12	2 24/h)/4))								
SECTIO	4.1		ARACTERISTICS (40 CFR 12 completed monitoring for all page 12)		below at ea	ich of vour ou	utfalls and at	tached t	ne results	s to		
			ition package?			·						
		✓ Yes		No; a waiver has (attach waiver re								
	4.2	Provide da	ta as requested in the table be					SKIP LU	360110113).		
ပ္သ				Number of	Maxim	um Daily	Average		Sour	ce		
Effluent Characteristics		Pai	rameter or Pollutant	Analyses (if actual data		charge ify units)	Discha (specify t		(use co			
acte				reported)	Mass	Conc.	Mass	Conc.	instructi			
har			al oxygen demand (BOD₅)		94 kg/day	•	< 0.04 kg/day	< 4 r	_	N/A		
int 0			ended solids (TSS)		kg/day	•	0.4 kg/day		mg/L	N/A		
fflue		Oil and gre			2 kg/day	•	J 0.02 kg/day		2 mg/L	N/A		
ш		Ammonia (•		04 kg/day	0.0642 mg/L	7E-04 kg/day	0.06	342 mg/L	N/A		
		Discharge		2	3E-03 mgd	la:t				N/A		
		pH (report	- ,	1	7.6 - 7.6 Stdl	ווונ				N/A N/A		
		Temperatu	· ,	2	11.2 degC 17.5 degC					N/A N/A		
		₁ remperatu	re (summer)	-	17.5 dego					14/74		

Temperature (summer)

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).

EP.	A Identifica	tion Number	NPDES Permit Numb					Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	0003		TN0002941		Oak Ridge N	lational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ged (or will it	be discharg	ed)?			
		☐ Yes				✓ No =	SKIP to It	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructior						
					mber of		ım Daily	Averag		Source	
		Parame	ter or Pollutant		alyses ctual data		harge y units)	Disch (specify		(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
pa		E. coli									
Effluent Characteristics Continued		Enterococci									
Con	4.5	Is chlorine used	(or will it be used)?								
) sɔ		Yes				✓ No →	SKIP to It	Item 4.7.			
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction			-			
ıcte					nber of		ım Daily	Averag	Source		
hara		Parame	ter or Pollutant		alyses ctual data		harge iy units)	Disch (specify		(use codes per	
t Cl					ported)	Mass	Conc.	Mass	Conc.	instructions)	
luen		Total Residual (Chlorine				_				
ᄩ	4.7	Is non-contact c	ooling water discharged (or will it b	oe discharge	ed)?					
		☐ Yes		✓ No → SKIP to Section 5.							
	4.8	Provide data as	requested in the table be	elow.1 (See instructions for specifics.) Number of Maximum Daily Average Daily Source							
				1	mber of		•			Source (use codes	
		Parame	eter or Pollutant		alyses ctual data				Discharge (specify units)		
				re	ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)								
		Total organic ca	rbon (TOC)								
SECTIO		W (40 CFR 122.2									
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		l <u></u>	mittent or seasonal?			_					
		✓ Yes → (Complete this section.			□ No -	SKIP to S	ection 6.			
W	5.2	Briefly describe	the frequency and duration	on of flow	'.						
Flow			perate intermittently, and steam	condensa	te discharges	vary with ambier	nt temperature	and heating/	cooling dem	and. See	
		Section 4.2 for flow	rate.								
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		to be used).						
sten		N/A									
Sys											
ent											
Treatment System											
Tre											

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

FORM 2E

TN1890090003



EPA Identification Number

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

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

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			ON (40 CFR 122.21(h)(1))										
	1.1		ation on each of the facility	r's outfalls in th	e table	below.							
ıtion		Outfall Number	Receiving Water Name		Latitu	ıde		L	.ongitude)			
Outfall Location		383 Trib	utary to Melton Branch	35 °	54 ′	57.66 ["]	N	84°	18 8.9	92″ W			
Jutfal													
SECTIO	N 2. DIS		(40 CFR 122.21(h)(2))										
ge	2.1		or existing discharger? (C	heck only one i	-								
Discharge Date			charger			✓ Exis	sting dischar	ger → SKIP	to Section	n 3.			
Disc	2.2	Specify your a	nticipated discharge date:										
SECTIO	N 3. WA	STE TYPES (40	CFR 122.21(h)(3))										
	3.1		wastes are currently being	discharged if y	ou are	an existin	g dischargei	or will be di	scharged	if you are	еа		
			r? (Check all that apply.)		Γ.	✓ Othe	er nonproces	s wastewate	r (describ	e/explain	.		
			rant or cafeteria waste		Ľ		ctly below)	o maotomato	(4000112	or oxpicii i			
y,			ntact cooling water			HVA	C condensate,	foundation drai	nage				
Lype	3.2			10.00							$=$ \mid		
Waste Types	3.2	Yes	ty use cooling water additiv	/65?	[-	✓ No ·	→ SKIP to S	Section 4.					
Wa	3.3		water additives used and	describe their	compo		2 01111 10 0						
			Cooling Water Additive					sition of Ad					
			(list)				(11	available to yo	u)				
SECTIO			ACTERISTICS (40 CFR 12		4 1 1			45 11					
	4.1	Have you com this application	pleted monitoring for all pa	arameters in the	e table	below at e	ach of your	outfalls and a	attached 1	the result	s to		
			, packago.				ested from n						
	4.0						additional inf	ormation) 🗕	SKIP to	Section 5	5.		
	4.2	Provide data a	s requested in the table be	Number			num Daily	Averag	ο Daily	C			
tics		Daram	eter or Pollutant	Analyse			charge	Disch		Sour (use co			
teris		Faiaiii	icter of Foliatant	(if actual da reported)	nta	(spe	cify units)	(specify Mass	units)	per			
Effluent Characteristics		Biochemical o	xygen demand (BOD ₅)	1 1		9 kg/day	Conc. < 4 mg.	L < 0.09 kg/da		mg/L	N/A		
t ch			ed solids (TSS)	1		2 kg/day	•	L < 0.02 kg/da	•	57 mg/L	N/A		
nen		Oil and grease	, ,	1	< 0.0	4 kg/day	_	L < 0.04 kg/da		61 mg/L	N/A		
H		Ammonia (as I		1		-04 kg/day	< 0.017 mg	L < 5E-04 kg/c	lay < 0.	017 mg/L	N/A		
		Discharge flow	•	8		0.022 mgd	•				N/A		
		pH (report as r		1		7.7 - 7.7 Sto	lUnit				N/A		
		Temperature (winter)	3		15.7 degC					N/A		
		Temperature (summer)	1		22.9 degC					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).

	EPA Identifica TN1890090003		tion Number	NPDES Permit Number		Facility Name			Form Approved 03/05/19				
TN189	90090	0003		TN0002941		Oak Ridge N	ational Laborato	ory		OME	3 No. 2040-0004		
		4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ged (or will it	be discharg	ed)?				
			Yes				✓ No -	SKIP to It	em 4.5.				
	Ì	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)					
						mber of	1	m Daily	Averag		Source		
			Parame	ter or Pollutant		alyses ctual data	Disch (specif	narge	Disch (specif		(Use codes per		
						ported)	Mass	Conc.	Mass	Conc.	Instructions.)		
			Fecal coliform										
7	D		E. coli										
Political Continued and Proceedings	ĎUI:		Enterococci										
2	lio	4.5	Is chlorine used (or will it be used)?										
١ ،	S		Yes										
190	ISI	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction							
90	cte					mber of		m Daily	Averag		Source		
5	lara		Parame	ter or Pollutant		alyses	Disch (specif	narge	Disch	narge y units)	(use codes		
5	ב ו					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)		
	nen		Total Residual (Chlorine									
- -		4.7	Is non-contact cooling water discharged (or will it be discharged)?										
			☐ Yes										
	Ī	4.8											
			Number of Maximum Daily Average Daily Source Analyses Discharge Discharge (use codes										
			Parame	ter or Pollutant		alyses ctual data	Uisch (specif		Disch (specifi		(use codes per		
					, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)		
			Chemical oxyge	n demand (COD)			•	•		•	•		
			Total organic ca	rbon (TOC)		-	_	_					
SEC	TIOI	N 5. FLC	W (40 CFR 122.2	21(h)(5))									
		5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this		
			application inter	mittent or seasonal?									
			✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.				
i i	<u> </u>	5.2		the frequency and duration									
ū	Ē		Foundation drainag	e and HVAC condensate disch	arges are	weather depen	dent. See Section	on 4.2 for flow	ate.				
SEC	TIOI	N 6. TRE		M (40 CFR 122.21(h)(6))									
\$	6.1 Rriefly describe any treatment system(s) use				used (or	to be used).							
90	els.		N/A										
Ö	رد ۲ ا												
5	neu												
400	reatment system												
É	=												

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information N/A			below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM

TN1890090003



EPA Identification Number

2E	.0	EPA	A	pplication for I	NPDE	S Permit to	Discharge \	/Vastewate	ongitude 18' 3.51" W to Section 3. scharged if you are a r (describe/explain and drain, fire flush ditives 1) attached the results to explain authority school Schoo				
NPDES			MANUFACTURIN						CILITIES	WHICH			
CECTIO	NA OU	TEALL LOCATI	ON (40 CER 422 24/b)(4))	DISCHARGE	ONLY	NONPROC	ESS WASTI	WATER					
SECTIO	1.1		ON (40 CFR 122.21(h)(1)) nation on each of the facility	's outfalls in the	tahla	helow							
ion	1.1	Outfall	Receiving Water Name		Latitu			Lo	ngitude)			
Locat			ite Oak Creek	35 °	56 ′	24.95 "	N	84° 18	3 3.5	i1" W			
Outfall Location													
SECTIO	N 2. DIS	CHARGE DATE	E (40 CFR 122.21(h)(2))										
Discharge Date	2.1	l — '	or existing discharger? (Cl scharger	heck only one r	•		ng discharge	er → SKIP t	o Sectio	n 3.			
Disch Da	2.2	Specify your anticipated discharge date:											
	N 3. WA	STE TYPES (40	E TYPES (40 CFR 122.21(h)(3))										
	3.1	What types of	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.)										
			y wastes	Other nonprocess wastewater (describe/ex						e/explain			
		Restau	rant or cafeteria waste				y below)	AO 1 (s	alalada Ca	. 0			
pes		✓ Non-co	ntact cooling water				vn steam & HV.	AC cond, four	d drain, fire	e flush	_		
Waste Types	3.2		ty use cooling water additiv	res?		_							
Vast		✓ Yes					SKIP to Se	ction 4.					
>	3.3	List the cooling	g water additives used and Cooling Water Additive		ompo	sition.	0	tion of Ado	1:4:				
			\$				tion of Add ailable to you						
		See Appendix L	, ,		Se	See Appendix L							
SECTIO			ACTERISTICS (40 CFR 12					15 II I					
	4.1	Have you com this application		rameters in the	table	below at ead	ch of your ou	ittalis and a	ttached t	ne results	s to		
		i ''	- package.	No; a waive	r has b	oeen reques	sted from my	NPDES pe	rmitting a	authority			
	4.0							mation) →	SKIP to	Section 5	<u>. </u>		
	4.2	Provide data a	as requested in the table be	Number o			im Daily	Average	Daily	Caur			
stics		Daram	neter or Pollutant	Analyses			harge	Discha	•	(use co			
teris		i aiaii	ottor or i onutant	(if actual dat reported)	а	(specif	y units) Conc.	(specify Mass	units) Conc.	per instruction	ons)		
arac		Biochemical o	xygen demand (BOD₅)	1	< 0.2	kg/day		< 0.2 kg/day		mg/L	N/A		
Effluent Characteristics			led solids (TSS)	1	< 0.0	25 kg/day	< 0.57 mg/L	< 0.025 kg/da	y < 0.	57 mg/L	N/A		
nen		Oil and grease	, ,	1 J 0.0943 kg/day		J 2.12 mg/L	J 0.0943 kg/d	ay J 2.′	12 mg/L	N/A			
Eff		Ammonia (as		5	0.02	kg/day	0.0765 mg/L	J 0.01 kg/day	J 0.0)526 mg/L	N/A		
		Discharge flov	V	69		0.22 mgd	•				N/A		
		pH (report as	range)	66		6.8 - 8.8 StdU	nit				N/A		
		Temperature ((winter)	35		15.3 degC					N/A		
		Temperature ((summer)	34		21.9 degC					N/A		
1 Commission	aball ba as	andusted according	to sufficiently sensitive test proced	duras (i.a. mathada) appro	red under 40 C	ER 136 for the	analysis of no	lutante or r	allutant			

Temperature (summer) 34 21.9 degC 21.9 degC 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).

EPA Identific		tion Number	NPDES Permit Number		Facility Name			Form Approved 03/05/19			
TN1890090	0003		TN0002941		Oak Ridge Na	itional Laborato	ory		OME	3 No. 2040-0004	
	4.3	ls fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	be discharge	ed)?			
		Yes			[✓ No -	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instructions						
					nber of		m Daily	Average		Source	
		Parame	ter or Pollutant		alyses tual data	Disch (specif		Disch (specify		(Use codes per	
				,	oorted)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
p _o		E. coli									
Effluent Characteristics Continued		Enterococci									
oni	4.5	Is chlorine used	(or will it be used)?				•			•	
) s		✓ Yes			[□ No □	SKIP to Ite	em 4.7.			
risti	4.6	Provide data as	requested in the table be	low.1 (Se	e instructions						
ctel			nber of		m Daily	Average		Source			
ıara		Parame	ter or Pollutant		alyses	Disch (specif		Disch (specify		(use codes	
\ \tilde{5}					tual data corted)	Mass	Conc.	Mass	Conc.	per instructions)	
nen		Total Residual 0	Chlorine	62	< 0.0	04 kg/day	< 0.05 mg/L	< 0.0185 kg/	day < 0.05	mg/L N/A	
	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.)									
					nber of	Maximu	•	Average		Source	
	Parameter or Pollutant				alyses ctual data	Disch (specif	narge	Disch (specify		(use codes per	
				(ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)	1	J 0.7	765 kg/day	J 17.2 mg/L	J 0.765 kg/da	ay J 17.2	mg/L N/A	
		Total organic ca	rbon (TOC)	1	J 0.0)384 kg/day	J 0.864 mg/L	J 0.0384 kg/d	day J 0.86	34 mg/L N/A	
SECTIO	N 5. FLO	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	, are any of t	he discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes → (Complete this section.		[□ No →	SKIP to Se	ection 6.			
×	5.2	Briefly describe	the frequency and duration	on of flow							
Flow			sed intermittently, triggered by o								
			ng demand. HVAC and steam o Iso discharges occasionally to t								
		stormwater detention	on pond. A surface skimmer on								
		flowrate.									
SECTIO	N 6. TREATMENT SYSTEM (40 CFR 122.21(h)(6))										
	6.1		any treatment system(s)		to be used).				,		
sten			down is treated with 30-60% so								
Š			us all other nonprocess wastew g peak storm water flow rates, t								
ent		a portion of the sett		10.011.101	i porta provides	opportunity 101	tompolatule i		are disorial	goo ana napo	
Treatment System											
Tre											

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).

EPA Identification Number		tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should Sources of nonpropond. Water from to the retention po	below to expand upon any of the all consider in establishing permit limbosess wastewaters from industrial operation this retention pond then discharges throug nd is cooling tower blowdown. DOE captures. A summary of this monitoring, as well as	nitations. Ans flow through Outfall 435 res additiona	ttach additional sheets as gh a long open natural channel into White Oak Creek. The lar data specific to cooling tower	before entering into a large retention gest source of nonprocess wastewater blowdown discharges from non-process
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40			
	8.1	For each section	low, mark the sections of Form 2E on, specify in Column 2 any attachn ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
nent		Section 4:	Effluent Characteristics		w/ attachments	
staten		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
ırtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are the a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor- complete. I am aware that there are e and imprisonment for knowing vietype first and last name)	t qualified ersons wh mation sul significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES	7	EPA	MANUFACTURIN	G, COMMERCIAL DISCHARGE ON					CILITIES	WHICH		
SECTIO			TON (40 CFR 122.21(h)(1))									
	1.1	Provide inform	mation on each of the facility	's outfalls in the tal	ole below	V						
tion		Number	Receiving Water Name	La	itude			L	ongitude	!		
Outfall Location		436 W	hite Oak Creek	35 ° 57	10.5	5″ N		84° 1	7 42.1	2" W		
ıtfall												
õ												
OF OTIO	N.O. DIO		//0 0 /00 0/// /0)									
	N 2. DIS 2.1		E (40 CFR 122.21(h)(2)) w or existing discharger? (C	heck only one resn	onse l							
arge te	2.1		 New discharger ✓ Existing discharger → SKIP to Section 3. 									
Discharge Date	2.2		Specify your anticipated discharge date:									
	NI O 18/A	STE TYPES (40 CFR 122.21(h)(3))										
SECTIO	3. WA		f wastes are currently being	discharged if you	are an ex	ristina di	scharner o	nr will he dis	charned	if you are	a	
	0.1		er? (Check all that apply.)	alboriargod ir you t	aro arr ox	dotting di	borial gor c	i will bo alc	oriargoa	ii you are	, u	
		☐ Sanita	ry wastes					wastewater	(describ	e/explain		
		Restau	urant or cafeteria waste			directly b	discharges					
sed		☐ Non-co	ontact cooling water				discridiges					
Waste Types	3.2	Does the faci	lity use cooling water additiv	res?								
Vast		☐ Yes					KIP to Se	ction 4.				
>	3.3	List the coolir	ng water additives used and Cooling Water Additive		position.		Composi	tion of Add	litivoe			
			(list)	• 				vailable to you				
SECTIO	N/ EEE	LUENT CHAR	ACTERISTICS (40 CFR 12	2 21/h)//)\								
SECTIO	4.1		mpleted monitoring for all pa		le below	at each	of your ou	ıtfalls and a	ttached t	he results	s to	
		this application					,					
		✓ Yes		No; a waiver ha (attach waiver							;	
	4.2	Provide data	as requested in the table be					madon, 2	OIMI to	000110110	,. 	
S				Number of	M	aximum	•	Average		Sour		
eristi		Parai	meter or Pollutant	Analyses (if actual data		Discha (specify u		Disch (specify		(use co per		
Effluent Characteristics				reported)	_	ass	Conc.	Mass	Conc.	instructi		
Chai			oxygen demand (BOD ₅)		0.02 kg/da		Ū	< 0.02 kg/day		mg/L 	N/A	
ent (ded solids (TSS)				•	J 0.01 kg/day		3 mg/L	N/A	
ığ.		Oil and greas						36 mg/L	N/A			
ш		Ammonia (as N) 1 J 2E-04 kg/day J 0.0349 mg/L J 2E-04 kg/day J 0.0349 m Discharge flow 6 0.05 mgd 0.05 mgd 0.05 mgd)349 mg/L	N/A N/A			
		pH (report as range) 4 7.6 - 8.2 StdUnit								N/A		
		Temperature		5	12.4 d						N/A	
		<u> </u>	` '	2							N/A	
		Temperature (summer) 2 26.2 degC 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).

	EPA Identifica TN1890090003		tion Number	NPDES Permit Number		Facility Name			Form Approved 03/05/19			
TN189	90090	0003		TN0002941		Oak Ridge N	ational Laborato	ory		OME	3 No. 2040-0004	
		4.3	Is fecal coliform	believed present, or is sa	nitary wa	ıste discharç	ged (or will it	be discharg	ed)?			
			Yes				✓ No -	SKIP to It	em 4.5.			
	Ì	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
						nber of	1	m Daily	Averag		Source	
			Parame	ter or Pollutant		alyses ctual data	Disch (specifi		Disch (specif		(Use codes per	
						ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
			Fecal coliform									
7	D		E. coli									
Political Continued and Proceedings	ĎUI		Enterococci									
3	E	4.5	Is chlorine used (or will it be used)?									
١ ,	SS		Yes				✓ No →	SKIP to It	em 4.7.			
, i	IISI	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction						
94	cte					nber of	1	m Daily	Averag		Source	
5	ıara		Parame	ter or Pollutant		alyses ctual data	Disch (specifi		Disch	narge y units)	(use codes per	
2	5					ported)	Mass	Conc.	Mass	Conc.	instructions)	
	nen		Total Residual (Chlorine						•		
<u> </u>		4.7	Is non-contact cooling water discharged (or will it be discharged)?									
			Yes ✓ No → SKIP to Section 5.									
		4.8										
			Number of Maximum Daily Average Daily Source Analyses Discharge Discharge (use codes									
			Parame	eter or Pollutant		alyses ctual data	Ulscr (specif		Discr (specifi		(use codes per	
					, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)	
			Chemical oxyge	en demand (COD)			•			-	•	
			Total organic ca	rbon (TOC)		-						
SEC	TIOI	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
		5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
			application inter	mittent or seasonal?								
			✓ Yes →	Complete this section.			□ No →	SKIP to S	ection 6.			
i i	<u> </u>	5.2		the frequency and duration								
ū	Ē		Discharges at this of	outfall vary seasonally with the	changes in	weather. See	Section 4.2 for f	lowrate.				
SEC	TIOI	N 6. TRE		EM (40 CFR 122.21(h)(6))								
\$	6.1 Rriefly describe any treatment system(s) use					to be used).						
90	els.		N/A									
Ö	رد ۲ ا											
5	neu											
Troopmont Custom	eati											
É	=											

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information N/A			below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name Form Approved 03/05/19
TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

FORM 2E NPDES

TN1890090003



EPA Identification Number

	/ASTEWATER										
SECTION 1. OUTFALL LOCATION (40 CFR 122.21(h)(1))											
1.1 Provide information on each of the facility's outfalls in the table below.											
Outfall Number Receiving Water Name Latitude	Longitude										
Number Receiving Water Name Latitude 437 White Oak Creek 35 ° 56 ′ 51.09 ″ N	84° 18′ 15.59″ W										
Ontil On the control of the control											
SECTION 2. DISCHARGE DATE (40 CFR 122.21(h)(2))											
2.1 Are you a new or existing discharger? (Check only one response.)											
± 0	harger → SKIP to Section 3.										
2.2 Specify your anticipated discharge date:	Specify your anticipated discharge date:										
SECTION 3. WASTE TYPES (40 CFR 122.21(h)(3))											
3.1 What types of wastes are currently being discharged if you are an existing discharged	rger or will be discharged if you are a										
new discharger? (Check all that apply.)	* '										
directly helps	` ' '										
CT Blwn steam	& HVAC cond, found drain, fire flush										
Non-contact cooling water											
Non-contact cooling water 3.2 Does the facility use cooling water additives? ✓ Yes No → SKIP											
Yes □ No → SKIP	to Section 4.										
5.5 List the cooling water additives used and describe their composition.	nposition of Additives										
(list)	(if available to you)										
See Appendix L See Appendix L											
SECTION 4. EFFLUENT CHARACTERISTICS (40 CFR 122.21(h)(4))	our outfalls and attached the recults to										
4.1 Have you completed monitoring for all parameters in the table below at each of you this application package?											
No; a waiver has been requested from											
4.2 Provide data as requested in the table below.1 (See instructions for specifics.)	I information) → SKIP to Section 5.										
N. J. C. Marrimone Dell	ly Average Daily Source										
Parameter or Pollutant Analyses Discharge	Discharge (use codes										
(if actual data (specify units) reported) Mass Cor	(specify units) per instructions)										
Biochemical oxygen demand (BOD ₅) 1 < 0.2 kg/day < 4	mg/L < 0.2 kg/day < 4 mg/L N/A										
Parameter or Pollutant Parame	mg/L < 0.025 kg/day < 0.57 mg/L N/A										
Oil and grease 1 J 0.0943 kg/day J 2.12	2 mg/L J 0.0943 kg/day J 2.12 mg/L N/A										
Ammonia (as N) 5 0.02 kg/day 0.0765	mg/L J 0.01 kg/day J 0.0526 mg/L N/A										
Discharge flow 69 0.22 mgd	N/A										
pH (report as range) 66 6.8 - 8.8 StdUnit	N/A										
Temperature (winter) 35 15.3 degC	N/A										
Temperature (summer) 34 21.9 degC	N/A										

¹ Temperature (summer) 34 21.9 degC 21.9 degC

EP.	EPA Identification Number		NPDES Permit Numb	er	Facility Name			Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborat	ory		OME	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ed (or will it	be discharge	ed)?		
		☐ Yes		,	-		SKIP to Ite	,		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	cs.)			
					nber of		ım Daily	Averag	e Daily	Source
		Parame	ter or Pollutant	An	alyses		harge	Disch	narge	(Use codes
		raramo	tor or ronatant	,	ctual data		fy units)	(specify		per Instructions.)
		Fecal coliform		re	ported)	Mass	Conc.	Mass	Conc.	ITISTI UCTIONS.)
_										
Effluent Characteristics Continued		E. coli								
l ţi.	4.5	Enterococci	(
ទី	4.5	l	(or will it be used)?							
Si		✓ Yes					SKIP to It	em 4./.		
rist	4.6	Provide data as	requested in the table be	T ,					D. ''	I
acte					nber of	Maximum Daily Discharge		Averag		Source
har		Parame	ter or Pollutant		alyses ctual data		fy units)	Disch (specify		(use codes per
고 당					ported)	Mass	Conc.	Mass	Conc.	instructions)
nen		Total Residual (Chlorine	62	< 0.	04 kg/day	< 0.05 mg/L	< 0.0185 kg/	day < 0.05	mg/L N/A
置	4.7	Is non-contact c	ooling water discharged (or will it k	e discharge	d)?	•			•
		✓ Yes				□ No →	SKIP to Se	ection 5.		
	4.8									
				Nui	mber of		ım Daily	Averag		Source
		Parame	ter or Pollutant		alyses		harge	Disch		(use codes
					ctual data ported)	Mass	fy units) Conc.	(specify	Conc.	per instructions)
		Chemical oxyge	n demand (COD)	1	, ,	765 kg/day	J 17.2 mg/L			2 mg/L N/A
		Total organic ca	· ,	1		0384 kg/day	J 0.864 mg/L	1	•	•
SECTIO	N S ELC	W (40 CFR 122.2			0 0.	' Rgraay		o oroco i kg	i o o o o o	
SECTIO	5.1	<u> </u>	nwater water runoff, leaks	or spills	are any of	the dischard	es vou desc	rihed in Se	ctions 1 a	and 3 of this
	0.1		mittent or seasonal?	, or opino	, are arry or	aro alooriary	oo you dooo	11000 111 00	otionio i d	
		l <u></u>				□ No 3	SKIP to Se	action 6		
			Complete this section.			□ No -	> SKIP 10 S	ection 6.		
Flow	5.2		the frequency and duration							
正			narge, which can vary in volume v for this detention basin, that n							
			only occur during an extreme p							
			(and north of Outfall 435). Duri							
		the Outfall 435 pipe and over the Outfall 437 spillway would be significantly diluted by storm water runoff. See Section 4.2 for flowrate.								ate.
SECTIO	N 6. TRE	TREATMENT SYSTEM (40 CFR 122.21(h)(6))								
6.1 Briefly describe any treatment system(s) used (or to be used).										
tem	•	1 '	408 (30-60% Sodium Bisulfite)	•	,	er blowdown di	scharge point.	The storm wa	ater detentio	on basin
Sys		reduces peak storn	n water flow rates, and provides	s moderatio	n of temperatu	re of cooling to	wer blowdown	and surface r	unoff. The b	oasin also traps
nt (ble solids and the pollutants ass e spillway only during very large							
Treatment System		discrininged over the	s spiliway offiny duffing very large	o otorrilo. L	runnig tillose ev	onto nonproces	oo wasicwaidis	are significa	iny unuted t	oy storriwater.
rea										
-										

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).

EPA Identification Number FN1890090003		tion Number	NPDES Permit Number		, and the second	Form Approved 03/05/19
TN1890090	0003		Oak Ridge National Laboratory OMB No. 2 OA Ridge National Laboratory OA Ridge National Space to provide any information you belic consider in extending or in the past when dewatering was performed in association with maintenance activities. The did to the discharge is the same as that discharged to Outfall 435. Therefore, the estimated pollutant concentrations, fice reported on this form are from sampling conducted at Outfall 435. During wet weather events, any nonprocess waste ited by stormwater. RTIFICATION STATEMENT (40 CFR 122.22(a) and (d)) OA, mark the sections of Form 2E that you have completed and are submitting with your application, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. No same required to provide attachments. Column 1 Column 2 Outfall Location			
SECTIO	N 7. OTH	ER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should Outfall 437 is the of discharged throug exceeded by heav weather componer rates, and loadings	I consider in establishing permit lime concrete emergency spillway for the west s in the Outfall 435 pipe. Discharges through y storm water loading or in the past when on the of the discharge is the same as that disc	itations. A torm water d Outfall 437 o dewatering w harged to Ou	ttach additional sheets as etention pond. This outfall is ar only occur when the capacity of as performed in association wi utfall 435. Therefore, the estim	n overflow for waters normally the normal outlet (Outfall 435) is th maintenance activities. The dry- ated pollutant concentrations, flow
SECTIO	N 8. CHE	CKLIST AND CE	ERTIFICATION STATEMENT (40 (CFR 122.2	2(a) and (d))	
	8.1	For each sectio	n, specify in Column 2 any attachm is are required to provide attachme	nents that y	ou are enclosing to alert	the permitting authority. Note that
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	✓	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗌	w/ attachments	
ista	8.2	Certification S	tatement			
Checklist and Certification Statement		accordance with submitted. Base responsible for accurate, and c possibility of fin	h a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor omplete. I am aware that there are e and imprisonment for knowing vice	qualified persons whe mation sub- significant	personnel properly gather o manage the system, or omitted is, to the best of n t penalties for submitting	and evaluate the information those persons directly ny knowledge and belief, true,
		. "	type first and last name)			
		Johnny O. Moore			Manager, ORNL Site Office	
		Signature			Date signed	

FORM 2E

TN1890090003



EPA Identification Number

NPDES		CLA	MANUFACTURIN	G, COMMERCIAL, N				CILITIES	WHICH			
SECTIO	N 1. OU	FALL LOC	ATION (40 CFR 122.21(h)(1))									
	1.1	Provide infe	ormation on each of the facility	s outfalls in the table	below.							
ation		Outfall Number	Receiving Water Name	Latit	ude		L	ongitude				
Outfall Location		443	First Creek	35 ° 55 ′	25.87 N		84° 1	9 13.2	6" W			
Outfa												
			ATE (40 CFR 122.21(h)(2))									
ırge	2.1	l — '	new or existing discharger? (Cl / discharger	neck only one respor		a disabara	v - CVID	to Continu	. 2			
Discharge Date	2.2		ur anticipated discharge date:		EXISUIT	g discharge	J SKIP	to section	13.			
Ö	2.2	Opecity you										
SECTIO		TE TYPES (40 CFR 122.21(h)(3))										
	3.1		of wastes are currently being	discharged if you are	an existing d	lischarger o	r will be dis	scharged	f you are	a		
new discharger? (Check all that apply.) ☐ Sanitary wastes ☐ Other nonprocess wastewater (describe/expla												
			taurant or cafeteria waste	directly below)								
ý			-contact cooling water		steam pi	it sump and st	eam condens	ate				
Гуре	3.2			100°						$=$ \mid		
Waste Types	3.2	Yes	acility use cooling water additiv		✓ No →	SKIP to Se	ction 4					
Wa	3.3		oling water additives used and		110 2	OMI TO OC	Cuon 4.			\dashv		
	0.0	2.50 0.15 050	Cooling Water Additive				tion of Add					
			(list)			(if av	/ailable to you)				
SECTIO	N 4. EFF	LUENT CHA	ARACTERISTICS (40 CFR 12	2.21(h)(4))								
0_00	4.1		completed monitoring for all pa		below at each	n of your ou	ıtfalls and a	ttached t	ne results	s to		
		this applica	ation package?						4 1			
		✓ Yes		No; a waiver has (attach waiver red						,		
	4.2	Provide da	ta as requested in the table be				madon, 2	OIIII to	20000110			
S				Number of	Maximur	-	Average	-	Sour			
Effluent Characteristics		Pa	rameter or Pollutant	Analyses (if actual data	Disch (specify		Disch (specify		(use co per			
acte				reported)	Mass	Conc.	Mass	Conc.	instructi			
Char			al oxygen demand (BOD₅)		-03 kg/day	•	< 2E-03 kg/da	•	_	N/A		
ent (—— <u> </u>	ended solids (TSS)	-	-04 kg/day	-	< 6E-04 kg/da	-	14 mg/L	N/A		
fflue		Oil and gre			-03 kg/day	•	J 2E-03 kg/da	•	8 mg/L	N/A		
Ш	- Variational (do 14)					/ 0.11	l mg/L	N/A				
		Discharge		3	3.6E-04 mgd	4				N/A		
		pH (report			7.5 - 7.5 StdUni	ı				N/A		
		Temperatu	, ,	2	94.1 degC					N/A N/A		
Temperature (summer) 3 99.5 degC								ı	IN/A			

Temperature (summer)

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).

EPA Identifica		tion Number	NPDES Permit Number	er		Facility Name		Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ry		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it b	oe discharge	ed)?			
		☐ Yes			[✓ No →	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	ow.1 (Se	e instructions						
					nber of	Maximu	•	Averag		Source	
		Parame	ter or Pollutant		alyses tual data	Disch (specify		Disch (specify		(Use codes per	
					oorted)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
- D		E. coli									
Effluent Characteristics Continued		Enterococci									
ont	4.5	Is chlorine used	(or will it be used)?								
) နာ		☐ Yes	 Yes No → SKI Provide data as requested in the table below.¹ (See instructions for specifics.) 								
isti	4.6	Provide data as	requested in the table be	low.1 (Se	e instructions	s for specific	s.)				
cte					nber of	Maximu		Averag		Source	
ara		Parame	ter or Pollutant		alyses	Disch (specify		Disch		(use codes	
<u>ည်</u>					tual data oorted)	Mass	Conc.	(specify Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine				001101		001101	,	
E E	4.7	Is non-contact cooling water discharged (or will it be discharged)?									
	4.8	Provide data as	requested in the table be	low.1 (Se	e instructions						
				1	nber of	Maximu	•	Averag		Source	
		Parameter or Pollutant			alyses tual data	Disch (specify		Disch (specify		(use codes per	
				, , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)		,				•		
		Total organic ca	rbon (TOC)						_		
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	are any of t	he discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes → (Complete this section.		[□ No →	SKIP to Se	ection 6.			
Flow	5.2		the frequency and duration								
Ě			is outfall are intermittent. The s			eam condenda	te and sump d	ischarge fron	n a steam p	t, which are	
		expected to vary wi	ith weather conditions. See Sec	311011 4.2 101	nowrate.						
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		o be used).						
ten		N/A			•						
Sys											
ent											
Treatment System											
Tre											

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).

EPA Identification Number			NPDES Permit Number		Facility Name	Form Approved 03/05/19							
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004							
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))										
Other Information	7.1	Multiple attempts vicilities at repressivas taken directly receiving stream dupstream tempera	pelow to expand upon any of the all consider in establishing permit limit were made to sample the discharge for this sentative Outfall 243, since this outfall most at the steam condensate discharge. Howe luring stream baseflow conditions. Therefor ture = 10.7 degrees C and the downstream included here all indicate these temperature.	nitations. As outfall for the t closely reserver, the discrete temperature.	ttach additional sheets as e permit application. The data is mbles discharges here. The te harge at this location travels over a ture evaluation at this location of a 10.7 degrees C. This changes	reported on this form for this outfall were mperature data presented for this outfall rer land several feet before it gets to the n was expanded to measure both							
SECTIO		CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))											
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachm ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that							
			Column 1		С	olumn 2							
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)							
		Section 2:	Discharge Date		w/ attachments								
		Section 3:	Waste Types		w/ attachments								
ent		Section 4:	Effluent Characteristics		w/ attachments								
tatem		Section 5:	Flow		☐ w/ attachments								
tion S		Section 6:	Treatment System		w/ attachments								
rtifica		Section 7:	Other Information		w/ attachments								
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments								
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the informplete. I am aware that there are e and imprisonment for knowing victype first and last name)	t qualified ersons wh mation sul significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,							

FORM 2E

TN1890090003



EPA Identification Number

NPDES		EPA	DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO			ON (40 CFR 122.21(h)(1))									
	1.1	Provide inform Outfall	ation on each of the facility	r's outfalls in the	table	below.						
tion		Number F	Receiving Water Name		Latitu	ıde			Longitue	de		
Outfall Location		447 Firs	t Creek	35 °	55 ′	29.81 "	N	84°	19 1	6.46″ W	,	
ttall											$\overline{}$	
ño												
			(40 CFR 122.21(h)(2))	haali anki ana n		\						
arge	2.1		or existing discharger? (C scharger	neck only one r			sting discha	rger 📤 SK	IP to Sect	ion 3		
Discharge Date	2.2		nticipated discharge date:			LAK	surig discria	igei 🗾 Oil	11 10 000	1011 0.		
		, ,,										
SECTIO	N 3. WA 3.1		CFR 122.21(h)(3)) wastes are currently being	discharged if v	ou oro	an aviatin	a disabara	r or will bo	diaaharaa	d if you o	roo	
	3.1		r? (Check all that apply.)	uiscriargeu ir y	Ju ale	an existii	ig discriarge	i oi wiii be	uiscriarge	u ii you a	le a	
			y wastes		Į.		er nonproce	ss wastewa	ater (descr	ibe/expla	in	
		Restaur	rant or cafeteria waste				otly below) m pit sump ar	d steam cond	lensate			
sed		☐ Non-cor	ntact cooling water				in pit sump ai	d Steam Conc	icrisate			
Waste Types	3.2	Does the facilit	ty use cooling water additiv	/es?		_						
Nast		Yes					→ SKIP to	Section 4.				
	3.3	List the cooling	water additives used and Cooling Water Additive		ompo	sition.	Comp	osition of /	Additives			
			(list)					if available to				
SECTIO	N 4. EFF	LUENT CHARA	ACTERISTICS (40 CFR 12	2.21(h)(4))								
	4.1	Have you com	pleted monitoring for all pa		table	below at e	ach of your	outfalls an	d attached	the resu	Its to	
		this application	n package?	No; a waive	r boo l	ooon rogu	antad from	mi NDDEC	normittin	a outhorit	.,	
		✓ Yes		(attach waiv								
	4.2	Provide data a	as requested in the table be	1 `								
S		_		Number of Analyses			num Daily charge		age Daily charge		urce codes	
teris		Param	eter or Pollutant	(if actual dat		(spe	ecify units)	(spe	cify units)	`p	er	
Effluent Characteristics		Riochemical o	xygen demand (BOD₅)	reported)	< 0.0	Mass 5 kg/day	Conc. < 1 mg	Mass g/L < 0.05 kg/		1 mg/L	ctions) N/A	
- S			ed solids (TSS)	1	_	g/day		g/L 0.1 kg/da	•	.63 mg/L	N/A	
nen		Oil and grease	, ,	1		9 kg/day		g/L < 0.09 kg/		1.61 mg/L	N/A	
量		Ammonia (as I	N)	1	J 2E-	03 kg/day	J 0.0456 m	g/L J 2E-03 k	g/day J	- 0.0456 mg/	L N/A	
		Discharge flow	V	2		0.01 mgd					N/A	
		pH (report as r	range)	1		7.6 - 7.6 Sto	dUnit				N/A	
		Temperature (winter)	2		89.4 degC					N/A	
		Temperature (summer)	2		96.1 degC					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).

EP.	A Identifica	ation Number	NPDES Permit Number		Facility Name			Form Approved 03/05/19 OMB No. 2040-0004			
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	initary wa	ste discharg	ged (or will it l	be discharg	ed)?			
		☐ Yes				✓ No -	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
					mber of	1	m Daily		e Daily	Source	
		Parame	ter or Pollutant		alyses ctual data	Disch (specif	narge	Disch	narge y units)	(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
70		E. coli									
Effluent Characteristics Continued		Enterococci									
ont	4.5	Is chlorine used	(or will it be used)?								
၂		☐ Yes ✓ No → SKIP to									
isti	4.6	Provide data as	requested in the table be								
cter				m Daily	_	e Daily	Source				
lara		Parame	ter or Pollutant		alyses	Disch (specifi	narge	Disch	narge y units)	(use codes	
5					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)	
nen		Total Residual (Chlorine								
置	4.7	Is non-contact of	s 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 be	low.1 (Se	e instruction	s for specific	s.)				
				1	mber of	Maximu	•	Averag		Source	
		Parameter or Pollutant			alyses ctual data	Disch (specify		Disch (specif		(use codes per	
					ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	en demand (COD)			•	•			•	
		Total organic ca	rbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.			
×	5.2	Briefly describe	the frequency and duration	on of flow	'.						
Flow		Discharges from th	is outfall are intermittent. The s	sources of	discharge are s	team condenda	te and sump d	lischarge fror	n a steam p	it, which are	
		expected to vary w	ith weather conditions. See Sec	ction 4.2 fo	flowrate.						
SECTIO	N 6. TRE	REATMENT SYSTEM (40 CFR 122.21(h)(6))									
	6.1		any treatment system(s)		to be used).						
ten		N/A	, , , , ,	,	,						
Sys											
ent											
Treatment System											
Tre											

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).

EPA Identification Number			NPDES Permit Number		Facility Name	Form Approved 03/05/19						
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004						
SECTIO	N 7. <u>OT</u> H	IER INFORMATI	ON (40 CFR 122.21(h)(7))									
Other Information	7.1	reviewer should The temperature of travels over land s this location was e	below to expand upon any of the all consider in establishing permit limited to consider in establishing permit limited that presented for this outfall was taken directly everal feet before it gets to the receiving support to measure both upstream temperature of 0.1 degrees C and the temperature	nitations. A rectly at the s tream during erature = 8.7	ttach additional sheets as team condensate discharge. H stream baseflow conditions. TI degrees C and the downstrean	s needed. owever, the discharge at this location herefore the temperature evaluation at h temperature = 8.8 degrees C. This						
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	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		С	olumn 2						
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)						
		Section 2:	Discharge Date		w/ attachments							
		Section 3:	Waste Types		w/ attachments							
ent		Section 4:	Effluent Characteristics		w/ attachments							
staten		Section 5:	Flow		w/ attachments							
tion S		Section 6:	Treatment System		w/ attachments							
rtifica		Section 7:	Other Information		w/ attachments							
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments							
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement nenalty of law that this document are the a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor- complete. I am aware that there are e and imprisonment for knowing vic- type first and last name)	t qualified persons when mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,						

NPDES Permit Number Facility Name
TN0002941 Oak Ridge National Laboratory

FORM 2E NPDES

TN1890090003



EPA Identification Number

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

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

2E NPDES	9	EPA	MANUFACTURIN	G, COMMERCIAL, DISCHARGE ONL				S WHICH				
SECTIO	N 1. OU		TION (40 CFR 122.21(h)(1))									
	1.1		rmation on each of the facility	's outfalls in the tab	le below.							
ation		Outfall Number	Receiving Water Name	Lati	tude		Longitu	de				
Outfall Location		481	Tributary to Melton Branch	35 ° 55	6.61	N	84° 18′	9.42" W				
Outf												
SECTIO	N 2. DIS		TE (40 CFR 122.21(h)(2))									
ge	2.1	'	ew or existing discharger? (C	heck only one respo								
Discharge Date			discharger		✓ Exist	ing discharge	er → SKIP to Sect	tion 3.				
Disc	2.2	Specify you	r anticipated discharge date:									
SECTIO	N 3. WA	STE TYPES ((40 CFR 122.21(h)(3))									
	3.1	What types	of wastes are currently being	discharged if you a	re an existing	discharger o	or will be discharge	ed if you are a				
			rger? (Check all that apply.)		O4b			de a faccada in				
			Sanitary wastes ✓ Other nonprocess wastewater (describe/explain directly below)									
			aurant or cafeteria waste			ng tower blowdo	wn					
/bes			contact cooling water									
Waste Types	3.2	i —	cility use cooling water additiv	/es?								
Vast		✓ Yes				SKIP to Se	ction 4.					
_	3.3	List the cool	ling water additives used and Cooling Water Additive		osition.	Compos	ition of Additives					
			(list)				vailable to you)					
		See Appendix L	L	Ş	See Appendix L							
SECTIO			RACTERISTICS (40 CFR 12			-h -f	ttelle end etteche	l the area with the				
	4.1		ompleted monitoring for all pa tion package?	irameters in the tabl	e below at ea	acn of your of	uttalis and attached	the results to				
		✓ Yes	non paonago.	No; a waiver ha	s been reque	sted from my	NPDES permitting	g authority				
	4.0						mation) → SKIP t	o Section 5.				
	4.2	Provide data	a as requested in the table be	Number of		um Daily	Average Daily	Source				
stics		Par	ameter or Pollutant	Analyses		harge	Discharge	(use codes				
teri			amotor of a onatant	(if actual data reported)	(spec	ify units) Conc.	(specify units) Mass Conc	per instructions)				
arac		Biochemica	l oxygen demand (BOD₅)	' '	12 kg/day	+	 	.5 mg/L N/A				
Effluent Characteristics			ended solids (TSS)		.194 kg/day	•	1	2.06 mg/L N/A				
nen		Oil and grea	, ,	1 J 0	.344 kg/day	_		3.66 mg/L N/A				
E		Ammonia (a		1 0.0	0284 kg/day	0.302 mg/L	0.0284 kg/day 0	0.302 mg/L N/A				
		Discharge f	low	9	0.166 mgd	•		N/A				
		pH (report a		7	7.9 - 8.8 Stdl	Jnit		N/A				
		Temperatur		7	24.3 degC			N/A				
		Temperatur	e (summer)	2	28.7 degC			N/A				
1 Compling	aball ba a	andusted asserdi	ing to sufficiently sensitive test proce	durae (i.a. mathada) ann	royad undar 40	CED 136 for tho	analysis of pollutants	r pollutopt				

Temperature (summer)

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).

		tion Number	NPDES Permit Numb	er	Facility Name Oak Ridge National Laboratory			Form Approved 03/05/19 OMB No. 2040-0004		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	NU. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	anitary wa	ste discharg	jed (or will it l	be discharge	ed)?		
		Yes				✓ No →	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of	1	m Daily	Average	-	Source
		Parame	ter or Pollutant		alyses	Disch		Disch		(Use codes
				,	ctual data ported)	(specify Mass	Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			,	mass			001101	,
ъ		E. coli								
nue		Enterococci								
onti	4.5		(or will it be used)?							
Effluent Characteristics Continued		✓ Yes	(6. 1			□ No →	em 4.7.			
istic	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
ter			<u> </u>	Nur	nber of	Maximu	m Daily	Average	e Daily	Source
ara		Parame	ter or Pollutant		alyses	Disch		Disch		(use codes
ပ ်				,	ctual data ported)	(specify	Conc.	(specify	Conc.	per instructions)
lent		Total Residual (Chlorine	7		kg/day		< 0.09 kg/da		,
1	4.7		ooling water discharged (or will it b		<u>. </u>		1		
		✓ Yes	John 19 Traces also has god (SKIP to Se	ection 5.		
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
			<u> </u>	Nui	nber of	Maximu	•	Average		Source
		Parameter or Pollutant			alyses	Disch		Disch		(use codes
					ctual data ported)	(specify	Conc.	(specify	Conc.	per instructions)
		Chemical oxyge	n demand (COD)	1	,	3 kg/day	36.5 mg/L	3.43 kg/day	36.5 r	mg/L N/A
		Total organic ca	· , ,	1		4 kg/day	14.2 mg/L	1.34 kg/day	14.2 r	
SECTIO	N 5 FLC	W (40 CFR 122.2	, ,			. ,				
020110	5.1		nwater water runoff, leaks	. or spills	are any of t	the discharge	es vou desci	ribed in Sed	ctions 1 a	nd 3 of this
			mittent or seasonal?	,	,		,			
		✓ Yes → (Complete this section.			□ No →	SKIP to Se	ection 6.		
			·	£ £						
Flow	5.2		the frequency and duration the frequency and duration of the frequency and the frequ			n varies with we	ather condition	s and other in	offuences or	n cooling
			ng tower is not currently discha							
SECTIO			M (40 CFR 122.21(h)(6))							
Ε	6.1	, ,	any treatment system(s)	•	,					
/ste			blowdown discharge was previo e) would be utlized to reduce re							
ıt Sı			e to the outfall pipe and does no			IC IO ICSS IONIC I	oillis. The tabl	et leedel is ct	inentity flot	mamtamed
nen			•	-						
Treatment System										
Ė										

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19			
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004			
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))						
Other Information	7.1	reviewer should The cooling tower tower blows down repaired as resou	below to expand upon any of the a d consider in establishing permit lir blowdown was originally piped to a catch , slowly draining from the catch basin to the roes allow. Flow was not found at this outf Dutfall 014 since this outfall most closely research	mitations. A basin leading ne subsurface fall due to pipe	ttach additional sheets as to Outfall 481. Currently, wate since there is damage to the o damage. The data reported or	r backs up in the storm grate when the utfall pipe. This pipe is scheduled to be			
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40						
	8.1	For each section	low, mark the sections of Form 2E on, specify in Column 2 any attach ts are required to provide attachm	ments that	ou are enclosing to alert	the permitting authority. Note that			
			Column 1		С	olumn 2			
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)			
		Section 2:	Discharge Date		w/ attachments				
		Section 3:	Waste Types	•	w/ attachments				
nent		Section 4:	Effluent Characteristics		w/ attachments				
Staten		Section 5:	Flow		☐ w/ attachments				
ation (Section 6:	Treatment System		w/ attachments				
ırtifica		Section 7:	Other Information		w/ attachments				
o pe		✓ Section 8:	Checklist and Certification Statem	nent	w/ attachments				
Checklist and Certification Statement	8.2	accordance wit submitted. Bas responsible for accurate, and o possibility of fir Name (print or		at qualified persons who rmation sul e significan	personnel properly gather o manage the system, or omitted is, to the best of not t penalties for submitting Official title	those persons directly ny knowledge and belief, true,			
		Johnny O. Moore			Manager, ORNL Site Office				
		Signature			Date signed				

NPDES Permit Number Facility Name TN0002941 Oak Ridge National Laboratory

FORM 2E

TN1890090003



EPA Identification Number

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

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

NPDES		ZEFA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))	Diodily at OE of		OTH ITO	0200 117 101	ZVV/ CIC			
	1.1		ormation on each of the facility	r's outfalls in the ta	able b	elow.					
ation		Outfall Number	Receiving Water Name	La	atitud	е		L	ongitude)	
Outfall Location		482	Tributary to Melton Branch	35 ° 5	5 ′	8.26 "	N	84° 1	8 11.8	86" W	
Outfa											
			TE (40 CFR 122.21(h)(2))	haali anki ana nasi							
arge e	2.1	I '	ew or existing discharger? (C discharger	neck only one resp	oons∈ ✓		ting discharg	or 📤 CKID	to Sootio	n 2	
Discharge Date	2.2		r anticipated discharge date:			□ EXIS	sung discriarg	er 7 SKIP	io secilo	11 3.	
Dis	2.2	opecity you	ii anticipated discharge date.								
SECTIO	N 3. WA		(40 CFR 122.21(h)(3))								
	3.1		of wastes are currently being	discharged if you	are a	n existin	g discharger	or will be dis	charged	if you are	e a
			rger? (Check all that apply.) tary wastes		✓	Othe	r nonprocess	: wastewater	· (describ	e <i>l</i> explain	1
		_	aurant or cafeteria waste		V		tly below)	wastowato	(dosonb	оголріан	'
ဟ						HVA	C & steam cond	en, steam sum	p, foundati	on drain	
уре	0.0		contact cooling water								
Waste Types	3.2	Does the fa	cility use cooling water additive	/es ⁻ ?	✓	No -	→ SKIP to Se	action 1			
Was	3.3		ling water additives used and	describe their con			7 SKIP W S	3CIIOI1 4.			
	0.0	List ti io occ	Cooling Water Additive		10001		Compos	ition of Add	ditives		
			(list)				(if a	available to you)		
SECTIO	NA EEG	LUENT CHA	RACTERISTICS (40 CFR 12	2 24/6)/4))							
SECTIO	4. EFF		ompleted monitoring for all pa		ble be	elow at e	ach of vour o	utfalls and a	ttached t	he result	s to
			tion package?								
		✓ Yes		No; a waiver h							_
	4.2	Provide dat	a as requested in the table be	(attach waiver				rmation) >	SKIP to	Section	D.
ဟု				Number of			num Daily	Average	Daily	Sour	ce
istic		Par	ameter or Pollutant	Analyses			charge	Disch		(use co	
cter				(if actual data reported)		Mass	cify units) Conc.	(specify Mass	Conc.	per instructi	
hara		Biochemica	al oxygen demand (BOD₅)	1 <	0.04	kg/day	< 4 mg/l	. < 0.04 kg/day	< 4	mg/L	N/A
ıt C		Total suspe	ended solids (TSS)	1	0.9 kg/	'day	86.9 mg/l	0.9 kg/day	86.	9 mg/L	N/A
Effluent Characteristics		Oil and grea	ase	1 <	0.02	kg/day	< 1.61 mg/l	. < 0.02 kg/day	< 1.	61 mg/L	N/A
置		Ammonia (a	as N)	1	7E-04	kg/day	0.0618 mg/l	7E-04 kg/day	0.0	618 mg/L	N/A
		Discharge f	low	4		E-03 mgd					N/A
		pH (report a	as range)	1	8	- 8 StdUni	t				N/A
		Temperatur	re (winter)	3	1	5.2 degC					N/A
		Temperatur	re (summer)	2	1	7. degC					N/A

Temperature (summer)

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).

EPA Identifica		tion Number	NPDES Permit Number	er		Facility Name				proved 03/05/19		
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ry		OME	3 No. 2040-0004		
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it b	oe discharge	ed)?				
		☐ Yes			[✓ No →	SKIP to Ite	em 4.5.				
	4.4	Provide data as	requested in the table be									
					nber of	Maximu	•	Averag		Source		
		Parame	ter or Pollutant		alyses tual data	Disch (specify		Disch (specify		(Use codes per		
					oorted)	Mass	Conc.	Mass	Conc.	Instructions.)		
		Fecal coliform										
pa		E. coli										
Effluent Characteristics Continued		Enterococci										
Soni	4.5	Is chlorine used	(or will it be used)?									
) so		☐ Yes			[✓ No →	SKIP to Ite	em 4.7.				
risti	4.6	Provide data as	requested in the table be	ow.1 (Se	e instructions							
cte					nber of	Maximu		Averag		Source		
ara		Parame	ter or Pollutant		alyses	Disch (specify		Disch		(use codes		
<u>ည်</u>				,	tual data oorted)	Mass	Conc.	(specify Mass	Conc.	per instructions)		
nen		Total Residual (Chlorine						001101	,		
E E	4.7	Is non-contact c	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 be	low.1 (Se	e instructions							
				1	nber of	Maximu	•	Averag		Source		
		Parameter or Pollutant			alyses tual data	Disch (specify		Disch (specify		(use codes per		
				, , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	rbon (TOC)						_			
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))									
	5.1		nwater water runoff, leaks	, or spills	are any of t	he discharge	es you desci	ribed in Se	ctions 1 a	nd 3 of this		
		application inter	mittent or seasonal?									
		✓ Yes → (Complete this section.			No →	SKIP to Se	ection 6.				
Flow	5.2	1 '	the frequency and duration									
ᇤ		I	opographic low area and flows reith weather and other factors re					I HVAC cond	ensate disc	harges are		
		oxpooled to vary in	an weather and earler lacters to	atou to oto	am domand. O	50 0000011 1.21	or nownato.					
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))									
E	6.1	Briefly describe	any treatment system(s)	used (or t	o be used).							
ster		N/A										
Š												
ent												
Treatment System												
Tre												
	L	I										

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

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

MANUFACTURING COMMERCIAL MINING AND SILVICULTURAL FACILITIES WHICH

NPDES			MANUFACTURIN		L, MINING, AND SILVICULTURAL FACILITIES WHICH NLY NONPROCESS WASTEWATER					
SECTIO	N 1. OU	FALL LOC	ATION (40 CFR 122.21(h)(1))							
	1.1	Provide infe	ormation on each of the facility	's outfalls in the table	e below.					
Outfall Location		Outfall Number	Receiving Water Name	Latit	ude		Lo	ongitude	!	
Loc		506	White Oak Creek	35 ° 55 ′	36.42 " N	١	84° 1	8 45.2	1" W	
tfall										\neg
õ										-
			ATE (40 CFR 122.21(h)(2))							
ırge	2.1		new or existing discharger? (Cl / discharger	neck only one respoi		ng discharge	or -N CKID	to Contin	. 2	
Discharge Date	2.2		ur anticipated discharge date:		EXISUI	ig discriarge	J SKIP	io secilo	13.	-
		, , ,								
SECTIO			(40 CFR 122.21(h)(3))							
	3.1		s of wastes are currently being arger? (Check all that apply.)	discharged if you are	e an existing	discharger o	r will be dis	charged	if you are	a
		I	itary wastes		✓ Other i	nonprocess	wastewater	(describ	e/explain	
		Res	taurant or cafeteria waste		-	/ below)				
səc		☐ Non	-contact cooling water		HVAC 8	steam conde	nsate, founda	tion draina	je 	_
Ty	3.2	Does the fa	acility use cooling water additiv	res?						\neg
Waste Types		☐ Yes				SKIP to Se	ction 4.			
S	3.3	List the cod	oling water additives used and		osition.	•		1.4.		
			Cooling Water Additives	S			tion of Add ailable to you			
SECTIO	N 4. EFF 4.1		ARACTERISTICS (40 CFR 12)		bolow at one	h of vour o	ıtfalla and a	ttachad t	oo rooulta	to
	4.1		completed monitoring for all pa ation package?	rameters in the table	Delow at eac	il oi your oc	ilialis aliu a	llacried l	ie resuits	, 10
		✓ Yes		No; a waiver has						
	4.2		ta as requested in the table be	(attach waiver re			mation) >	SKIP to	Section 5	
ဟ	7.2	1 TOVIGO GA	ta do requested in the table be	Number of			Average	Daily	Sourc	ce
istic		Pa	rameter or Pollutant	Analyses	Disch	narge	Disch	arge	(use cod	
cter				(if actual data reported)	(specify Mass	Conc.	(specify Mass	Conc.	per instruction	ons)
Effluent Characteristics		Biochemica	al oxygen demand (BOD₅)	1 < 2E	-03 kg/day	< 4 mg/L	< 2E-03 kg/da	ay < 4 r	ng/L	N/A
nt C		Total suspe	ended solids (TSS)		03 kg/day	-	2E-03 kg/day		mg/L	N/A
flue		Oil and gre			E-04 kg/day	•	< 8E-04 kg/da	•	11 mg/L	N/A
Ē		Ammonia (,		05 kg/day	0.0554 mg/L	3E-05 kg/day	0.05	554 mg/L	N/A
		Discharge		1	1E-04 mgd	.11				N/A
		pH (report		1	7.4 - 7.4 StdUr					N/A
		Temperatu	, ,	0	See Section 7.	I				N/A
		Temperatu	re (summer)	1	17.2 degC					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).

EP.	A Identifica	on Number NPDES Permit Number Facility Name								proved 03/05/19
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OME	3 No. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	initary wa	ste discharg	ged (or will it l	be discharg	ed)?		
		☐ Yes				✓ No -	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					nber of	1	m Daily	Averag		Source
		Parame	ter or Pollutant		alyses ctual data	Disch (specif	narge	Disch (specif		(Use codes per
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)
		Fecal coliform								
70		E. coli								
Effluent Characteristics Continued		Enterococci								
Cont	4.5	Is chlorine used	(or will it be used)?							
) နာ		☐ Yes				✓ No →	SKIP to It	tem 4.7.		
isti	4.6	Provide data as	ovide data as requested in the table below.1 (See instructions for specifics.)							
cter			Number of Maximum Dail					Averag	-	Source
lara		Parame	ter or Pollutant			Disch (specifi		Disch	narge y units)	(use codes
t C					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)
nen		Total Residual (Chlorine							
E	4.7	Is non-contact of	ooling water discharged (or will it b	e discharge	•				
		☐ Yes				✓ No →	ection 5.			
	4.8	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
				Number of Maximum Daily Analyses Discharge				Averag		Source
		Parame	eter or Pollutant		alyses ctual data	Uisch (specif		Discharge (specify units)		(use codes per
				, , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)
		Chemical oxyge	en demand (COD)			•	•			
		Total organic ca	rbon (TOC)				_			_
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))							
	5.1		nwater water runoff, leaks	, or spills	, are any of t	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this
		application inter	mittent or seasonal?							
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.		
*	5.2	Briefly describe	the frequency and duration	on of flow	·.					
Flow		Foundation drainage	ge, HVAC condensate and stea	m condens	ate vary with w	reather and pred	cipitation. See	Section 4.2 fo	or flowrate.	
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))							
	6.1		any treatment system(s)		to be used).					
ster		N/A								
Š										
ient										
Treatment System										
Tre										

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).

		tion Number	NPDES Permit Number	0 1 5:1	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
TN1890090	JUU3		TN0002941	Oak Ridge	National Laboratory	3NB 113. 20 10 0004
SECTIO	N 7. OTH		ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should	pelow to expand upon any of the al I consider in establishing permit lim vere made to obtain temperatures at this o	itations. A	ttach additional sheets as	
SECTIO	N 8. CHE		ERTIFICATION STATEMENT (40 (
	8.1	For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachm is are required to provide attachme	nents that y	ou are enclosing to alert	the permitting authority. Note that
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
statem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		✓ Section 8:	Checklist and Certification Stateme	ent 🗌	w/ attachments	
ist a	8.2	Certification S	tatement			
Checklist and Certification Statement		accordance with submitted. Base responsible for accurate, and c possibility of fin	enalty of law that this document and a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor omplete. I am aware that there are e and imprisonment for knowing vice	t qualified persons whe mation sub- significan	personnel properly gather o manage the system, or omitted is, to the best of n t penalties for submitting	and evaluate the information those persons directly ny knowledge and belief, true,
		. "	type first and last name)		Official title	
		Johnny O. Moore			Manager, ORNL Site Office	
		Signature			Date signed	
		<u> </u>				

FORM 2E

TN1890090003



EPA Identification Number

NPDES			MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER								
SECTIO	N 1. OUT	FALL LOCA	ATION (40 CFR 122.21(h)(1))	DIGGINALOE GIVE	HOIL ROOM	200 117.011					
	1.1		ormation on each of the facility	s outfalls in the table	below.						
ation		Outfall Number	Receiving Water Name	Latitu	ıde		Lo	ongitude			
Outfall Location		583	White Oak Creek	35 ° 54 ′	34.31 "	N	84° 18	57.2	9" W		
Outfa											
OFOTIO	N A DIO		TE (40.0ED 400.04(L)(0))								
	N 2. DIS 2.1		ATE (40 CFR 122.21(h)(2)) ew or existing discharger? (C	hook only one reanen	\						
Discharge Date	2.1	l — '	discharger	neck only one respon		ng discharge	ar 📤 SKIP i	n Section	13		
schar Date	2.2		ir anticipated discharge date:		LAISUI	ig discriarge	51 - OKII I	.0 0601101	10.		
SECTIO			(40 CFR 122.21(h)(3))								
	3.1		of wastes are currently being	discharged if you are	an existing	discharger c	r will be dis	charged i	f you are	a	
			rger? (Check all that apply.) tary wastes	ſ	✓ Other i	nonprocess	wastewater	(describe	e/explain		
			aurant or cafeteria waste	Ĺ		/ below)		(4000	, o, p.o		
S			contact cooling water		HVAC	condensate an	d foundation d	rainage			
Гуре	3.2		cility use cooling water additiv	1002						= $+$	
Waste Types	3.2	Yes	cility use cooling water additive		✓ No →	SKIP to Se	ction 4				
Wa	3.3		ling water additives used and		110 2	01111 10 00	ouom 4.			-	
			Cooling Water Additive				tion of Add				
			(list)			(if a	/ailable to you)				
SECTIO	N 4 FFF	LUENT CHA	RACTERISTICS (40 CFR 12	2 21(h)(4))							
020110	4.1		ompleted monitoring for all pa		below at eac	h of your ou	ıtfalls and a	ttached th	ne results	s to	
			tion package?								
		✓ Yes		No; a waiver has (attach waiver red							
	4.2	Provide dat	a as requested in the table be				mauon) 7	SKIP LU C	560110113		
တ္သ			·	Number of	Maximu	m Daily	Average		Sour	се	
Effluent Characteristics		Par	ameter or Pollutant	Analyses (if actual data	Disch (specify		Discha (specify		(use co	des	
acte				reported)	Mass	Conc.	Mass	Conc.	instruction	ons)	
hara		Biochemica	al oxygen demand (BOD₅)	1 < 0.1	kg/day	•	< 0.1 kg/day	< 4 n	ng/L	N/A	
nt C		Total suspe	ended solids (TSS)		kg/day	_	0.2 kg/day		mg/L	N/A	
flue		Oil and grea	ase		5 kg/day	-	J 0.05 kg/day		mg/L	N/A	
ш		Ammonia (a	· · · · · · · · · · · · · · · · · · ·		03 kg/day	0.0563 mg/L	2E-03 kg/day	0.05	63 mg/L	N/A	
		Discharge f		1	7E-03 mgd					N/A	
		pH (report a		1	7.6 - 7.6 StdUr	nit				N/A	
		Temperatur	· ,	1	12.7 degC					N/A	
		Temperatur	re (summer)	2	19.4 degC					N/A	

Temperature (summer)

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).

EP.	A Identifica	tion Number								proved 03/05/19	
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ed (or will it	be discharge	ed)?			
		☐ Yes	, ,	,	-	_ `	SKIP to Ite	,			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)				
					nber of		m Daily	Averag	e Daily	Source	
		Parame	ter or Pollutant	An	alyses		narge	Disch	narge	(Use codes	
		raramo	sor or ronatant	,	ctual data	(specif		(specif		per	
		Fecal coliform		re	ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
Effluent Characteristics Continued		E. coli									
뺼		Enterococci									
S	4.5	l	(or will it be used)?								
8		Yes					SKIP to It	em 4.7.			
rist	4.6	Provide data as	requested in the table be	low.1 (Se	e instruction						
cte					nber of		m Daily	Averag		Source	
lara		Parame	ter or Pollutant		alyses	UISCI (specif	narge	Disch (specif		(use codes	
5					ctual data ported)	Mass	Conc.	Mass	Conc.	per instructions)	
ren		Total Residual (Chlorine		, ,						
#	4.7		ooling water discharged (or will it b	e discharge	d)?		1			
_		☐ Yes	coming traces and crienting out (✓ No → SKIP to Section 5.						
	4.8		requested in the table be	low 1 (Se				7011011 01			
		Trondo data do	Toquestou III allo table be	Number of Maximum Daily				Averag	e Daily	Source	
		Darame	eter or Pollutant	1	alyses	1	narge	Discharge		(use codes	
		i aiaiic	ici oi i oilutalit		ctual data	(specify units)		(specify units)		per instructions)	
		Ob and and an an		re	ported)	Mass	Conc.	Mass	Conc.	instructions)	
			en demand (COD)								
		Total organic ca									
SECTIO		W (40 CFR 122.2								10 111	
	5.1		nwater water runoff, leaks	, or spills	, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	nd 3 of this	
		application inter	mittent or seasonal?								
		✓ Yes →	Complete this section.			□ No →	SKIP to Se	ection 6.			
>	5.2	Briefly describe	the frequency and duration	on of flow	'.						
Flow		Discharges of HVA	C condensate and foundation of			e intermittent a	nd vary with se	easonal weat	her condition	ns. See Section	
		4.2 for flowrate.									
SECTIO			EM (40 CFR 122.21(h)(6))								
٤	6.1	l '	any treatment system(s)	used (or	to be used).						
/ste		N/A									
t Sy											
nen											
Treatment System											
Ę											

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	Use the space I reviewer should N/A	below to expand upon any of the a d consider in establishing permit lin	nitations. <i>I</i>	Attach additional sheets as	
SECTIO	N 8. CHE 8.1		ERTIFICATION STATEMENT (40 low, mark the sections of Form 2E			ubmitting with your application.
	0.1	For each section	n, specify in Column 2 any attachn	nents that		
		not all applicant	ts are required to provide attachme Column 1	ents.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
od Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and of possibility of fin	tatement senalty of law that this document and a system designed to assure that ed on my inquiry of the person or pathering the information, the informplete. I am aware that there are e and imprisonment for knowing vitype first and last name)	t qualified ersons wi mation su significal	personnel properly gather no manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,

FORM 2E

TN1890090003



EPA Identification Number

NPDES			MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO	N 1. OU	TFALL LOCAT	TION (40 CFR 122.21(h)(1))									
	1.1		mation on each of the facility	r's outfalls in th	e table	below.						
ation		Outfall Number	Receiving Water Name		Latitu	ıde		L	ongitude)		
Outfall Location		585 T	ributary to Melton Branch	35 °	55 ′	18.99 "	N	84° 1	8′	16" W		
Outfa												
SECTIO	N 2 DIC	CHARCE DAT	FE /40 CER 122 21/b\/2\\									
	2.1		TE (40 CFR 122.21(h)(2)) www.or.existing.discharger? (C	heck only one	resnon	se)						
arge te	2.1	I — '	discharger	ricck offig offic			ting discharg	er → SKIP	to Sectio	n 3		
Discharge Date	2.2		anticipated discharge date:				ang areenarg					
SECTIO			40 CFR 122.21(h)(3))	F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			P 1		,			
	3.1		of wastes are currently being ger? (Check all that apply.)	discharged if y	ou are	an existing	g discharger (or will be dis	scharged	if you are	e a	
			ary wastes		•	Othe	r nonprocess	wastewate	r (describ	e/explair	ı	
		Resta	urant or cafeteria waste			direc	tly below)					
sec		✓ Non-c	contact cooling water			rever	se osmosis reje	ct water				
Waste Types	3.2	Does the fac	ility use cooling water additiv	res?								
aste		☐ Yes			•	✓ No -	➤ SKIP to Se	ection 4.				
>	3.3	List the cooli	ng water additives used and		compo	sition.	-					
			Cooling Water Additive	S				ition of Adavailable to you				
SECTIO	N 4. EFF	LUENT CHAF	RACTERISTICS (40 CFR 12	2.21(h)(4))								
	4.1	Have you co	mpleted monitoring for all pa		e table	below at e	ach of your o	utfalls and a	attached t	he result	s to	
		this application	on package?	No: a waiv	or bool	boop rodu	ested from my	, NDDEC 50	ormittina :	outhority.		
		✓ Yes					dditional info					
	4.2	Provide data	as requested in the table be	elow.1 (See inst	ruction	s for speci	fics.)	,				
<u>:S</u>				Number			num Daily charge	Average Disch		Sour		
erist		Para	meter or Pollutant	Analyse (if actual da		(spe	cify units)	(specify	units)	(use co	r	
ract		D' - I I	1/000	reported)		Mass	Conc.	Mass	Conc.	instruct		
Cha			oxygen demand (BOD ₅)	1		kg/day	•	< 0.2 kg/day		mg/L 	N/A	
Effluent Characteristics			nded solids (TSS)	1		87 kg/day 722 kg/day	_	J 0.087 kg/da < 0.0722 kg/d	-	88 mg/L 56 mg/L	N/A N/A	
n <u>e</u>		Oil and greas		1		E-03 kg/day	ŭ	8.75E-03 kg	•	89 mg/L		
ш		Ammonia (as Discharge flo	,	19	0.73	0.03 mgd	0.109 HIG/L	0.73L-03 kg	uay U.I	Jo my/L	N/A N/A	
		pH (report as		19		7.3 - 8.3 Std	Unit			<u> </u>	N/A	
		Temperature	<u> </u>	11		16.1 degC					N/A	
		Temperature	· ,	8		27.4 degC					N/A	

Temperature (summer)

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).

EP.	A Identifica	ation Number	· · · · · · · · · · · · · · · · · · ·							proved 03/05/19	
TN1890090	0003		TN0002941		Oak Ridge N	ational Laborato	ory		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste dischar	ged (or will it	be discharge	ed)?			
		☐ Yes				✓ No ÷	SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction						
					mber of	1	ım Daily	Averag		Source	
		Parame	ter or Pollutant		alyses ctual data		harge y units)	Disch (specif		(Use codes per	
					ported)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
8		E. coli									
Effluent Characteristics Continued		Enterococci									
Con	4.5	l <u> </u>	(or will it be used)?			_					
) so		✓ Yes	de data as requested in the table below.1 (See instructions fo				No → SKIP to Item 4.7.				
risti	4.6	Provide data as	rovide data as requested in the table below.1 (See instructions for specifics.) Number of Maximum Da								
acte			Parameter or Pollutant Number of Maximum Da Analyses Discharge					Averag		Source	
hara		Parame	ter or Pollutant		alyses ctual data		narge iy units)	Disch (specif		(use codes per	
it C					ported)	Mass	Conc.	Mass	Conc.	instructions)	
lner In		Total Residual (Chlorine	19	< 5	E-03 kg/day	0.4 mg/L	< 1.5E-03 kç	g/day < 0.08	316 mg/L N/A	
造	4.7	l	ooling water discharged (or will it b	, <u> </u>						
		✓ Yes		No → SKIP to Section 5.							
	4.8	Provide data as	requested in the table be						D "		
				Number of Maximum Daily Analyses Discharge			•	Averag		Source	
		Parame	eter or Pollutant		ctual data		y units)	Discharge (specify units)		(use codes per	
				` re	ported)	Mass	Conc.	Mass Conc.		instructions)	
			en demand (COD)	0						N/A	
		Total organic ca	, ,	0						. N/A	
SECTIO		W (40 CFR 122.2									
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	, are any of	the discharge	es you desci	ribed in Se	ctions 1 a	and 3 of this	
		✓ Yes →	Complete this section.			□ No 1	SKIP to Se	ection 6.			
Flow	5.2		the frequency and duration								
Ě			rse osmosis (RO) trains. With om. A second train cycles on ar								
			rate. See Section 4.2 for flowra		caca to moct i	nakcup water it	oquiromonto do	ining times of	peak steam	r demand and it	
SECTIO	N 6. TRE	EATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
E	6.1	Briefly describe	any treatment system(s)	used (or	to be used).						
stei		There is a dechloring	nation system on the intake to t	he RO unit	. This discharge	e receives no a	ctive treatment				
t Sy											
nen											
Treatment System											
Ě											
	_				_	_		_			

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).

TN1890090		tion Number	TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7 OTH	IER INFORMATIO	ON (40 CFR 122.21(h)(7))	ı	,	
Other Information	7.1	Use the space I reviewer should	pelow to expand upon any of the all consider in establishing permit limites are ChemTreat BL8860 (boiler water n	nitations. A	ttach additional sheets as	s needed.
SECTIO	N 8. CHE	CKLIST AND CE	ERTIFICATION STATEMENT (40	CFR 122.2	2(a) and (d))	
	8.1	For each sectio	s are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance witi submitted. Base responsible for accurate, and c possibility of fin	tatement enalty of law that this document ar h a system designed to assure that ed on my inquiry of the person or p gathering the information, the infor omplete. I am aware that there are e and imprisonment for knowing vi-	t qualified persons when mation sub significan	personnel properly gather o manage the system, or omitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,
		Ciamatu:			Data simpad	
		Signature			Date signed	

FORM 2E

TN1890090003



EPA Identification Number

NPDES	7	EPA	DISCHARGE ONLY NONPROCESS WASTEWATER										
SECTIO			TON (40 CFR 122.21(h)(1))										
	1.1	Outfall	mation on each of the facility	's outfalls in the	table l	below.							
ıtion		Number	Receiving Water Name	l	_atitu	de			Long	itude			
Outfall Location		630 WI	hite Oak Creek	35 °	55 ′	44 "	N	84°	18 ′	35	" W		
ttall													
ō													
	N 2. DIS 2.1		E (40 CFR 122.21(h)(2)) w or existing discharger? (Cl	haalt anht ana ra		٠,١							
arge	2.1		w or existing discriatiger? (Or lischarger	neck only one re	•		sting discha	ner 👈 SI	KIP to S	ection	3		
Discharge Date	2.2		anticipated discharge date:				ourig disorial	901 7 01	NII to o	COHOIT	<u> </u>		
SECTIO			0 CFR 122.21(h)(3))	dia alaanna diif va		an avlatin	a disabana	مط القيدية م	م ما م ما م				
	3.1		f wastes are currently being er? (Check all that apply.)	discharged if yo	u are a	an existin	g discharge	L OL MIII DE	e discha	rgea II	you are	a	
			ry wastes		✓		er nonproce:	ss wastew	ater (de	scribe/	explain		
		Restau	urant or cafeteria waste				ctly below)						
sec		☐ Non-co	ontact cooling water			Stea	m condensate					_	
Waste Types	3.2	Does the facil	lity use cooling water additiv	res?									
/aste		☐ Yes			✓	No •	SKIP to	Section 4.					
S	3.3	List the coolin	ng water additives used and		mpos	ition.	0	- '4' 6	A .1 .1:4:.				
			Cooling Water Additive	S				sition of f available to		es			
SECTIO	N 4. EFF 4.1		ACTERISTICS (40 CFR 12) mpleted monitoring for all pa		ahla h	olow at o	each of your	outfalls a	nd attac	had the	roculto	e to	
	4.1	this application			anie n	ociow at c	acii oi youi	outialis ai	iu allac	neu un	o result	ט נט	
		✓ Yes		No; a waiver									
	4.2		as requested in the table be	(attach waive				formation)	→ SK	P to Se	ection 5).	
v _i		Trovido data	ao roquesteu in ale table be	Number of			num Daily	Ave	rage Da	ily	Sour	ce	
istic		Parar	meter or Pollutant	Analyses (if actual data			charge cify units)		scharge ecify units		(use co		
Effluent Characteristics				reported)		Mass	Conc.	Mass		nc.	instructi		
hara		Biochemical of	oxygen demand (BOD₅)	1	< 2E-0	3 kg/day	< 4 mg	/L < 2E-03	kg/day	< 4 mg	g/L	N/A	
nt C		Total suspend	ded solids (TSS)	1	_)4 kg/day		ı/L < 3E-04			2 mg/L	N/A	
flue		Oil and greas		1	_)4 kg/day		/L < 9E-04	-	< 1.73	_	N/A	
ш		Ammonia (as	· · · · · · · · · · · · · · · · · · ·	1		kg/day		/L 1E-04 k	g/day 	0.186	mg/L	N/A	
		Discharge flo		12		1.4E-04 mg	<u> </u>					N/A	
		pH (report as		1		6.9 - 6.9 Sto	lUnit					N/A	
		Temperature	· ,	4		90.1 degC						N/A	
		Temperature	(summer)	3		92. degC						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).

EP/	A Identifica	on Number NPDES Permit Number Facility Name								proved 03/05/19	
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ry		OME	3 No. 2040-0004	
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it b	oe discharge	ed)?			
		☐ Yes					SKIP to Ite	em 4.5.			
	4.4	Provide data as	requested in the table be								
					nber of	Maximu	•	Averag		Source	
		Parame	ter or Pollutant		alyses tual data	Disch (specify		Disch (specify		(Use codes per	
					oorted)	Mass	Conc.	Mass	Conc.	Instructions.)	
		Fecal coliform									
pa		E. coli									
Effluent Characteristics Continued		Enterococci									
Sont	4.5	Is chlorine used	(or will it be used)?	•							
) sɔ		☐ Yes			[✓ No →	SKIP to Ite	tem 4.7.			
isti	4.6	Provide data as	requested in the table be	low.1 (Se	e instructions	s for specific	s.)				
cter			Number of Maxii					Maximum Daily Average Daily So			
ara		Parame	ter or Pollutant			Disch		Disch		(use codes	
ပ်					tual data oorted)	(specify Mass	Conc.	(specify Mass	Conc.	per instructions)	
rent		Total Residual (Chlorine		31103)	muoo	001101	mass	001101	,	
<u> </u>	4.7		ooling water discharged (or will it b	e discharge	d)?					
		☐ Yes		No → SKIP to Section 5.							
	4.8	Provide data as	requested in the table be								
				1	nber of	Maximu	•	Averag		Source	
		Parame	ter or Pollutant		alyses tual data	Disch (specify		Discharge (specify units)		(use codes per	
				, , , , , ,	ported)	Mass	Conc.	Mass	Conc.	instructions)	
		Chemical oxyge	n demand (COD)								
		Total organic ca	rbon (TOC)								
SECTIO	N 5. FLC	W (40 CFR 122.2	21(h)(5))								
	5.1		nwater water runoff, leaks mittent or seasonal?	, or spills	are any of t	he discharge	es you desci	ibed in Se	ctions 1 a	nd 3 of this	
		l			Γ	N \	01/10 4- 0	t' O			
		✓ Yes → (Complete this section.		L	No →	SKIP to Se	ection 6.			
Flow	5.2		the frequency and duration								
ᇤ			charges condensate year round water temperature in White Oa								
		Section 4.2 for flow		an Groon pr	many due to te	o oman now rate	o iii oompanoo	11 10 1110 1000	ving ou cam	Dudoliow. Occ	
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6))								
	6.1		any treatment system(s)		o be used).						
ten		N/A			•						
Sys											
ent											
Treatment System											
Tre											

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).

EP.	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	ER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	The temperature of released onto the land/boulder seven location was expanding the review of the reviewer should be reviewed to the reviewer should be reviewed by the reviewer should be reviewed by the reviewer should be reviewer should be reviewer should be reviewed by the	below to expand upon any of the additional consider in establishing permit lind data presented for this outfall was taken discurface of a boulder in the creek bank that ral feet before it gets to the receiving stream and the tomeasure both upstream temperated of degrees C and the temperatures included	nitations. A rectly at the s t is elevated am during stre ure = 9.7 deg	attach additional sheets as team condensate discharge. H several feet above the stream team baseflow conditions. There rees C and the downstream ter	s needed. lowever, the discharge at this location is The condensate travels over fore the temperature evaluation at this mperature = 9.7 degrees C. This change
SECTIO			ERTIFICATION STATEMENT (40			
	8.1	For each section		ments that		ubmitting with your application. the permitting authority. Note that
		not all applican	ts are required to provide attachme Column 1	enis.	С	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., r	esponses for additional outfalls)
		✓ Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
nent		Section 4:	Effluent Characteristics		w/ attachments	
Staten		Section 5:	Flow		w/ attachments	
ation (Section 6:	Treatment System		w/ attachments	
rtific		✓ Section 7:	Other Information		w/ attachments	
Š Š		✓ Section 8:	Checklist and Certification Statem	nent	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Bas responsible for accurate, and o possibility of fin	ctatement penalty of law that this document a th a system designed to assure that ed on my inquiry of the person or p gathering the information, the info complete. I am aware that there are e and imprisonment for knowing v type first and last name)	nt qualified persons wh rmation su e significan	personnel properly gather to manage the system, or bmitted is, to the best of n	r and evaluate the information those persons directly ny knowledge and belief, true,
		Commy C. Woole			Managor, Orave one office	
		Signature			Date signed	

FORM 2E

TN1890090003



EPA Identification Number

NPDES		CLA	MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL FACILITIES WHICH DISCHARGE ONLY NONPROCESS WASTEWATER									
SECTIO	N 1. OU	TFALL LOCA	ATION (40 CFR 122.21(h)(1))									
	1.1		ormation on each of the facility	's outfalls in the	table t	oelow.						
ation		Outfall Number	Receiving Water Name	L	.atitud	le		L	ongitude	:		
Outfall Location		701	White Oak Creek	35 °	55 ′	20 "	N	84° 1	9′	4" W		
Outfa												
			ATE (40 CFR 122.21(h)(2))									
ırge	2.1	l — '	new or existing discharger? (C	neck only one res	sponse •	_′	tina diaahara	or -N CVID	to Contin	n 2		
Discharge Date	2.2		r discharger ur anticipated discharge date:			L EXIS	ting discharge	er SNIP	to Sectio	n 3.		
Dis	2.2	Specify you	ar articipated discriarge date.									
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))									
	3.1		of wastes are currently being rger? (Check all that apply.)	discharged if you	ı are a	an existing	g discharger o	or will be dis	charged	if you are	еа	
			itary wastes		✓	Other	nonprocess	wastewater	describ	e/explain	ı	
		_	taurant or cafeteria waste				tly below)		,	'		
es			-contact cooling water			steam	condensate					
Typ	3.2		acility use cooling water additive	/es?								
Waste Types		☐ Yes			✓	No -	SKIP to Se	ction 4.				
×	3.3	List the coo	oling water additives used and		mposi	ition.						
			Cooling Water Additive	s				ition of Add				
			, ,				`		,			
SECTIO			ARACTERISTICS (40 CFR 12 completed monitoring for all page 12)		abla b	alaur at as	ach of vour o	utfalls and a	ttaabad t	ha raault	o to	
	4.1		ition package?	irameters in the t	able b	elow at ea	ach of your of	ullalis and a	illached i	ne result	ร เบ	
		✓ Yes		No; a waiver								
	4.0			(attach waive				mation) →	SKIP to	Section 5	5.	
	4.2	Provide dai	ta as requested in the table be	Number of			um Daily	Average	e Daily	Sour	200	
stice		Par	rameter or Pollutant	Analyses		Disc	harge	Disch	arge	(use co		
teri			different of a character	(if actual data reported)	-	(spec	Conc.	(specify Mass	units) Conc.	per instructi		
arac		Biochemica	al oxygen demand (BOD₅)	1	< 0.05	kg/day		< 0.05 kg/day		mg/L	N/A	
Effluent Characteristics			ended solids (TSS)	1	— 0.1 kg	/day	2.63 mg/L	0.1 kg/day	2.6	 3 mg/L	N/A	
nen		Oil and gre	ase	1	< 0.09	kg/day	< 1.61 mg/L	< 0.09 kg/day	< 1.	61 mg/L	N/A	
Eff		Ammonia (1	J 2E-0	3 kg/day	J 0.0456 mg/L	J 2E-03 kg/da	ay J 0.	0456 mg/L	N/A	
		Discharge 1	•	2	(0.01 mgd					N/A	
		pH (report	as range)	1	7	7.6 - 7.6 Stdl	Jnit				N/A	
		Temperatu	re (winter)	2	1	39.4 degC					N/A	
		Temperatu	re (summer)	2	(96.1 degC					N/A	

Temperature (summer)

2 96.1 degC

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).

									proved 03/05/19 3 No. 2040-0004			
TN1890090	0003		TN0002941			lational Laborato			Olvic	3 110. 2040-0004		
	4.3	l	n believed present, or is sa	nitary w	aste dischar	• .	•	,				
		☐ Yes					SKIP to It	em 4.5.				
	4.4	Provide data as	requested in the table be					Avorage	o Doiby			
		D	ton on Dolladont		mber of nalyses		ım Daily harge	Averag Disch		Source (Use codes		
		Parame	eter or Pollutant	(if a	ctual data	(specif	y units)	(specif	y units)	` per		
		Facal california		re	eported)	Mass	Conc.	Mass	Conc.	Instructions.)		
_		Fecal coliform										
Effluent Characteristics Continued		E. coli Enterococci										
ntir	4.5		d (or will it be used)?									
ပိပ္	4.5	Yes	(or will it be asea):			✓ No =	SKIP to It	em 47				
stic	4.6		requested in the table be			.0111 4.7 .						
teri	""	Trovido data do	710940000411111010000		ım Daily	Averag	e Daily	Source				
arac		Parame	eter or Pollutant		nalyses		harge	Disch		(use codes		
ਨੁੰ				,	ctual data eported)	Mass	y units) Conc.	(specifi Mass	Conc.	per instructions)		
rent		Total Residual	Chlorine	1	portody	Mass	00110.	mass	00110.	,		
	4.7		cooling water discharged (•		•						
		☐ Yes	ection 5.									
	4.8	Provide data as	requested in the table be	low.1 (Se	ee instructior	ns for specific	s.)					
				1	mber of		ım Daily	Averag		Source		
		Parame	eter or Pollutant		nalyses actual data		harge y units)	Disch (specifi		(use codes per		
					eported)	Mass	Conc.	Mass	Conc.	instructions)		
		Chemical oxyge	en demand (COD)									
		Total organic ca	arbon (TOC)									
SECTIO		W (40 CFR 122.										
	5.1		nwater water runoff, leaks rmittent or seasonal?	, or spills	s, are any of	the discharge	es you desc	ribed in Se	ctions 1 a	ind 3 of this		
						•						
		Yes →	Complete this section.			□ No -	SKIP to S	ection 6.				
Flow	5.2	Briefly describe the frequency and duration of flow. Discharges from this outfall are expected to be intermittent whenever they begin. The sources of discharge are steam condendate which is										
ш.		expected to vary w	ns outfall are expected to be into ith weather conditions. See Sec	ermittent wation 4.2 fo	rnenever they b r flowrate.	begin. The sour	ces of dischar	ge are steam	condendate	which is		
		,										
SECTIO			EM (40 CFR 122.21(h)(6))									
Ē	6.1	1 '	any treatment system(s)	used (or	to be used).							
yste		N/A										
ıt Sı												
Treatment System												
real												
_												

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).

EP.	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge	National Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	IER INFORMATI	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should This outfall is currenew sewage treats steam condensate this outfall in the nate treatment plant co	pelow to expand upon any of the all consider in establishing permit limently the existing sewage treatment plant onent plant comes online. At that time, this line from the existing sewage treatment plext few years during the same time as the mes online and the construction rerouting at the dat representative Outfall 447 since this	nitations. A utfall/X01, Tl outfall is exp lant sludge d construction of this steam	ttach additional sheets as his outfall is planned to be convected to begin to discharge stearyers is the non-process discharge the new sewage treatment prondensate line is completed the sew sewage treatment prondensate line is completed the sewage treatment prondensate line is completed the sewage treatment prondensate line is completed the sewage treatment products and sewage treatment produc	rerted to a non-process outfall when the am condensate intermittently. The arge that is planned to be rerouted to lant. Until such time as the new sewage he data reported on this form for this
SECTIO			ERTIFICATION STATEMENT (40			
	8.1	For each section	low, mark the sections of Form 2E n, specify in Column 2 any attachn ts are required to provide attachme	nents that	you are enclosing to alert	the permitting authority. Note that
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types		w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
tatem		Section 5:	Flow		w/ attachments	
tion S		Section 6:	Treatment System		w/ attachments	
rtifica		Section 7:	Other Information		w/ attachments	
nd Ce		Section 8:	Checklist and Certification Stateme	ent 🗆	w/ attachments	
Checklist and Certification Statement	8.2	accordance wit submitted. Base responsible for accurate, and of possibility of fin	tatement venalty of law that this document are hear a system designed to assure that ed on my inquiry of the person or person of the person o	t qualified ersons wh mation sul significan	personnel properly gather o manage the system, or omitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

NPDES Permit Number Facility Name
TN0002941 Oak Ridge National Laboratory

FORM 2E NPDES

TN1890090003



EPA Identification Number

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

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

2E NPDES	9	EPA	MANUFACTURIN	G, COMMERCIAL, DISCHARGE ONL				ES WHICH
SECTIO	N 1. OU		ATION (40 CFR 122.21(h)(1))					
	1.1		ormation on each of the facility	s outfalls in the tab	le below.			
ation		Outfall Number	Receiving Water Name	Lati	tude		Longitu	de
Outfall Location		732	White Oak Creek	35 ° 55	51 "	N	84° 18′	23" W
Outfa								
SECTIO	N 2. DIS		ATE (40 CFR 122.21(h)(2))					
ge	2.1		new or existing discharger? (C	heck only one respo				
Discharge Date			/ discharger		☐ Exist	ting discharge	er → SKIP to Sec	tion 3.
Dis	2.2	Specify you	ur anticipated discharge date:	12/31/2025				
SECTIO	N 3. WA	STE TYPES	(40 CFR 122.21(h)(3))					
	3.1		of wastes are currently being	discharged if you a	re an existing	discharger o	or will be discharge	ed if you are a
			arger? (Check all that apply.) itary wastes		Othor	nonproces	wastewater (desc	ribo/ovalain
		_	•			tly below)	wastewater (desc	inbe/explain
· ·			taurant or cafeteria waste			owdown - under	construction	
уре			-contact cooling water					
Waste Types	3.2	Does the fa	acility use cooling water additive	/es?	□ No -	SKIP to Se	ction 4.	
×	3.3	List the cod	oling water additives used and	describe their comp	osition.			
			Cooling Water Additive	s			ition of Additives	
		See Appendix	\ /	Ç	See Appendix L	(II a	valiable to you)	
050510				0.04(1.)(4))				
SECTIO	N 4. EFF 4.1		ARACTERISTICS (40 CFR 12 completed monitoring for all page 12)		o bolow at or	oh of vour o	utfalls and attache	d the regults to
	4.1		ation package?	ilameters in the tabl	e pelow at ec	acii oi youi ot	alialis alia allacile	d the results to
		✓ Yes					NPDES permittin	
	4.2		ta as requested in the table be				mation) → SKIP	to Section 5.
ဟ	4.2	1 TOVIGE GA	ita as requested in the table be	Number of		um Daily	Average Daily	Source
istic		Pa	rameter or Pollutant	Analyses		harge	Discharge	(use codes
cter				(if actual data reported)	Mass	ify units) Conc.	(specify units) Mass Cond	per instructions)
nara		Biochemic	al oxygen demand (BOD ₅)	1 0.4	12 kg/day	4.5 mg/L	0.42 kg/day	4.5 mg/L N/A
Effluent Characteristics		Total susp	ended solids (TSS)	1 J 0	.194 kg/day	J 2.06 mg/L	J 0.194 kg/day J	2.06 mg/L N/A
luer		Oil and gre	ease	1 J 0	.344 kg/day	J 3.66 mg/L	J 0.344 kg/day J	3.66 mg/L N/A
<u> </u>		Ammonia ((as N)	1 0.0)284 kg/day	0.302 mg/L	0.0284 kg/day	0.302 mg/L N/A
		Discharge	flow	9	0.166 mgd			N/A
		pH (report	as range)	7	7.9 - 8.8 Stdl	Jnit		N/A
		Temperatu	ıre (winter)	7	24.3 degC			N/A
		· .	re (summer)	2	28.7 degC			N/A

Temperature (summer)

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).

		tion Number	NPDES Permit Numb	er		Facility Name				proved 03/05/19 3 No. 2040-0004
TN1890090	0003		TN0002941		Oak Ridge Na	ational Laborato	ory		OIVIE	3 NO. 2040-0004
	4.3	Is fecal coliform	believed present, or is sa	nitary wa	ste discharg	ed (or will it	be discharge	ed)?		
		☐ Yes				✓ No -	SKIP to Ite	em 4.5.		
	4.4	Provide data as	requested in the table be	low.1 (Se	e instruction	s for specific	s.)			
					mber of	1	ım Daily	Averag		Source
		Parame	eter or Pollutant		alyses		narge	Disch		(Use codes
				,	ctual data ported)	Mass	y units) Conc.	(specify	Conc.	per Instructions.)
		Fecal coliform			,	macc				,
0		E. coli								
nue		Enterococci								
onti	4.5		(or will it be used)?							
ပ်	✓ Yes □ No → SKIP to It							em 4.7.		
stic	4.6 Provide data as requested in the table below.1 (See instructions for specifics.)									
teri	Number of Maximum Da							Averag	e Daily	Source
arac	Parameter or Pollutant Analyses Discharg							Disch	arge	(use codes
ີ່ຮັ		- didiii	and of Foliatalit		ctual data	(specif	y units) Conc.	(specify	units)	per instructions)
ent		Total Residual (Phlorino	7	ported)	kg/day		< 0.09 kg/da		,
	4.7		cooling water discharged (or will it k		 	. U.O IIIg/L	0.09 kg/da	y \ 0.10	ing/L N/A
ш	4.7	✓ Yes	ooning water discharged (ection 5.						
	4.8		requested in the table be	low 1 (Se	a instruction			GUOIT O.		
	1.0	1 10 vide data do	requested in the table be		mber of		m Daily	Averag	e Daily	Source
		Parame	eter or Pollutant	1	alyses	Discl	narge	Disch	arge	(use codes
		raidine	ter of ronatant		ctual data	(specif	y units)	(specify	units)	per instructions)
		Chomical oxygo	en demand (COD)	1	ported)	3 kg/day	36.5 mg/L	3.43 kg/day		,
		Total organic ca	· ,	1		4 kg/day	_	1.34 kg/day	14.2	· ·
CECTIO	N.F. ELG			l'	1.3	4 kg/uay	. 14.2 mg/L	1.54 kg/day	14.2	ing/L N/A
SECTIO	5.1	W (40 CFR 122.2	21(୩)(୭)) nwater water runoff, leaks	or enille	are any of	the discharge	as vou desci	ribad in Sa	otione 1 a	nd 3 of this
] 3.1		mittent or seasonal?	, or spilis	, are arry or	u le discriary	es you desci	ilbed III oe	cuons i a	110 5 01 11115
		l <u></u>				□ N- 3	N OKID 4- 0	ti 0		
		✓ Yes → (Complete this section.			∐ No - 3	SKIP to Se	ection 6.		
Flow	5.2		the frequency and duration							
ᇤ		Flow is expected to	be intermittent and vary with w	eather and	l research activ	ities. See Secti	on 4.2 for flowr	ate.		
SECTIO	N 6. TRE	ATMENT SYSTE	EM (40 CFR 122.21(h)(6)))						
E	6.1	Briefly describe	any treatment system(s)	used (or	to be used).					
ster		Dechlorinator - TBI)							
Ś										
ent										
Treatment System										
<u>.</u> 2										

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).

EP/	A Identificat	tion Number	NPDES Permit Number		Facility Name	Form Approved 03/05/19
TN1890090	0003		TN0002941	Oak Ridge N	lational Laboratory	OMB No. 2040-0004
SECTIO	N 7. OTH	ER INFORMATION	ON (40 CFR 122.21(h)(7))			
Other Information	7.1	reviewer should This outfall and as collected at repres	pelow to expand upon any of the a d consider in establishing permit lin sociated dry weather flows are currently u entative Outfall 014 since this outfall most	nitations. At nder construc closely resen	tach additional sheets as ion. Therefore, the data reportibles the discharges expected	s needed. ted on this form for this outfall were
SECTIO			ERTIFICATION STATEMENT (40		* * * * * * * * * * * * * * * * * * * *	
	8.1	For each sectio	low, mark the sections of Form 2E n, specify in Column 2 any attachn ts are required to provide attachme	nents that y	ou are enclosing to alert	the permitting authority. Note that
			Column 1		C	olumn 2
		Section 1:	Outfall Location		w/ attachments (e.g., re	esponses for additional outfalls)
		Section 2:	Discharge Date		w/ attachments	
		Section 3:	Waste Types	•	w/ attachments	
ent		Section 4:	Effluent Characteristics		w/ attachments	
staten		Section 5:	Flow		w/ attachments	
ition S		Section 6:	Treatment System		w/ attachments	
ertifica		Section 7:	Other Information		w/ attachments	
nd Ce		✓ Section 8:	Checklist and Certification Statem	ent	w/ attachments	
Checklist and Certification Statement	8.2	accordance with submitted. Base responsible for accurate, and c possibility of fin	tatement venalty of law that this document and he a system designed to assure that ed on my inquiry of the person or person gathering the information, the information of the person are eand imprisonment for knowing vistype first and last name)	t qualified p persons who rmation sub e significant iolations.	ersonnel properly gather manage the system, or mitted is, to the best of n	and evaluate the information those persons directly ny knowledge and belief, true,

Chapter 7 – EPA Form 2F

Discharges of stormwater from ORNL are carried by an extensive storm drain piping system, as well as through lined channels, ditches, swales, and similar structures. Stormwater outfalls at ORNL are permitted under ORNL NPDES Permit No. TN0002941. The EPA 2F Forms for stormwater discharges are being submitted for ORNL as a part of this NPDES permit renewal application. Several outfalls at ORNL have non-storm water components as well as stormwater runoff contributing to their discharge. In these cases where outfalls receive non-process wastewaters and stormwater runoff, the EPA 2E Forms will also be submitted. See **Appendix A – Outfall Summary** for more details regarding the EPA forms provided in this permit renewal for each outfall. The EPA 2F Forms and associated data for the stormwater outfalls are included immediately following this summary.

There are 132 outfalls at ORNL that discharge stormwater that will need an EPA Form 2F. Due to the large number of outfalls on-site, substantially identical, or representative, outfalls were selected to be utilized for the EPA 2F Forms. Stormwater outfalls located on-site at ORNL were put into six (6) groups based on similar drainage areas for each outfall. See **Appendix M – EPA Form 2F Stormwater Outfall Groups** for more details. However, where any additional stormwater data was available for use with this NPDES permit application, that data was also included on separate EPA 2F Forms (stormwater outfalls 302 and 304 will also have EPA 2F forms). There will be EPA 2F forms attached for each group, and also for the individual outfalls mentioned immediately following this summary. Each group will also have a corresponding map in **Appendix N – EPA Form 2F Site Drainage Map**, which satisfies *NPDES EPA 2F Form Section 3.1 Site Drainage Map (40 CFR 122.26(c)(1)(i)(A))* requirement. The maps also include those outfalls that have their own individual EPA Form 2F application (outfalls 302 and 304). The stormwater outfalls were grouped first based on their impervious acreage (Groups 1 - greater than 50% imperviousness and Groups 2 - less than 50% impervious acreage within a drainage area) and then were further divided based on whether they had a specific non-process wastewater component, if there is one present in the discharge (Groups A, B, and C) as described in more detail here:

- Group A1 Stormwater Outfalls those outfalls with a high imperviousness, including a cooling tower blowdown component and stormwater
- **Group A2 Stormwater Outfalls** those outfalls with a low imperviousness, including a cooling tower blowdown component and stormwater
- Group B1 Stormwater Outfalls those outfalls with a high imperviousness, including dry-weather
 discharges (of either steam condensate, HVAC condensate, groundwater, foundation drainage, sump
 discharges) and stormwater
- **B2 Stormwater Outfalls** those outfalls with a low imperviousness, including dry-weather discharges (of either steam condensate, HVAC condensate, groundwater, foundation drainage, or sump discharges) and stormwater
- **Group C1 Stormwater Outfalls** those outfalls with high imperviousness and stormwater-only discharges
- Group C2 Stormwater Outfalls those outfalls with low imperviousness and stormwater-only outfalls

The representative outfalls for each stormwater group will have data provided on the EPA 2F forms and are listed here for reference.

	Ta	ible 7-1. Stormwa	ter Group Represer	ntative Outfalls	
Group A1	Group A2	Group B1	Group B2	Group C1	Group C2
227	204	207	234	403	434

There are very few pollutants from current ORNL research laboratory operations that are expected to be present in stormwater discharges at ORNL apart from on-going construction, grounds maintenance, and utility operations. Even though ORNL is an active CERCLA site with legacy pollutant concerns, some of which are currently regulated under CERCLA and AEA, the presence of these legacy pollutants in ORNL stormwater has historically been minimal. In addition, ORNL employs an extensive/detailed safety materials management system as described in detail below which includes proper tracking, handling and storage of materials, in order to ensure the potential to impact stormwater is minimal. More importantly, ORNL has numerous regulations that are being followed for materials handling, waste management, storage, and disposal that help ensure minimal stormwater risk. A conservative internal process was used to objectively assess the pollutants potentially present in ORNL stormwater discharges. Two (2) test methods were utilized for analyzing those potentially present parameters in Table C. Those methods also returned many additional results from the analytical laboratory that were not necessarily targeted analytes (so not believed present). Those additional parameters not specifically targeted are also included on the EPA 2F Forms where applicable. Of those parameters not expected to be present, approximately five (5) parameters were returned with an estimated concentration¹. However, the laboratory blanks associated with these samples (quality assurance samples that are prepared by the analytical lab – not sourced from ORNL) had similar concentrations for these parameters, therefore the actual presence of these contaminants in ORNL stormwater samples is indeterminant.

The data utilized in the completion of the EPA 2F Forms were obtained from January 1, 2022, to February 1, 2023. In addition, the data reported on the 2F forms used consistent data qualifiers to those in the ORNL NPDES monthly DMRs: where prefixes >, <, and J (estimated value) are used. Stormwater runoff discharge analytical data summarized on the 2F forms do not include fecal coliform because ORNL does not have a combined sanitary sewer and stormwater system. At ORNL, it is typical to have naturally occurring fecal coliform in stormwater runoff on-site due to large number of acres of undeveloped land and the native animal communities present. The test for fecal coliform does not distinguish between these animal-derived sources and human-derived sources. Therefore, due to these limitations, monitoring for fecal coliform is not a definitive method for evaluating any potential sanitary/septic issues in the ORNL stormwater discharges. However, there are other pollutant parameters reported on the EPA 2F Form included that, when evaluated together, help to better identify whether a potential cross connection exists, and those parameter results are displayed on the EPA 2F forms. For example, elevated measurements of total suspended solids (TSS), oil and grease (due to the presence of organic material), total Kjeldahl nitrogen, and nitrate/nitrite nitrogen are some indicators of this, in addition to oxygen demand indicated by biological oxygen demand (BOD) and COD analyses which can also be used in helping in evaluating sanitary issues in stormwater at ORNL.

 $^{^{1}}Benzo(b) fluoranthene, Benzo(a) pyrene, Benzo(ghi) perylene, Benzo(k) fluoranthene, and Indeno(1,2,3-cd) pyrene. \\$

Analytical data utilized in the completion of EPA 2F forms were collected predominantly as a part of the NPDES Permit renewal sampling effort. In addition, stormwater data are also collected for a few known CERCLA legacy pollutant parameters (mercury and PCBs) as a part of the ongoing NPDES permit WQPP investigation effort as described in more detail below and in **Section 3 – Water-Related Monitoring Programs at ORNL**. However, for those stormwater outfalls where legacy mercury and PCBs are potentially a concern, the stormwater monitoring data is only referenced on the EPA 2F Forms, though it can be found in more detail in the 2023 WQPP Report submitted to TDEC in May 2023. The reason for this is due to the different types of sampling and analysis done, as well as methods used for analysis in the WQPP, which don't meet the requirements, or fit into the constraints detailed on the EPA 2F Forms for these parameters. PCBs and mercury are known CERCLA legacy pollutants potentially present in storm effluent from specific outfalls located on ORNL campus. This CERCLA legacy issue does not align with the outfall grouping strategy for this application which is based on current land use and operational practices. The investigation into these CERCLA legacy sources has been well-documented under the WQPP, and thus it will be noted on the EPA 2F Forms that information and data for these pollutants can be found in the most recent WQPP report submitted May 1, 2023.

EPA Form 2F – Section 2 Improvements

The *NPDES Permit Form 2F Section 2 Improvements (40 CFR 122.21(g)(6))* of the EPA 2F Form instructions say to list/describe compliance projects or any other projects/programs affecting your discharge. Therefore, please see **Appendix K - Improvements** for more details regarding these form requirements for the STP/X01 and the PWTC/X12 and for the stormwater outfalls.

Receiving Streams

The Clinch River is the major hydrologic feature near the ORNL Campus. The Oak Ridge area is drained by the Clinch River and some smaller creeks, which are tributaries to the Clinch River. White Oak Creek (WCK) is the main receiving stream that originates within ORNL boundaries that eventually flows to the Clinch River. First Creek (FCK), Fifth Creek (FFK), the Northwest Tributary (NWT), and Melton Branch (MEK), in addition to several unnamed tributaries also feed into White Oak Creek. White Oak Creek originates east of the ORNL main campus in Bethel Valley and flows to the southwest to Melton Valley and into White Oak Lake before flowing into the Clinch River. First Creek and the Northwest Tributary both receive runoff from research, office, and operations buildings located on the western side of main ORNL campus. Fifth Creek receives runoff from the central part of ORNL campus. Melton Branch originates on the southeastern portion of the ORNL site in Melton Valley and flows in a southwesterly direction into lower White Oak Creek. Melton Branch receives runoff from smaller research, office, and operations sites remotely located within the forested region of the ORNL reservation in Melton Valley.

EPA Form 2F - Section 4.2 Significant Materials

The ORNL is the largest DOE national laboratory in the US. ORNL consists of numerous office/research and laboratory buildings with many support facilities, maintenance, and associated utilities located across the campus. In addition to these facilities, there is also significant greenspace interspersed throughout the buildings on campus as well as around the perimeter of the site and the perimeter of the ORR. Its facilities support past, present, and future DOE missions. As a direct result, and depending on current DOE missions, there can be widely varying materials usage that changes in real-time on-site at ORNL. However, most materials used for research at ORNL are stored and used indoors, eliminating the stormwater runoff risk. In addition, there are numerous laws, regulations, procedures, and best management practices in place that DOE follows to ensure proper handling, use, storage (and at times treatment, if required), and disposal of these chemicals.

Semi-annual stormwater inspections have been conducted on the on-site stormwater outfall drainage areas since 1996, when it became a PWTC requirement in the NPDES Permit. Since that time, these inspections have been retained under the WQPP portion of the NPDES Permit to further help minimize the risk of stormwater runoff issues. The stormwater inspections focus on the dynamic outdoor storage areas around buildings across the campus, consisting mainly of finished metal equipment or products, liquid storage in containers less than 55-gal in capacity, and construction sites that may not otherwise be covered under the Tennessee Stormwater Construction General Permit. Liquid storage in containers/tanks (containing hazardous substances or oil) that are 55-gal or greater in capacity are covered under the ORNL SPCC Plan described below.

SPCC Regulated Materials - The ORNL SPCC Plan (developed in accordance with 40 CFR 112) requires ORNL to maintain a comprehensive inventory of containers, tanks, and/equipment containing oil products with 55-gal or larger capacities. In addition, the ORNL SPCC Plan covers non-radiological hazardous substances (refer to 40 CFR 116) in 55-gal or larger capacity containers and tanks as a Best Management Practice (BMP) contained within the SPCC. The containers and tanks are required to have sized secondary containment that is capable to contain the entire volume of the largest container within the storage area along with adequate freeboard for rainwater, if the containment area is exposed to rainfall. General containment is satisfied through a Spill Contingency Plan attached to the ORNL SPCC Plan. SPCC inventories are tracked through an internal geographic information system (GIS) that is updated by Environmental Protection Officers/Environmental Compliance Representative (EPO/ECR) personnel as inventory reductions or additions occur. Annually, ORNL staff confirm inventories are accurate. Inspections are performed quarterly. Annual inspections by a Steel Tank Institute (STI) certified inspector are also performed on oil storage tanks in accordance with STI Standard SP001. Deficiencies or concerns noted during inspections are typically addressed before the next quarterly inspection is performed. Records of these inspections are maintained for at least a 3-year period. In addition, oil handlers are required to take an internal SPCC training module initially and as a refresher course annually.

RCRA and CERCLA Wastes – Hazardous wastes are managed on-site under the permits and regulations of RCRA and CERCLA, which specify management, handling, storage, disposal of these materials including requirements limiting potential contact with stormwater. A Hazardous Waste Corrective Action Permit (TNHW-164) is in effect that addresses corrective actions taking place throughout the ORR, including on-site at ORNL. The permit requires ORNL to investigate any releases of hazardous constituents that have occurred at the facility and to take appropriate corrective action for those releases. In addition, the permit contains a list of solid waste management units (SWMUs) and areas of concern (AOC) that have been identified on the ORR, including ORNL. The permit requires the permittees to notify EPA and TDEC of any newly identified SWMUs and AOCs and to annually update the SWMU and AOC information list.

DOE addresses investigation and cleanup of legacy hazardous wastes under CERCLA, instead of RCRA, as specified in the FFA for the ORR. The FFA outlines implementation strategies, milestone schedules, and progress reporting agreed to by DOE, TDEC, and EPA, which includes all SWMUs/AOCs listed in the RCRA permit. As new records of decision (RODs) are agreed upon, new projects and implementation schedules are implemented. The Portfolio Plan for ORNL (DOE/OR/01-2578) provides a schedule for cleanup from FY 2014 through FY 2046 for hazardous wastes on-site. Included are cleanup of inactive facilities, and of contaminated soil, sediment, and groundwater. Additionally, ORNL also works under the Hazardous Waste Corrective Action Permit, as described above, which provides another mechanism for enforcement, if it is determined insufficient progress is being made under the FFA.

CERCLA Materials Investigated Under the CWA (Mercury and PCBs) - Even though DOE typically addresses investigation and cleanup of legacy hazardous wastes under CERCLA, mercury and PCB presence in stormwater has historically been investigated under the CWA NPDES permit at ORNL, specifically as a part of the WQPP (as described in Section 3 – Water-Related Monitoring Programs at ORNL). The WQPP CERCLA mercury stormwater investigation is expected to further delineate mercury sources and to help prioritize future abatement actions on-site. The mercury investigation highlights the complex science of mercury in water, mercury bioaccumulation in fish tissue, and mercury source investigations at ORNL. In addition, CERCLA legacy contamination of PCBs has also been an ongoing issue in a few locations in ORNL stormwater that is currently being investigated and monitored under the WOPP. A conceptual model was developed that delineates the location of legacy PCB sources, transport pathways and flux based on the most recent stormwater data and scientific interpretation. Stormwater monitoring conducted under this model involves deployments of semipermeable membrane devices (SPMDs) into the stormwater catch basins and an analysis of the presence in PCBs over some time period. Mercury and PCB stormwater monitoring is done in different conditions and typically using different methods, which does not correlate directly into the EPA 2F forms. Therefore, at those stormwater outfalls where these legacy contaminants are expected to be present, there is only a reference on the form and the corresponding data can be found in the 2023 WQPP Annual Report.

Materials Management & Loading and Access Areas

The Safety Division at ORNL is responsible for managing the ORNL Hazardous Materials Management Program (HMMP) and plays a key role in the management, tracking and reporting of hazardous materials at ORNL. The HMMP helps meet regulatory requirements pertaining to management and information relative to hazardous materials. The Materials Division is responsible for tracking materials accepted at ORNL's onsite receiving facilities to the recipients' requested delivery locations. The majority of ORNL-purchased materials are delivered to Receiving at Buildings 7120,7121,7122, or 8920. Materials are inspected for obvious damage and leaks by materials personnel. Most materials are unloaded at a covered dock and staged inside prior to delivery to recipients' delivery locations. Large materials/equipment and metals may be staged outdoors. Goods receipts for materials received are entered into systems inventory, which is a tracking system used to support the purchase, payment, and delivery of services and materials, equipment, and supplies and property accountability. Before transporting hazardous materials to the recipients on-site, most hazmat packages are segregated for a hazardous materials management review. This information system is the primary tool utilized by ORNL to maintain realtime hazardous materials inventories and hazard information at ORNL. All materials system users have access to safety data sheets (SDS's) for all hazardous material receipts. The materials system displays the carcinogenicity of materials and provides and maintains an on-line carcinogen report. In addition to available SDS information, staff input hazard classification data for each hazardous material where such information is required to meet inventory and reporting requirements. Hazardous materials (trackable in materials system inventory) are sorted and staged at the materials workstation at Building 7120 after they have been received by materials management personnel. This building was built with a sloped floor that drains to the center of the warehouse space which would prevent releases of spilled material to the outdoor environment. Materials management personnel identify the material by an indicator on a purchase order barcode label or goods receipt created from the system inventory. Materials management personnel will then scan the purchase order barcode or goods receipt barcode applying the materialto-material system inventory and creating and attaching the material system radio frequency identification (RFID) barcodes to the containers. Materials requiring material system inventory that bypass the material system workstation (for various reasons) will be added to the material system inventory and RFID labels created and mailed to the purchase order requestor from a data dump of unaddressed system inventory goods receipts to the

material system from the previous day. Hazardous material packages are sorted by high and low hazards. The high hazard packages are retained for further review. A hazardous material subject matter expert (SME) will determine if any additional paperwork and placarding is necessary prior to the delivery to the recipient's delivery location. Materials are delivered to the requested delivery locations provided by the recipients, and most all the delivery locations are indoors. The materials system ensures that locations and quantities of hazardous materials are known, and hazardous materials are not stored in unsafe locations.

Herbicides, Pesticides and Fertilizers and Soil Conditioners

Herbicides – Herbicides are typically applied by groundskeeping staff in turf grass areas for weed control, landscaped areas, around fences, utility lines (e.g., aboveground steam lines), and around mowing obstacles in order to remove invasive plants (typically during April-September) predominantly on main campus. Herbicides used to control the invasive plants are carefully selected to be suitable for each site, and applications follow manufacturer's instructions to ensure the most safe and effective results. ORNL has a shallow pond located on the east side of ORNL's main campus named the East Campus Pond, which is treated with herbicides monthly during the growing season from April – September. A subcontractor is responsible for implementing all herbicide treatments to the East Campus Pond. Chemical products used include both surface and subsurface herbicides in various locations throughout the pond. ORNL also has an Invasive Plant Management Plan that describes DOE's responsibility for addressing invasive plant issues on the ORR, including ORNL. ORNL natural resources staff help identify alternate solutions to any herbicide applications when feasible, as these alternative methods are the preferred environmentally protective solution before herbicides are considered as an option.

Pesticides - ORNL has a service contract with a local pest control company to address pest issues specific to various buildings on-site. This company comes to ORNL once a week to handle specific requests typically a result of staff complaints. The contractor puts together a monthly service report summary which contains the type and quantity of chemicals used. Interior and Exterior High Performance and Sustainable Building Integrated Pest Management Guidelines are included as an integral part of this contract, in order to minimize chemical use, personnel exposure, and release to the environment. When needed, pesticides are used outside on both vegetated and gravel areas to control invasive fire ants, ticks, grubs, lawn pests, landscape pests, and to control stinging insects or insects of complaint. There has been no public health/nuisance mosquito or other flying insect pest control done at ORNL.

Fertilizers - Fertilizers are primarily applied to re-establish vegetation in areas where soil has been disturbed by construction excavation but can be also utilized by landscape staff who regularly collect soil samples to send off for analysis and apply fertilizer as needed. Grounds that are monitored and treated (if necessary) include high profile and high traffic areas/lawns.

EPA Form 2F Section 4.3 - Structural and Nonstructural Controls

Best Management Practices (BMPs) have been established under the WQPP NPDES Permit requirement for activities that have potential to impact to storm water runoff. The BMPs include both structural and non-structural controls and allows for flexibility so that the controls can be tailored to the specific activity as deemed practical. BMPs are measures or practices used to reduce the amount of pollution entering surface water, air, land, or groundwater. BMPs may be very broad in spectrum and can include processes, procedures, schedules of activities, prohibitions on practices, and other management practices. The BMPs mainly emphasize practices to

eliminate potential sources of pollution, isolate or cover material stored outside that could erode/degrade and preserve or improve runoff quality.

Additional structural and non-structural controls are also utilized to satisfy the intent of the Energy Independence and Security Act – Stormwater Management Section 438 (EISA-438) for federal facilities. Under this rule, federal facilities are to restore "predevelopment hydrology", to the extent possible, by controlling storm water runoff to allow infiltration and evaporation to occur. EISA-438 applies to development and redevelopment projects with a footprint that exceeds 5,000 sf.

Structural Controls

Various structural pollutant control measures for stormwater discharges have been (and continue to be) implemented on-site at ORNL throughout numerous NPDES permit cycles as a part of the WQPP. ORNL policy is to preserve, cultivate, and maintain native plant species within riparian buffer zones along ORNL streams and waterways. These buffer zones increase filtration/retention of sediments and nutrients being conveyed by storm water runoff, encourage healthier ecosystems, and moderate stream temperature as more mature vegetation increases the shade over the stream. Some other examples of structural controls implemented on-site include storm water detention ponds, bio-retention ponds, water quality swales, hydrodynamic separators, and oil-water separators. In addition, a flow control dam is present at White Oak Lake (WOL) which causes water flow to slow allowing particulates to settle out of the water. The spillway in the dam has a gate that can be closed in the event of an emergency and temporarily stop flow into the Clinch River. Between WOL and the Clinch River, within the WOC Embayment, a submerged gabion structure aids in further settlement of particles within the water column. Other structural controls used onsite at ORNL include roofing eaves over loading/unloading areas, roof structures over material and equipment storage areas, secondary containment structures, chemical storage sheds, and dikes, berms, or catch pans. Numerous controls that provide spill containment are also employed to prevent spills from being released into the environment. For more detailed structural controls provided at individual outfalls please refer to Appendix O – EPA Form 2F Structural Controls.

Non-Structural Controls

The following examples are non-structural control BMPs implemented on-site at ORNL:

- Good housekeeping
- Preventive maintenance (PM)
- Visual inspections
- Spill prevention and response
- Sediment and erosion control
- Management of runoff
- Employee training

Good housekeeping - Good housekeeping practices are designed to maintain a clean and orderly workplace. Poor housekeeping can result in increased potential for stormwater to become contaminated by spills, leaks, etc., and may increase the number and severity of environmental impacts. A clean and orderly work area reduces the possibility of accidental spills caused by mishandling of chemicals and equipment. Well-maintained material and chemical storage also reduce the possibility of spills and leaks that might contaminate storm water runoff. Housekeeping concerns are noted during routine inspections performed by ORNL personnel during semiannual stormwater inspections that are performed as part of the ORNL WQPP. Additionally, environmental protection

officers and environmental compliance representatives (EPO/ECRs) through various employee involvement programs address good housekeeping issues. Issues noted during these inspections are addressed promptly.

Preventive maintenance (PM) - PM includes the regular inspection and testing of plant equipment and operational systems. These inspections may uncover conditions that could lead to mechanical or structural breakdowns or failures that result in spills or releases. ORNL site and operation/maintenance personnel, and contractors who operate heavy machinery or who operate fleet vehicles at ORNL, are encouraged to perform routine inspections and perform PM activities as part of their ORNL training, regular safety briefings, informational bulletins, etc.

Visual inspections - Routine visual inspections of the facility are conducted to identify conditions or situations that could result in contamination of storm water runoff. Site inspections are performed on a routine semi-annual basis by ORNL personnel as part of the WQPP NPDES permit requirements. Visual inspections of site facilities are also performed regularly by EPO/ECR's, ORNL project managers and health and safety representatives, ORNL facility management personnel, ORNL supervisors, DOE personnel, and environmental sampling personnel. In addition, ORNL employees are trained to report any visual observations out of the norm to the laboratory shift superintendent (LSS) emergency line. Inspections are documented using electronic correspondence, DOE Walkthrough Reports, the DOE Occurrence Reporting and Processing System (ORPS), EPO/ECR field walkdowns, etc.

Spill prevention and response - Spills and leaks can be major sources of industrial stormwater pollutants. Prevention of spills and leaks is preferrable to cleaning them up after they occur; therefore, reliable spill prevention best management practices are necessary to avoid the occurrence of leaks and spills. An effective spill response program is also necessary to contain and clean up spills if they should occur, as discussed previously in the SPCC section. The recent update of the SPCC Plan for ORNL provides extensive information on spill prevention and response at ORNL and can be accessed on-line in the ORNL Standards Based Management System.

Sediment and erosion control - Steep slopes, sandy soils, unvegetated areas, and other locations may be prone to soil erosion, especially during construction or land-disturbing activities. Erosion can be controlled or prevented with the use of appropriate BMPs. Therefore, ORNL BMPs for Erosion and Sedimentation Control are included as part of the latest revision of the ORNL Stormwater Pollution Prevention BMPs. Erosion protection and sediment controls (EPSCs) in the latest edition of the Tennessee EPSC Handbook are typically utilized for excavations and construction projects of all sizes.

Stormwater management - Various stormwater management practices can be used to direct stormwater away from areas where contaminants may potentially be removed and transported to receiving streams. Stormwater management practices can also be used to redirect the flow of stormwater that contains pollutants to catchment ponds, treatment facilities, or other areas where it can be stored and/or treated. Stormwater management practices are covered extensively in the ORNL Stormwater BMP for Erosion and Sedimentation Control.

Employee education - Employee education is essential to effective implementation of the ORNL BMPs. The purpose of an education program is to inform personnel at all levels of responsibility of the importance of the ORNL Stormwater BMPs and what they can do to prevent stormwater pollution. Personnel are more able to

recognize the importance of preventing spills, reporting leaks from equipment and machinery, responding safely and effectively to a spill when one occurs, and recognizing situations that could lead to contamination of stormwater runoff when properly trained. Anytime staff observe something out of the norm there is an emergency lab hotline (LSS) they can call for assistance. An online training module titled "Water Quality Compliance Awareness" has been developed to address stormwater pollution prevention at ORNL for personnel working at ORNL. This module is required to be completed by all employees. There is also an initial one-time training module and an annual refresher training module entitled SPCC Training for oil-handlers that discusses oil spill prevention, response, and reporting. This module is required for all personnel involved in oil-handling operations. Information on Stormwater BMPs is also provided to ORNL employees by means of EPO/ECR team meetings and distributed to ORNL staff in the areas that they manage.

EPA Form 2F Section 5. Non-Stormwater Discharges (40 CFR 122.26(c)(1)(i))(C))

Significant efforts have been made to identify those outfalls with non-stormwater discharge components at ORNL. ORNL has conducted various dye trace studies, performed smoke testing studies, and closed-circuit television (CCTV) studies in order to confirm appropriate connections throughout ORNL campus. In April 2022, a Sanitary Sewer Condition Assessment was completed which included smoke testing, CCTV pipe inspection, manhole inspections, and pump station drawdown testing. Approximately 133 manholes were investigated, including 6 high-priority lift stations had drawdown testing, approximately 17,000 LF of existing 4" – 12" sanitary sewer pipes were CCTV-tested, and approximately 20,000 LF of smoke testing of existing 4" – 12" sanitary sewer pipe was included. In addition, a Stormwater CCTV Study was completed in April 2022 of approximately 27,500 LF of storm gravity sewer and 338 storm sewer access points that were assessed for condition. Dye trace studies have also been undertaken on ORNL main campus as needed to verify system connections to new or modified systems.

ORNL maintains a comprehensive sink and drain survey and a database to track sink and drain connections, including connections to storm drain networks. In cases where flow has not been observed at an outfall by the environmental sampling technicians, the outfall and the storm drain network leading to the outfall gets physically inspected as needed to look for evidence of additional non-storm water discharges. Some of the common methods recorded are visual inspections (of pipe routing), hydraulic testing, dye testing, and review of facility drawings. Field surveys and process knowledge, combined with a review of dry-weather flows are used to identify outfalls with non-storm water discharges.

All non-stormwater discharges on-site at ORNL are identified in other required EPA forms included in the NPDES permit renewal application package. Those outfalls with <u>only</u> non-stormwater discharges (i.e. non-process wastewater discharges) will have an EPA Form 2E submitted, as well as those outfalls that discharge <u>both</u> stormwater and non-process wastewater. EPA Forms 2C are being submitted for the two (2) industrial wastewater treatment facilities located at ORNL called, the STP (X01) and PWTC (X12). See **Appendix A** – **Outfall Summary** for more details regarding the EPA forms provided in this permit renewal for each outfall.

EPA Form 2F

Stormwater Outfalls

Stormwater Group A1

High Imperviousness with Cooling Tower Blowdown

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



U.S Environmental Protection Agency

Form 2F	9	EPA		Application for N	PDES Permit to	Discharge Wastewa	ter	
NPDES			STORMWA	TER DISCHARG	ES ASSOCIA	TED WITH INDUSTR	RIAL ACTIVIT	Υ
SECTION			TION (40 CFR 122.21(g)					
	1.1	Provide info	ormation on each of the t	facility's outfalls in t	he table below			
		Number	Receiving Water Nar	me	Latitude		Longitude	
_		227	White Oak Creek	35 °	55 ′ 43.01 ″	N 84 °	18 ′ 35.47	" W
ation		Storm Water	r: Group A1 H	ligh imperviousness v	v/Cooling Tower	Blowdown		
Outfall Location		Other Outfali	Is Included: 231; 281; 3.	14; 363; 481; 732				
SECTION			6 (40 CFR 122.21(g)(6))					
	2.1	upgrading,	esently required by any for or operating wastewater lischarges described in the	treatment equipme	ent or practices		ntal programs	
	2.2		tif , and applicable proje	ant in the table bale		No -> SKIF to Section	· · · · · · · · · · · · · · · · · · ·	
	2.2	Briefly Iden	tify each applicable proje	ect in the table belo	w.		First Commit	Laura Datas
			Identification and ription of Project	Affected Outfalls (list outfall numbers)	Sourc	e(s) of Discharge	Final Compl	lance Dates
		Desc	ription of Project	(list outrail humbers)			Required	Projected
		See Appendix	K - Improvements					
ţ y								
orovements								
rove								
<u>ਜ</u>								
	2.3		I attached sheets describir				 r environmenta	l projects
		that may af	fect your discharges) tha	at you now have un	derway or plann			-
		✓ Yes		□ N	0			

EP# TN189009	dentification	n Number	NPDES Permit Number TN0002941		acility Name tional Laboratory		roved 03/05/19 No. 2040-0004				
SECTION	ON 3. SITE	DRAINAGE	MAP (40 CFR 122.26(c)(1)(i)(A))							
Site Drainage Man	3.1		ttached a site drainage map co	••	information to this appl	ication? (See instructi	ons for				
SECTIO	ON 4. POL	LUTANT SO	URCES (40 CFR 122.26(c)(1)(i	i)(B))							
	4.1	Provide info	ormation on the facility's polluta	nt sources in the tab	le below.						
		Outfall	Impervious Surfa			urface Area Drained					
		Number	(within a mile radius o	specify units	(within a	mile radius of the facility)	specify units				
		227	1.899	acres	2.716		acres				
				specify units			specify units				
				specify units			specify units				
				specify units			specify units				
				specify units			specify units				
				specify units			specify units				
Pollutant Sources	4.2	requiremer This stormwate and contains a typical of an inroadways com and steam line weed control a are primarily ap	parrative description of the facilitats.) er Group A1 Outfall 227 was selected to cooling tower blowdown component with the search park with impervious prise most of the land use within this does are located throughout the ORNL cannot to remove invasive plants. When no poplied to re-establish vegetation in area grass areas and along roadways. Reference.	o represent outfalls that I which may be present at the surfaces and grassed or rainage area, although un mpus. During the growing the growing the growing the growing the growing that the growing the growing that the growing the growing that the growing that the growing that the growing the growing the growing the growing the growing that the growing the gr	nave greater than 50% impe he time of the stormwater sa graveled areas. Paved park tilities such as transformers, ng season, herbicides are ap ed to control fire ants, ticks, isturbed by construction exc	rvious surface within the di imple. This outfall's draina king, building infrastructure generator equipment, coo plied in turf and landscape and other nuisance insects	rainage area age area is a, and paved ling systems, ad areas for s. Fertilizers				
	4.3	Provide the location and a description of existing structural and non-structural control measures to reduce p stormwater runoff. (See instructions for specific guidance.)									
		stormwater	runon. (See instructions for spe	Stormwater Tr	reatment						
		Outfall Number		Control Measures			Codes from Exhibit 2F-1 (list)				
		227	A 5000-gallon rain harvest tank is Outfall 363 which is in the Stormwa				N/A				

TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C)) 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 Johnny O. Moore Manager, ORNL Site Office Date signed Signature Non-Stormwater Discharges 5.2 Provide the testing information requested in the table below. Onsite Drainage Points Outfall Directly Observed **Description of Testing Method Used** Date(s) of Testing Number **During Test** 227 See Chapter 7 - EPA Form 2F for information. SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D)) Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. Significant Leaks or Spills In May, 2021, a hydraulic line rupture resulted in the release of ~ 1 gallon of hyraulic fluid which spilled to the ground and drained into a catch basin connected to Outfall 227. This release did not impact aquatic life, but was reported in the NetDMR as an unpermitted release. ORNL maintains an aggressive spill prevention and control program through the ORNL SPCC Plan, which stresses awareness of spill prevention to both ORNL employees and subcontractor employees on site. As part of the Spill Contingency Plan, a subpart of the ORNL SPCC, ORNL has an experienced spill response team that is available around-the-clock for spill control and cleanup operations, and that maintains a database of spills and record of clean-up. In addition, spill materials; consisting of spreadable granular absorbents, absorbent booms, containment containment, containment curtain and oil skimmer; are available for use by the spill response team. Additionally, construction sites are required to maintain spill kits during the duration of the construction project. Over the past three years between (2019-2022), ORNL has experienced minor spills or leaks, most of which were heavy equipment- or vehicle-related, and generally involved several ounces to several gallons of ethylene glycol or petroleum-based fuels, lubricants, and/or hydraulic fluids. In every instance the spill response team enacted clean-up. None of these were reportable-quantity spills of oil or hazardous substances as defined within the ORNL NPDES Permit TN0002941, 40 CFR 117 or 40 CFR 403. SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E)) See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must Discharge Information complete. Not all applicants need to complete each table. Is this a new source or new discharge? Yes → See instructions regarding submission of No → See instructions regarding submission of estimated data. actual data. Tables A, B, C, and D 7.2 Have you completed Table A for each outfall? **✓** Yes No

Facility Name

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	Discharge Information Continued Discharge Information Continued													EPA Identification Number TN1890090003																
	7.17		7.16		7.15		7.14		7.13		7.12		7.11		7.10		7.9		7.8		7.7		7.6		7.5		7.4		7.3	dentification 003
Yes	Have you provided information for the storm event(s) sampled in Table D?	Yes	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	Do you know or have reason to believe any pollutants in Exhibit 2F-4 are present in the discharge?	Yes	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	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	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	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	Do you expect any of the pollutants in Exhibit 2F–3 to be discharged in concentrations of 10 ppb or greater?	Yes	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	Do you know or have reason to believe any pollutants in Exhibit 2F–3 are present in the discharge?	☐ Yes →SKIP to Item 7.18.	Do you qualify for a small business exemption under the criteria specified in the Instructions?	Yes	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	Do you know or have reason to believe any pollutants in Exhibit 2F–2 are present in the discharge?	Yes	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	Is the facility subject to an effluent limitation guideline (ELG) or effluent limitations in an NPDES permit for its process wastewater?	n Number NPDES Permit Number TN0002941
□ No	/ent(s) sampled in Table D?	□ No	you know or believe to be present in the	No → SKIP to Item 7.17	llutants in Exhibit 2F–4 are present in the	□ No	anation in Table C for pollutants you ex or less than 100 ppb for the pollutants i	□ No	of or the pollutants identified in Item 7.1; ater?	✓ No → SKIP to Item 7.14	phenol, or 2-methyl-4,6-dinitrophenol to	□ No	for those pollutants in Exhibit 2F–3 that	No → SKIP to Item 7.12	PF–3 to be discharged in concentrations	□ No	at you know or have reason to believe	No → SKIP to Item 7.10	llutants in Exhibit 2F–3 are present in the	√ No	under the criteria specified in the Instru	□ No	nat you know or have reason to believe reason to believe reason to believe reason to believe	□ No → SKIP to Item 7.7	llutants in Exhibit 2F–2 are present in the	□ No	ntitative data for those pollutants that ar nt limitations in an NPDES permit for th	□ No → SKIP to Item 7.5	ideline (ELG) or effluent limitations in a	Facility Name Oak Ridge National Laboratory
			e discharge and provided an	m 7.17.	he discharge?		spect to be present in the dentified in Item 7.12)?		2 that you expect to be	m 7.14.	o be discharged in concentrations		at you expect to be discharged in	m 7.12.	s of 10 ppb or greater?		are present in the discharge in	m 7.10.	he discharge?		ctions?		are present in the discharge and	m 7.7.	he discharge?		re (1) limited either directly or le facility's process wastewater?	m 7.5.	n NPDES permit for its process	Form Approved 03/05/19 OMB No. 2040-0004

	Cont	ract Analysis In	formation					SECTIO	В	iologi	cal To	xicity	/ Tes	ting l	Data G	Dis	charg	e Info	rmati	on Co	ontinu	ed	EPA Identification Number TN1890090003
					9.2		9.1	N 9. CON					8.2		8.1				7.19		7.18	Used o	Identificatio)003
Pollutant(s) analyzed	Phone number	Laboratory address	Name of laboratory/firm		Provide informa	Yes	Were any of the consulting firm?	NTRACT ANALY				Test(s)	Identify the tes	Yes	Do you have a	3.	2.	1.	List the pollutar	□ Yes	Is any pollutani manufactured a	Used or Manufactured Toxics	
	,				ation for each c		e analyses repo ?	'SIS INFORMA				t(s)	Identify the tests and their purposes below.		any knowledge oscharges or on a				nts below, inclu		t listed on Exhib as an intermedi	Toxics	NPDES Pe TN0002941
Ammonia, BOD, COD, Nitrogen, Nitrate/nitrite, Oil & Grease, VOCs/SVOCs, Phosphorus, TSS	(843) 556-8171	2040 Savage Road Charleston, SC (USA) 29407	GEL Laboratories, LLC	Laboratory Number 1	Provide information for each contract laboratory or consulting firm below		Were any of the analyses reported in Section 7 (on Tables A through C) performed by a contract laboratory or consulting firm?	SECTION 9. CONTRACT ANALYSIS INFORMATION (40 CFR 122.21(g)(12))				Purpose of Test(s)	oses below.		8.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity have any of your discharges or on a receiving water in relation to your discharge within the last three years?	6.	5	4.	List the pollutants below, including TCDD if applicable		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?		NPDES Permit Number .1
itrogen, se, rus, TSS		407		nber 1	consulting fire		1 Tables A thr	?1(g)(12))				est(s)			that any biologelation to you				ble.		-4 a substand r byproduct?		Facility Name Oak Ridge National Laboratory
				Laboratory Number 2	n below.	No → SK	ough C) performed		☐ Yes [☐ Yes [☐ Yes [Submitted to NPDES Permitting Authority?		No → SK	gical test for acute r discharge within					No → SKI	e or a component		acility Name onal Laboratory
				ımber 2		SKIP to Section 10	by a contrac		No	8	No	PDES ority?		SKIP to Section 9	or chronic tox the last three	9.	8.	7.		No → SKIP to Section 8	of a substanc		
				Laboratory Number 3		10.	t laboratory or					Date Submitted		9.	De 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?						e used or		Form Approved 03/05/19 OMB No. 2040-0004

			C	Check	list an	d Cer	tificati	ion St	ateme	ent								SECTION	EPA Ident TN1890090003	
			10.2														10.1	N 10. CH	EPA Identification Number 90090003	
Signature	Name (print or type first and last name) Johnny O. Moore	I certify under penalty of law that this do accordance with a system designed to submitted. Based on my inquiry of the perfor gathering the information, the information complete. I am aware that there are signand imprisonment for knowing violations	Certification Statement	Section 10	Section 9	Section 8			Section 7	Section 6	Section 5	Section 4	Section 3	Section 2	Section 1	Column 1	In Column 1 below, mark th each section, specify in Col all applicants are required to	ECKLIST AND CERTIFICAT	TN000294	
	llast name)	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.				w/attachments	✓ Table C	✓ Table B	▼ Table A	□ w/ attachments	✓ w/ attachments	✓ w/ attachments	✓ w/ site drainage map	w/ attachments	w/ attachments (e.g., re		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.	SECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))	NPDES Permit Number Oak Ridge	
Date signed	Official title Manager, ORNL Site Office	thments were prepared under and personnel properly gather on manage the system or those to the best of my knowledge a submitting false information, in			w/attachments (e.g., responses for additional contact laboratories or firms)		✓ Table D	w/ analytical results as an attachment	w/ small business exemption request						w/ attachments (e.g., responses for additional outfalls)	Column 2	ave completed and are submitt are enclosing to alert the perm attachments.	22(a) and (d))	Facility Name Oak Ridge National Laboratory	
		my direction or supervision in and evaluate the information persons directly responsible nd belief, true, accurate, and reluding the possibility of fine			laboratories or firms)			an attachment	ption request								ting with your application. For litting authority. Note that not		Form Approved 03/05/19 OMB No. 2040-0004	

	EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))1 You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements. Maximum Daily Discharge Average Daily Discharge Source of (specify units) (specify units) Information **Number of Storm** Pollutant or Parameter **Grab Sample Taken Grab Sample Taken** (new source/new Flow-Weighted Flow-Weighted **Events Sampled** During First dischargers only; use **During First** Composite Composite codes in instructions) 30 Minutes 30 Minutes J2 ma/L J2 mg/L Oil and grease J0.03 lbs J0.03 lbs <5 mg/L <5 mg/L <5 mg/L <5 mg/L Biochemical oxygen demand (BOD₅) <0.07 lbs <0.3 lbs <0.07 lbs <0.3 lbs 31.1 mg/L 28.4 mg/L 31.1 mg/L 28.4 mg/L 3. Chemical oxygen demand (COD) 0.42 lbs 1.6 lbs 0.42 lbs 1.6 lbs 4.02 ma/L 3.4 ma/L 4.02 mg/L 3.4 ma/L Total suspended solids (TSS) 0.054 lbs 0.19 lbs 0.054 lbs 0.19 lbs 0.0696 ma/L 0.074 ma/L 0.0696 ma/L 0.074 ma/L 5. Total phosphorus 0.00093 lbs 0.0041 lbs 0.00093 lbs 0.0041 lbs 0.906 ma/L 0.906 ma/L 1 ma/L 1 ma/L Total Kjeldahl nitrogen (TKN) 0.012 lbs 0.06 lbs 0.012 lbs 0.06 lbs 1.35 ma/L 1.35 ma/L 1.51 ma/L 1.51 ma/L Total nitrogen (as N) 0.018 lbs 0.084 lbs 0.018 lbs 0.084 lbs 7.8 pH (minimum) 7.8 pH (maximum)

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

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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.

	Maximum Daily Disch (specify units)) (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled (new sou	(new source/new dischargers only; use codes in instructions)
Ammonia (as N)	0.318 mg/L 0.0042 lbs	0.45 mg/L 0.025 lbs	0.318 mg/L 0.0042 lbs	0.45 mg/L 0.025 lbs	1	
Antimony 7440-36-0	0.000285 mg/L 0.0000038 lbs	0.000294 mg/L 0.000016 lbs	0.000285 mg/L 0.0000038 lbs	0.000294 mg/L 0.000016 lbs	1	
Arsenic 7440-38-2	<0.002 mg/L <0.00003 lbs	<0.002 mg/L <0.0001 lbs	<0.002 mg/L <0.00003 lbs	<0.002 mg/L <0.0001 lbs	1	
Cadmium 7440-43-9	<0.00033 mg/L <0.0000044 lbs	<0.00033 mg/L <0.000018 lbs	<0.00033 mg/L <0.0000044 lbs	<0.00033 mg/L <0.000018 lbs	1	
Chromium 7440-47-3	<0.01 mg/L <0.0001 lbs	<0.01 mg/L <0.0006 lbs	<0.01 mg/L <0.0001 lbs	<0.01 mg/L <0.0006 lbs	1	
Copper 7440-50-8	<0.011 mg/L <0.00015 lbs	<0.011 mg/L <0.00062 lbs	<0.011 mg/L <0.00015 lbs	<0.011 mg/L <0.00062 lbs	1	
Iron 7439-89-6	<0.22 mg/L <0.0029 lbs	<0.22 mg/L <0.012 lbs	<0.22 mg/L <0.0029 lbs	<0.22 mg/L <0.012 lbs	1	
Lead 7439-92-1	<0.0015 mg/L <0.000020 lbs	<0.0015 mg/L <0.000084 lbs	<0.0015 mg/L <0.000020 lbs	<0.0015 mg/L <0.000084 lbs	1	
Mercury 7439-97-6					0	See Chapter 7
Nickel 7440-02-0	<0.073 mg/L <0.00097 lbs	<0.073 mg/L <0.0041 lbs	<0.073 mg/L <0.00097 lbs	<0.073 mg/L <0.0041 lbs	1	
Nitrogen, Total Organic (as N)	0.588 mg/L 0.0079 lbs	0.55 mg/L 0.031 lbs	0.588 mg/L 0.0079 lbs	0.55 mg/L 0.031 lbs	1	
Selenium 7782-49-2	<0.0031 mg/L <0.000041 lbs	<0.0031 mg/L <0.00017 lbs	<0.0031 mg/L <0.000041 lbs	<0.0031 mg/L <0.00017 lbs	1	
Silver 7440-22-4	<0.00012 mg/L <0.0000016 lbs	<0.00012 mg/L <0.0000067 lbs	<0.00012 mg/L <0.0000016 lbs	<0.00012 mg/L <0.0000067 lbs	1	
Zinc 7440-66-6	0.129 mg/L 0.0017 lbs	0.127 mg/L 0.0071 lbs	0.129 mg/L 0.0017 lbs	0.127 mg/L 0.0071 lbs	1	

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

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	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
1,1,1-Trichloroethane 71-55-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1,2,2-Tetrachloroethane 79-34-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1,2-Trichloroethane 79-00-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1-Dichloroethane 75-34-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1-Dichloroethene 75-35-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2,4,5-Tetrachlorobenzene 95-94-3	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
1,2,4-Trichlorobenzene 120-82-1	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
1,2-Dibromoethane 106-93-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichlorobenzene 95-50-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichloroethane 107-06-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichloroethene 540-59-0	<2 ug/L <0.00003 lbs		<2 ug/L <0.00003 lbs		1	
1,2-Dichloropropane 78-87-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Diphenylhydrazine 122-66-7	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
1,3-Dichlorobenzene 541-73-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,3-Dichloropropylene 542-75-6	<2 ug/L <0.00003 lbs		<2 ug/L <0.00003 lbs		1	
1,4-Dichlorobenzene 106-46-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	

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

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		Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Number of Storm Events Sampled	(new source/new dischargers only; use codes in instructions)
2,4,5-Trichlorophenol 95-95-4	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
2,4,6-Trichlorophenol 88-06-2	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
2,4-Dichlorophenol 120-83-2	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
2,4-Dimethylphenol 105-67-9	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
2,4-Dinitrophenol 51-28-5	<21.8 ug/L <0.00029 lbs	<22 ug/L <0.0012 lbs	<21.8 ug/L <0.00029 lbs	<22 ug/L <0.0012 lbs	1	
2,4-Dinitrotoluene 121-14-2	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
2,6-Dinitrotoluene 606-20-2	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
2-Butanone 78-93-3	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
2-Chloroethylvinyl ether 110-75-8	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
2-Chloronaphthalene 91-58-7	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
2-Chlorophenol 95-57-8	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
2-Hexanone 591-78-6	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
2-Methylphenol 95-48-7	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
2-Nitrophenol 88-75-5	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
3,3'-Dichlorobenzidine 91-94-1	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
4,6-Dinitro-O-Cresol 534-52-1	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	

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

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		illy Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
4-Bromophenylphenyl ether 101-55-3	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
4-Chlorophenylphenyl ether 7005-72-3	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
4-Methyl-2-pentanone 108-10-1	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
4-Nitrophenol 100-02-7	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Acenaphthene 83-32-9	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Acenaphthylene 208-96-8	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Acetone 67-64-1	6.41 ug/L 0.000086 lbs		6.41 ug/L 0.000086 lbs		1	
Acrolein 107-02-8	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
Acrylonitrile 107-13-1	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
Allyl chloride 107-05-1	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
Aluminum 7429-90-5	0.0758 mg/L 0.0010 lbs	<0.075 mg/L <0.0042 lbs	0.0758 mg/L 0.0010 lbs	<0.075 mg/L <0.0042 lbs	1	
Aniline 62-53-3	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Anthracene 120-12-7	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Barium 7440-39-3	0.0262 mg/L 0.00035 lbs	0.0258 mg/L 0.0014 lbs	0.0262 mg/L 0.00035 lbs	0.0258 mg/L 0.0014 lbs	1	
Benzene 71-43-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Benzidine 92-87-5	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	227	OMB No. 2040-0004

	Maximum Da (specif	ily Discharge y units)		ly Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Benzo(a)anthracene 56-55-3	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Benzo(a)pyrene 50-32-8	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Benzo(b)fluoranthene 205-99-2	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Benzo(ghi)perylene 191-24-2	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Benzo(k)fluoranthene 207-08-9	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Benzyl chloride 100-44-7	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
Beryllium 7440-41-7	<0.00014 mg/L <0.0000019 lbs	<0.00014 mg/L <0.0000078 lbs	<0.00014 mg/L <0.0000019 lbs	<0.00014 mg/L <0.0000078 lbs	1	
Bis(2-chloroethoxy)methane 111-91-1	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Bis(2-chloroethyl) ether 111-44-4	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Bis(2-chloroisopropyl) ether 108-60-1	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Bis(2-ethylhexyl)phthalate 117-81-7	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Boron 7440-42-8	0.0159 mg/L 0.00021 lbs	0.0159 mg/L 0.00089 lbs	0.0159 mg/L 0.00021 lbs	0.0159 mg/L 0.00089 lbs	1	
Bromodichloromethane 75-27-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Bromoform 75-25-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Bromomethane 74-83-9	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Butylbenzylphthalate 85-68-7	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	227	OMB No. 2040-0004

	Maximum Da (specif	ily Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Calcium 7440-70-2	32.1 mg/L 0.43 lbs	31.2 mg/L 1.7 lbs	32.1 mg/L 0.43 lbs	31.2 mg/L 1.7 lbs	1	
Carbon Disulfide 75-15-0	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
Carbon tetrachloride 56-23-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Cesium 7440-46-2	<0.0000400 mg/L <5.30E-07 lbs	<0.0000400 mg/L <0.0000022 lbs	<0.0000400 mg/L <5.30E-07 lbs	<0.0000400 mg/L <0.0000022 lbs	1	
Chlorobenzene 108-90-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloroethane 75-00-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloroform 67-66-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloromethane 74-87-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chrysene 218-01-9	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
cis-1,2-Dichloroethene 156-59-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
cis-1,3-Dichloropropene 10061-01-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Cobalt 7440-48-4	<0.00016 mg/L <0.0000021 lbs	<0.00016 mg/L <0.0000089 lbs	<0.00016 mg/L <0.0000021 lbs	<0.00016 mg/L <0.0000089 lbs	1	
Cyclohexane 110-82-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Dibenzo(a,h)anthracene 53-70-3	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Dibromochloromethane 124-48-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Diethylphthalate 84-66-2	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	227	OMB No. 2040-0004

		Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Number of Storm Events Sampled	(new source/new dischargers only; use codes in instructions)
Dimethylphthlate 131-11-3	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Di-n-butylphthalate 84-74-2	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Di-n-octylphthlate 117-84-0	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Diphenylamine 122-39-4	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Disulfoton 298-04-4	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Ethylbenzene 100-41-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Fluoranthene 206-44-0	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Fluorene 86-73-7	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Hexachlorobenzene 118-74-1	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Hexachlorobutadiene 87-68-3	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Hexachlorocyclopentadiene 77-47-4	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Hexachloroethane 67-72-1	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Indeno(1,2,3-cd)pyrene 193-39-5	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Isophorone 78-59-1	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Kepone 143-50-0	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
m+p Methylphenol 65794-96-9	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	227	OMB No. 2040-0004

	Maximum Da (specif			ly Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Magnesium 7439-95-4	5.53 mg/L 0.074 lbs	5.47 mg/L 0.31 lbs	5.53 mg/L 0.074 lbs	5.47 mg/L 0.31 lbs	1	
Manganese 7439-96-5	0.00688 mg/L 0.000092 lbs	0.0067 mg/L 0.00037 lbs	0.00688 mg/L 0.000092 lbs	0.0067 mg/L 0.00037 lbs	1	
Methyl methacrylate 80-62-6	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1	
Methyl parathion 298-00-0	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Methylene chloride 75-09-2	<2 ug/L <0.00003 lbs		<2 ug/L <0.00003 lbs		1	
Molybdenum 7439-98-7	<0.0032 mg/L <0.000043 lbs	<0.0032 mg/L <0.00018 lbs	<0.0032 mg/L <0.000043 lbs	<0.0032 mg/L <0.00018 lbs	1	
Naphthalene 91-20-3	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Nitrobenzene 98-95-3	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
N-Nitrosodiethylamine 55-18-5	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
N-Nitrosodimethylamine 62-75-9	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
N-Nitroso-di-n-propylamine 621-64-7	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
N-Nitrosopyrrolidine 930-55-2	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Parathion 56-38-2	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
PCB-1016 12674-11-2					0	See Chapter 7
PCB-1221 11104-28-2					0	See Chapter 7
PCB-1232 11141-16-5					0	See Chapter 7

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	227	OMB No. 2040-0004

		illy Discharge y units)		ily Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
PCB-1242 53469-21-9					0	See Chapter 7
PCB-1248 12672-29-6					0	See Chapter 7
PCB-1254 11097-69-1					0	See Chapter 7
PCB-1260 11096-82-5					0	See Chapter 7
P-Chloro-M-Cresol 59-50-7	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Pentachlorobenzene 608-93-5	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Pentachlorophenol 87-86-5	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Phenanthrene 85-01-8	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Phenol 108-95-2	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	<10.9 ug/L <0.00015 lbs	<11 ug/L <0.00062 lbs	1	
Potassium 7440-09-7	1.03 mg/L 0.014 lbs	1.01 mg/L 0.056 lbs	1.03 mg/L 0.014 lbs	1.01 mg/L 0.056 lbs	1	
Pyrene 129-00-0	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	<1.09 ug/L <0.000015 lbs	<1.1 ug/L <0.000062 lbs	1	
Sodium 7440-23-5	21.5 mg/L 0.29 lbs	21.3 mg/L 1.2 lbs	21.5 mg/L 0.29 lbs	21.3 mg/L 1.2 lbs	1	
Strontium 7440-24-6	0.0708 mg/L 0.00095 lbs	0.069 mg/L 0.0039 lbs	0.0708 mg/L 0.00095 lbs	0.069 mg/L 0.0039 lbs	1	
Styrene 100-42-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Tetrachloroethene 127-18-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Thallium 7440-28-0	<0.0000400 mg/L <5.30E-07 lbs	<0.0000400 mg/L <0.0000022 lbs	<0.0000400 mg/L <5.30E-07 lbs	<0.0000400 mg/L <0.0000022 lbs	1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	227	OMB No. 2040-0004

		ily Discharge y units)		i ly Discharge fy units)	Number of Storm	Source of Information	
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)	
Tin 7440-31-5	0.00635 mg/L 0.000085 lbs	0.00638 mg/L 0.00036 lbs	0.00635 mg/L 0.000085 lbs	0.00638 mg/L 0.00036 lbs	1		
Titanium 7440-32-6	0.0225 mg/L 0.00030 lbs	0.0226 mg/L 0.0013 lbs	0.0225 mg/L 0.00030 lbs	0.0226 mg/L 0.0013 lbs	1		
Toluene 108-88-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Total Cresols 1319-77-3	<21.8 ug/L <0.00029 lbs	<22 ug/L <0.0012 lbs	<21.8 ug/L <0.00029 lbs	<22 ug/L <0.0012 lbs	1		
trans-1,2-Dichloroethene 156-60-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
trans-1,3-Dichloropropene 10061-02-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Trichloroethene 79-01-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Trichlorofluoromethane 75-69-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Uranium 7440-61-1	<0.0012 mg/L <0.000016 lbs	<0.0012 mg/L <0.000067 lbs	<0.0012 mg/L <0.000016 lbs	<0.0012 mg/L <0.000067 lbs	1		
Vanadium 7440-62-2	<0.0009 mg/L <0.00001 lbs	<0.0009 mg/L <0.00005 lbs	<0.0009 mg/L <0.00001 lbs	<0.0009 mg/L <0.00005 lbs	1		
Vinyl acetate 108-05-4	<5 ug/L <0.00007 lbs		<5 ug/L <0.00007 lbs		1		
Vinyl chloride 75-01-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Xylene 1330-20-7	<3 ug/L <0.00004 lbs		<3 ug/L <0.00004 lbs		1		
Zirconium 7440-67-7	<0.0031 mg/L <0.000041 lbs	<0.0031 mg/L <0.00017 lbs	<0.0031 mg/L <0.000041 lbs	<0.0031 mg/L <0.00017 lbs	1		

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EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	227	OMB No. 2040-0004

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

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

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)
3/23/2022	11.8 hrs	.66 in	158.5 hrs	85 gpm	6700 gal

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

All flow rates were measured or estimated by measuring the time required for the stormwater discharge to fill a container of a known volume.

Form 2F - Section 1.1 Continuation Page

Outfall: 227	Outfall: 227			Group A	1 High	<i>I</i> mpervi	ious <i>ness</i> w/CT Blowdown	EPA ID Number	TN0002941
	Latitud	de		Longit	tude				
Outfall Number	Deg	Min	Sec	Deg	Min	Sec	ReceivingWater		
227	35	55	43	84	18	35	White Oak Creek		
231	35	55	46	84	18	32	White Oak Creek		
281	35	55	01	84	18	07	Melton Branch		
314	35	55	48	84	18	29	White Oak Creek		
363	35	55	39	84	18	52	Fifth Creek		
481	35	55	07	84	18	09	Tributary to Melton Branch		
732	35	55	51	84	18	23	White Oak Creek		

Form 2F - Section 4.1 Continuation Page

1 Outlan. 227 Oloub A Frigit Indervious/1633 W/O Diowdown Li A ib Humber 110002371	Outfall:	227	Group A1 High Impervious ness w/CT Blowdown	EPA ID Number	TN0002941
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Outfall Number	Area of Impervious Surface (acres)	Total Area Drained (acres)	
227	1.899	2.716	
231	3.788	4.432	
281	2.141	3.497	
314	2.696	4.579	
363	2.308	3.63	
481	0.298	0.357	
732	>50%	9.076	

Stormwater Group A2

Low Imperviousness with Cooling Tower Blowdown

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

U.S Environmental Protection Agency

Form 2F	.Q.I	EPA			DES Permit to Discharg	•	er					
NPDES			STORMWA	TER DISCHARGE	S ASSOCIATED WITH	INDUSTRI	AL ACTIVIT	Υ				
SECTION			TION (40 CFR 122.21(g)									
	1.1	Provide info	ormation on each of the t	Í								
		Number	Receiving Water Nar	me	Latitude		Longitude					
_		204	White Oak Creek	35 °	55 ′ 26.81 ″ N	84 °	18 ′ 58.34	" W				
atior		Storm Water	r: Group A2 L	ow Imperviousness w/0	Cooling Tower Blowdown							
Outfall Location		Other Outfall	Is Included: 435; 437									
Outf												
SECTION	V 2. IMPI		G (40 CFR 122.21(g)(6))									
	2.1				authority to meet an implit or practices or any other							
			lischarges described in the		to practices of any other	CHVIIOHIHOI	itai programo	ulat oodid				
		✓ Yes			☐ No → SKI	P to Section	3.					
	2.2	Briefly iden	efly identify each applicable project in the table below.									
		Brief	Identification and	Affected Outfalls			Final Compliance Dates					
			ription of Project	(list outfall numbers)	Source(s) of Disci	harge	Required	Projected				
		See Appendix	K - Improvements									
ints												
леше												
Improvements												
=												
	2.3	Have you a	I attached sheets describir	ng any additional wat	I er pollution control progra	ms (or other	ı environmenta	l Il projects				
		1	ffect your discharges) tha	-	erway or planned? (Option	nal Item)						
		✓ Yes		□ No								

EPA Identification Number NPDES Permit Number Facility Name FN1890090003 TN0002941 Oak Ridge National Laboratory			proved 03/05/19 No. 2040-0004						
SECTION	N 3. SITE	DRAINAGE	MAP (40 CFR 122.26(c)(1)(i)(A	4))					
Site Drainage Map	3.1	Have you a specific gui	ttached a site drainage map cor	ntaining all required	information to this appl	ication? (See instruct	ions for		
	I A BOL	100	LIDOTO (40 OFD 400 00(-)(4)()	□ No					
SECTION	4. POL 4.1		URCES (40 CFR 122.26(c)(1)(i) ormation on the facility's pollutar		ole below				
	4.1	Outfall	Impervious Surfa			urface Area Drained			
		Number	(within a mile radius of	the facility)		mile radius of the facility)	oposify unito		
		204	1.117	specify units acres	2.964		specify units acres		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
Pollutant Sources	4.2	requiremen The Stormwate contain a coolin typical of an incloading docks campus, and si cooling towers, remove invasiv re-establish vei	er Group A2 Outfall 204 was selected to ng tower blowdown component which n dustrial research park with impervious s on many buildings, utility equipment suc ome dynamic laydown areas used as d and industrial shops. During the grow re plants. When needed, pesticides are getation in areas where soil has been d	arrative description of the facility's significant material in the space below. (See instructions for content is.) Group A2 Outfall 204 was selected to represent outfalls that have less than 50% impervious surface within the drainage areas and group blowdown component which may be present at the time of the stormwater sample. This outfall's drainage area land use is instrial research park with impervious surfaces (roads, sidewalks, buildings) and grassed (landscape or natural) areas. There are in many buildings, utility equipment such as transformers, generators, cooling and heating systems located throughout the ORNL me dynamic laydown areas used as delivery drop points, including the area around the Liquid Low Level Waste process buildings, and industrial shops. During the growing season, herbicides are applied in turf and landscaped areas for weed control and to plants. When needed, pesticides are used to control fire ants, ticks, and other nuisance insects. Fertilizers are primarily applied to elation in areas where soil has been disturbed by construction excavation but are also occasionally utilized by landscape of grass areas and along roadways. Refer to Chapter 7 - EPA Form 2F for additional detail.					
	4.3		location and a description of ex		d non-structural control	measures to reduce p	oollutants in		
		stormwater	runoff. (See instructions for spe		rootmont				
		Outfall Number	Stormwater Treatment Control Measures and Treatment						
		204	A stormwater detention pond retain through Outfall 435 is in the Storm				(list) N/A		

TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C)) 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 Johnny O. Moore Manager, ORNL Site Office Date signed Signature Non-Stormwater Discharges 5.2 Provide the testing information requested in the table below. Onsite Drainage Points Outfall Directly Observed **Description of Testing Method Used** Date(s) of Testing Number **During Test** 204 See Chapter 7 - EPA Form 2F for information. SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D)) Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. Significant Leaks or Spills None. ORNL maintains an aggressive spill prevention and control program through the ORNL SPCC Plan, which stresses awareness of spill prevention to both ORNL employees and subcontractor employees on site. As part of the Spill Contingency Plan, a subpart of the ORNL SPCC, ORNL has an experienced spill response team that is available around-the-clock for spill control and cleanup operations, and that maintains a database of spills and record of clean-up. In addition, spill materials; consisting of spreadable granular absorbents, absorbent booms, containment containers, containment curtain and oil skimmer, are available for use by the spill response team. Additionally, construction sites are required to maintain spill kits during the duration of the construction project. Over the past three years between (2019-2022), ORNL has experienced minor spills or leaks, most of which were heavy equipment- or vehicle-related, and generally involved several ounces to several gallons of ethylene glycol or petroleum-based fuels, lubricants, and/or hydraulic fluids. In every instance the spill response team enacted clean-up. None of these were reportable-quantity spills of oil or hazardous substances as defined within the ORNL NPDES Permit TN0002941, 40 CFR 117 or 40 CFR 403. SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E)) See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must Discharge Information complete. Not all applicants need to complete each table. Is this a new source or new discharge? Yes → See instructions regarding submission of No → See instructions regarding submission of estimated data. actual data. Tables A, B, C, and D 7.2 Have you completed Table A for each outfall? **✓** Yes No

Facility Name

Form Approved 03/05/19

NPDES Permit Number

EPA Identification Number

EPA Identification Number		n Number	NPDES Permit Number	Facility Name		Form Approved 03/05/19
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	7.3	Is the facilit wastewater	y subject to an effluent limitation guide ?	line (ELG) or effl	uent limitations in a	n NPDES permit for its process
		✓ Yes			No → SKIP to Ite	m 7.5.
	7.4		ompleted Table B by providing quantit			
			an ELG and/or (2) subject to effluent I	imitations in an N	NPDES permit for th	e facility's process wastewater?
		✓ Yes			No	
	7.5	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-2 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.7.
	7.6		sted all pollutants in Exhibit 2F–2 that			are present in the discharge and
			uantitative data or an explanation for th	ose pollutants in		
		✓ Yes			No	
	7.7		alify for a small business exemption und			ctions?
			→SKIP to Item 7.18.	✓	No	
	7.8	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-3 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.10.
Discharge Information Continued	7.9	Have you li Table C?	sted all pollutants in Exhibit 2F–3 that	you know or hav	e reason to believe	are present in the discharge in
		✓ Yes			No	
tion	7.10	Do you exp	ect any of the pollutants in Exhibit 2F-	3 to be discharge	ed in concentrations	s of 10 ppb or greater?
orma		☐ Yes		✓	No → SKIP to Ite	m 7.12.
ırge Info	7.11		rovided quantitative data in Table C fo ons of 10 ppb or greater?	r those pollutants	s in Exhibit 2F–3 tha	at you expect to be discharged in
scha		☐ Yes			No	
Θ	7.12	Do you exp of 100 ppb	ect acrolein, acrylonitrile, 2,4-dinitroph or greater?	enol, or 2-methy	l-4,6-dinitrophenol to	o be discharged in concentrations
		Yes		✓	No → SKIP to Ite	m 7.14.
	7.13		provided quantitative data in Table C for in concentrations of 100 ppb or greate		dentified in Item 7.1	2 that you expect to be
		Yes			No	
	7.14		provided quantitative data or an explana at concentrations less than 10 ppb (or l			
		✓ Yes			No	
	7.15	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-4 are present in the	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.17.
	7.16		sted pollutants in Exhibit 2F–4 that you n in Table C?	ı know or believe	to be present in the	e discharge and provided an
		✓ Yes			No	
	7.17		provided information for the storm even	t(s) sampled in T	able D?	
		✓ Yes			No	

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7	Used o	r Manufactui	red Toxics		'			
Discharge Information Continued	7.18			bits 2F–2 through 2F diate or final product o		nce or a component of No → SKIP to		
ation	7.19		utants below, incl	uding TCDD if applica	able.			··
e Inform		1.		4.		7.		
charg		2.		5.		8.		
Disc		3.		6.		9.		
	N 8. BIO I 8.1	Do you hav any of your	e any knowledge		that any biolo	ur discharge within the	last three	
stin	0.0	☐ Yes	t - t t th - t			No → SKIP t	o Section	9.
Biological Toxicity Testing Data	8.2		tests and their pu est(s)	Purpose of T	est(s)	Submitted to NPD Permitting Authori		Date Submitted
cal To						☐ Yes ☐	No	
ologic						☐ Yes ☐	No	
B						☐ Yes ☐	No	
SECTIO	N 9. CON	ITRACT ANA	LYSIS INFORMA	ATION (40 CFR 122.2	21(g)(12))			
	9.1	Were any of consulting fi		oorted in Section 7 (or	n Tables A th	rough C) performed by	a contrac	t laboratory or
		✓ Yes				☐ No → SKIP t	o Section	10.
	9.2	Provide info	rmation for each	contract laboratory or	consulting fi	rm below.		
				Laboratory Nui	mber 1	Laboratory Numl	per 2	Laboratory Number 3
ormation		Name of lab	ooratory/firm	GEL Laboratories, LLC				
Contract Analysis Information		Laboratory a	address	2040 Savage Road Charleston, SC (USA) 29	9407			
Contra		Phone num	ber	(843) 556-8171				
		Pollutant(s)	analyzed	Ammonia, BOD, COD, N Nitrate/nitrite, Oil & Grea VOCs/SVOCs, Phospho	se,			

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SECTIO	N 10. CH	ECKLIST AND CERTIFICATION	ON STATEMENT (40 CFR 122.22(a) and (d))					
	10.1	each section, specify in Colu	sections of Form 2F that you have completed and are submitting with your application. For mn 2 any attachments that you are enclosing to alert the permitting authority. Note that not 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					
ııt		Section 6	□ w/ attachments					
ateme		Section 7	✓ Table A					
ion St			✓ Table B					
Checklist and Certification Statement			✓ Table C ✓ Table D					
ld Cer		✓ Section 8	□ w/attachments					
list an		Section 9	w/attachments (e.g., responses for additional contact laboratories or firms)					
Check		✓ Section 10						
	10.2	Certification Statement						
		accordance with a system of submitted. Based on my inqu for gathering the information	that this document and all attachments were prepared under my direction or supervision in lesigned to assure that qualified personnel properly gather and evaluate the information liry of the person or persons who manage the system or those persons directly responsible, the information submitted is, to the best of my knowledge and belief, true, accurate, and ere are significant penalties for submitting false information, including the possibility of fine g violations.					
		Name (print or type first and last name) Johnny O. Moore Official title Manager, ORNL Site Office						
		Signature	Date signed					

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))1 You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements. **Maximum Daily Discharge** Average Daily Discharge Source of (specify units) (specify units) Information **Number of Storm** Pollutant or Parameter **Grab Sample Taken Grab Sample Taken** (new source/new **Events Sampled** Flow-Weighted Flow-Weighted **During First During First** dischargers only; use Composite Composite codes in instructions) 30 Minutes 30 Minutes <1.69 ma/L <1.69 ma/L Oil and grease <0.00004 lbs <0.00004 lbs <4 mg/L <4 mg/L <4 mg/L <4 mg/L Biochemical oxygen demand (BOD₅) <0.0001 lbs <0.1 lbs <0.0001 lbs <0.1 lbs 37.7 mg/L 37.7 mg/L 37.7 mg/L 37.7 mg/L 3. Chemical oxygen demand (COD) 0.0009 lbs 0.0009 lbs 1.2 lbs 1.2 lbs 250 ma/L 78.1 mg/L 250 ma/L 78.1 ma/L Total suspended solids (TSS) 0.006 lbs 2.4 lbs 0.006 lbs 2.4 lbs 0.105 mg/L 0.342 ma/L 0.105 ma/L 0.342 ma/L 5. Total phosphorus 0.000009 lbs 0.0032 lbs 0.000009 lbs 0.0032 lbs 1.42 ma/L 0.438 ma/L 0.438 ma/L 1.42 ma/L Total Kjeldahl nitrogen (TKN) 0.00004 lbs 0.014 lbs 0.00004 lbs 0.014 lbs 1.58 mg/L 0.705 ma/L 1.58 ma/L 0.705 ma/L Total nitrogen (as N) 0.00004 lbs 0.022 lbs 0.00004 lbs 0.022 lbs 7.7 pH (minimum) 7.7 pH (maximum)

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

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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.

	Maximum Daily Discharge (specify units)		(specif	ly Discharge iy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Ammonia (as N)	0.236 mg/L 0.000006 lbs	0.153 mg/L 0.0047 lbs	0.236 mg/L 0.000006 lbs	0.153 mg/L 0.0047 lbs	1	
Antimony 7440-36-0	<0.00026 mg/L <7.00E-09 lbs	0.000417 mg/L 0.000013 lbs	<0.00026 mg/L <1.00E-08 lbs	0.000417 mg/L 0.000013 lbs	1	
Arsenic 7440-38-2	<0.002 mg/L <5.00E-08 lbs	0.00459 mg/L 0.00014 lbs	<0.002 mg/L <5.00E-08 lbs	0.00459 mg/L 0.00014 lbs	1	
Cadmium 7440-43-9	<0.00033 mg/L <8.00E-09 lbs	<0.00033 mg/L <0.000010 lbs	<0.00033 mg/L <1.00E-08 lbs	<0.00033 mg/L <0.000010 lbs	1	
Chromium 7440-47-3	0.0108 mg/L 3.00E-07 lbs	<0.01 mg/L <0.0003 lbs	0.0108 mg/L 3.00E-07 lbs	<0.01 mg/L <0.0003 lbs	1	
Copper 7440-50-8	<0.011 mg/L <3.00E-07 lbs	<0.011 mg/L <0.00034 lbs	<0.011 mg/L <3.00E-07 lbs	<0.011 mg/L <0.00034 lbs	1	
Iron 7439-89-6	1.83 mg/L 0.00005 lbs	1.97 mg/L 0.061 lbs	1.83 mg/L 0.00005 lbs	1.97 mg/L 0.061 lbs	1	
Lead 7439-92-1	0.00444 mg/L 1.00E-07 lbs	0.00502 mg/L 0.00016 lbs	0.00444 mg/L 1.00E-07 lbs	0.00502 mg/L 0.00016 lbs	1	
Mercury 7439-97-6					0	See Chapter 7
Nickel 7440-02-0	<0.073 mg/L <0.000002 lbs	<0.073 mg/L <0.0023 lbs	<0.073 mg/L <0.000002 lbs	<0.073 mg/L <0.0023 lbs	1	
Nitrogen, Total Organic (as N)	1.18 mg/L 0.00003 lbs	0.285 mg/L 0.0088 lbs	1.18 mg/L 0.00003 lbs	0.285 mg/L 0.0088 lbs	1	
Selenium 7782-49-2	<0.0209 mg/L <5.00E-07 lbs	<0.0209 mg/L <0.00065 lbs	<0.0209 mg/L <5.00E-07 lbs	<0.0209 mg/L <0.00065 lbs	1	
Silver 7440-22-4	<0.00012 mg/L <3.00E-09 lbs	<0.00012 mg/L <0.0000037 lbs	<0.00012 mg/L <0.00E+00 lbs	<0.00012 mg/L <0.0000037 lbs	1	
Zinc 7440-66-6	0.0721 mg/L 0.000002 lbs	0.0753 mg/L 0.0023 lbs	0.0721 mg/L 0.000002 lbs	0.0753 mg/L 0.0023 lbs	1	

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

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	(specif	ily Discharge y units)	(specif	ly Discharge iy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Aluminum 7429-90-5	2.21 mg/L 0.00006 lbs	3.84 mg/L 0.12 lbs	2.21 mg/L 0.00006 lbs	3.84 mg/L 0.12 lbs	1	
Barium 7440-39-3	0.0794 mg/L 0.000002 lbs	0.0381 mg/L 0.0012 lbs	0.0794 mg/L 0.000002 lbs	0.0381 mg/L 0.0012 lbs	1	
Beryllium 7440-41-7	<0.00014 mg/L <4.00E-09 lbs	<0.00014 mg/L <0.0000043 lbs	<0.00014 mg/L <0.00E+00 lbs	<0.00014 mg/L <0.0000043 lbs	1	
Boron 7440-42-8	0.0181 mg/L 5.00E-07 lbs	0.00917 mg/L 0.00028 lbs	0.0181 mg/L 5.00E-07 lbs	0.00917 mg/L 0.00028 lbs	1	
Calcium 7440-70-2	71.6 mg/L 0.002 lbs	21.5 mg/L 0.66 lbs	71.6 mg/L 0.002 lbs	21.5 mg/L 0.66 lbs	1	
Cesium 7440-46-2	0.000245 mg/L 6.00E-09 lbs	0.000316 mg/L 0.0000098 lbs	0.000245 mg/L 1.00E-08 lbs	0.000316 mg/L 0.0000098 lbs	1	
Cobalt 7440-48-4	0.00134 mg/L 3.00E-08 lbs	0.00109 mg/L 0.000034 lbs	0.00134 mg/L 3.00E-08 lbs	0.00109 mg/L 0.000034 lbs	1	
Magnesium 7439-95-4	10.7 mg/L 0.0003 lbs	3.66 mg/L 0.11 lbs	10.7 mg/L 0.0003 lbs	3.66 mg/L 0.11 lbs	1	
Manganese 7439-96-5	0.205 mg/L 0.000005 lbs	0.077 mg/L 0.0024 lbs	0.205 mg/L 0.000005 lbs	0.077 mg/L 0.0024 lbs	1	
Molybdenum 7439-98-7	0.00565 mg/L 1.00E-07 lbs	<0.0032 mg/L <0.000099 lbs	0.00565 mg/L 1.00E-07 lbs	<0.0032 mg/L <0.000099 lbs	1	
PCB-1016 12674-11-2					0	See Chapter 7
PCB-1221 11104-28-2					0	See Chapter 7
PCB-1232 11141-16-5					0	See Chapter 7
PCB-1242 53469-21-9					0	See Chapter 7
PCB-1248 12672-29-6					0	See Chapter 7
PCB-1254 11097-69-1					0	See Chapter 7

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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	Maximum Da (specif	ily Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
PCB-1260 11096-82-5					0	See Chapter 7
Potassium 7440-09-7	2.37 mg/L 0.00006 lbs	2.1 mg/L 0.065 lbs	2.37 mg/L 0.00006 lbs	2.1 mg/L 0.065 lbs	1	
Sodium 7440-23-5	5.81 mg/L 0.0001 lbs	2.25 mg/L 0.069 lbs	5.81 mg/L 0.0001 lbs	2.25 mg/L 0.069 lbs	1	
Strontium 7440-24-6	0.143 mg/L 0.000004 lbs	0.0432 mg/L 0.0013 lbs	0.143 mg/L 0.000004 lbs	0.0432 mg/L 0.0013 lbs	1	
Thallium 7440-28-0	<0.0000400 mg/L <1.00E-09 lbs	0.0000410 mg/L 0.0000013 lbs	<0.000400 mg/L <0.00E+00 lbs	0.0000410 mg/L 0.0000013 lbs	1	
Tin 7440-31-5	<0.002 mg/L <5.00E-08 lbs	<0.002 mg/L <0.00006 lbs	<0.002 mg/L <5.00E-08 lbs	<0.002 mg/L <0.00006 lbs	1	
Titanium 7440-32-6	0.0839 mg/L 0.000002 lbs	0.107 mg/L 0.0033 lbs	0.0839 mg/L 0.000002 lbs	0.107 mg/L 0.0033 lbs	1	
Uranium 7440-61-1	<0.0012 mg/L <3.00E-08 lbs	<0.0012 mg/L <0.000037 lbs	<0.0012 mg/L <3.00E-08 lbs	<0.0012 mg/L <0.000037 lbs	1	
Vanadium 7440-62-2	0.00417 mg/L 1.00E-07 lbs	0.00578 mg/L 0.00018 lbs	0.00417 mg/L 1.00E-07 lbs	0.00578 mg/L 0.00018 lbs	1	
Zirconium 7440-67-7	<0.0031 mg/L <8.00E-08 lbs	<0.0031 mg/L <0.000096 lbs	<0.0031 mg/L <8.00E-08 lbs	<0.0031 mg/L <0.000096 lbs	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).

				-
EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number	Form Approved 03/05/19
		,	204	
11/1090090003	1N0002941	Oak Ridge National Laboratory	204	OIVID INU. 2040-0004
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TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

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

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)
1/12/2023	9.8 hrs	.99 in	92.5 hrs	80 gpm	3700 gal

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

All flow rates were measured or estimated by measuring the time required for the stormwater discharge to fill a container of a known volume.

Form 2F - Section 1.1 Continuation Page

	Outfall: 204					2 Low	imperviou	s w/CT Blowdown	EPA ID Number	TN0002941
		Latitud	de		Longit	ude				
	Outfall Number	Deg	Min	Sec	Deg	Min	Sec	ReceivingWater		
•	204	35	55	27	84	18	58	White Oak Creek		
	435	35	56	25	84	18	04	White Oak Creek		
	437	35	56	51	84	18	16	White Oak Creek		

Form 2F - Section 4.1 Continuation Page

Outfall: 204 Group A2 Low impervious w/CT Blowdown	EPA ID Number	TN0002941
--	---------------	-----------

	Anna of Immonitoria Confess	Total Area Dusined	
Outfall Number	Area of Impervious Surface (acres)	Total Area Drained (acres)	
204	1.117	2.964	
435	22.381	127.978	
437	22.381	127.978	

Stormwater Group B1

High Imperviousness with Dry-Weather Discharge

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U.S Environmental Protection Agency

2F	9	Application for NPDES Permit to Discharge Wastewater								
NPDES			STORMW	ATER DISCHARGE	S ASSOCIAT	ED WITH INDUS	STRIAL ACTIV	'ITY		
SECTIO	N 1. OUT		TION (40 CFR 122.21(
	1.1		ormation on each of the	facility's outfalls in th	e table below					
		Outfall Number	Receiving Water Na	ame	Latitude		Longitude	•		
_		207	White Oak Creek	35 °	55 ' 32.88 "	N 84	° 18 ′ 50.28	8 " W		
atio		Storm Wate	r: Group B1	High Imperviousness w	ith Dry-Weather	Discharge				
Outfall Location		Other Outfal	ls Included: 001; 041; 0	951; 058; 210; 211; 21	7; 218; 219; 224;	249; 250; 265; 291	; 312; 368; 383; 5	06		
SECTION	N 2. IMP 2.1		S (40 CFR 122.21(g)(6) esently required by any		ıl authority to me	eet an implementa	ition schedule for	constructing,		
		affect the c	or operating wastewate discharges described in		·	•		is that could		
		✓ Yes No → SKIP to Section 3.								
	2.2	Briefly identify each applicable project in the table below.								
			Identification and	Affected Outfalls	Source(s) of Hischard		Final Compliance Dates			
		Description of Project ((list outfall numbers)	Jource			Projected		
		See Appendix	K - Improvements							
provements										
vem										
Impro										
_										
	2.3		attached sheets describ ffect your discharges) th					ntal projects		
		✓ Yes			-	a. (optional nom	,			

TN1890090	dentification 003	n Number	TN0002941		Hacility Name itional Laboratory		No. 2040-0004
	3. SITE 3.1		MAP (40 CFR 122.26(c)(1)(i)(A		l information to this appl	lication? (See instructi	ons for
Site Drainage Map		✓ Yes	udi ice.)				
SECTION			URCES (40 CFR 122.26(c)(1)(i)		ala halaw	Ī	
	4.1	Outfall Number	ormation on the facility's pollutan Impervious Surfact (within a mile radius of	ce Area	Total S	urface Area Drained mile radius of the facility)	
		207	3.519	specify units acres	5.11		specify units acres
				specify units			specify units
				specify units			specify units
				specify units			specify units
				specify units			specify units
				specify units			specify units
Pollutant Sources	4.2	requiremen Stormwater Grithan 50% impe wastewaters) that areas - especia surfaces such a outdoor storage throughout the are applied in toticks, and other excavation but for more detail.	oup B1 Outfall 207 is the outfall chosen rvious surface within their drainage are not may be present at the time of the stally those in the central part of the ORNI as roads, sidewalks, and buildings, and the of metal pipes or containers, utilities so ORNL campus, and some dynamic layourf and landscaped areas for weed control in utilities are primare also occasionally utilized by landscaped areas for weed controls.	to represent grouped sas and also contains a ormwater sample colled L campus. This outfall's grassed or graveled are such as transformers, gradown areas are used a trol and to remove invalarily applied to re-establape contractors in turf	stormwater outfalls throughout dry-weather component (e.g. ction. Legacy CERCLA control of a creas. There are loading dockenerator equipment, cooling as material delivery drop point sive plants. When needed, plish vegetation in areas wher grass areas and along roadw	ut the ORNL campus that h ., condensate, groundwate amination can exist in the c in industrial research park v is on many of the buildings systems, and steam lines a its. During the growing sea esticides are used to contr e soil has been disturbed b rays. Refer to Chapter 7 - E	ave greater r, other facility trainage with impervious with some are located son, herbicides ol fire ants, by construction EPA Form 2F
	4.3		location and a description of ex runoff. (See instructions for spe		d non-structural control	measures to reduce p	ollutants in
				Stormwater T	reatment		
		Outfall Number		Control Measures	and Treatment		from Exhibit 2F-1 (list)
		207	Drainage from the eastern portion of Outfall 291 included in the SW Grou				N/A

EPA Identification Number Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C)) 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 Johnny O. Moore Manager, ORNL Site Office Date signed Signature Non-Stormwater Discharges 5.2 Provide the testing information requested in the table below. Onsite Drainage Points Outfall Directly Observed **Description of Testing Method Used** Date(s) of Testing Number **During Test** 207 See Chapter 7 - EPA Form 2F for information. SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D)) Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. Significant Leaks or Spills None. ORNL maintains an aggressive spill prevention and control program through the ORNL SPCC Plan, which stresses awareness of spill prevention to both ORNL employees and subcontractor employees on site. As part of the Spill Contingency Plan, a subpart of the ORNL SPCC, ORNL has an experienced spill response team that is available around-the-clock for spill control and cleanup operations, and that maintains a database of spills and record of clean-up. In addition, spill materials; consisting of spreadable granular absorbents, absorbent booms, containment containers, containment curtain and oil skimmer, are available for use by the spill response team. Additionally, construction sites are required to maintain spill kits during the duration of the construction project. Over the past three years between (2019-2022), ORNL has experienced minor spills or leaks, most of which were heavy equipment- or vehicle-related, and generally involved several ounces to several gallons of ethylene glycol or petroleum-based fuels, lubricants, and/or hydraulic fluids. In every instance the spill response team enacted clean-up. None of these were reportable-quantity spills of oil or hazardous substances as defined within the ORNL NPDES Permit TN0002941, 40 CFR 117 or 40 CFR 403. SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E)) See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must Discharge Information complete. Not all applicants need to complete each table. Is this a new source or new discharge? Yes → See instructions regarding submission of No → See instructions regarding submission of estimated data. actual data. Tables A, B, C, and D 7.2 Have you completed Table A for each outfall? **✓** Yes No

NPDES Permit Number

	dentification	n Number	NPDES Permit Number	I	ity Name	Form Approved 03/05/19
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	7.3	Is the facilit wastewater	y subject to an effluent limitation guide ?	line (ELG) or effl	uent limitations in a	n NPDES permit for its process
		✓ Yes			No → SKIP to Ite	m 7.5.
	7.4		ompleted Table B by providing quantit			
			an ELG and/or (2) subject to effluent I	imitations in an N	NPDES permit for th	e facility's process wastewater?
		✓ Yes			No	
	7.5	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-2 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.7.
	7.6		sted all pollutants in Exhibit 2F–2 that			are present in the discharge and
			uantitative data or an explanation for th	ose pollutants in		
		✓ Yes			No	
	7.7		alify for a small business exemption und			ctions?
			→SKIP to Item 7.18.	✓	No	
	7.8	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-3 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.10.
tinued	7.9	Have you li Table C?	sted all pollutants in Exhibit 2F–3 that	you know or hav	e reason to believe	are present in the discharge in
Cont		✓ Yes			No	
tion	7.10	Do you exp	ect any of the pollutants in Exhibit 2F-	3 to be discharge	ed in concentrations	s of 10 ppb or greater?
orma		☐ Yes		✓	No → SKIP to Ite	m 7.12.
Discharge Information Continued	7.11		rovided quantitative data in Table C fo ons of 10 ppb or greater?	r those pollutants	s in Exhibit 2F–3 tha	at you expect to be discharged in
scha		☐ Yes			No	
Θ	7.12	Do you exp of 100 ppb	ect acrolein, acrylonitrile, 2,4-dinitroph or greater?	enol, or 2-methy	l-4,6-dinitrophenol to	o be discharged in concentrations
		Yes		✓	No → SKIP to Ite	m 7.14.
	7.13		provided quantitative data in Table C for in concentrations of 100 ppb or greate		dentified in Item 7.1	2 that you expect to be
		Yes			No	
	7.14		provided quantitative data or an explana at concentrations less than 10 ppb (or l			
		✓ Yes			No	
	7.15	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-4 are present in the	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.17.
	7.16		sted pollutants in Exhibit 2F–4 that you n in Table C?	ı know or believe	to be present in the	e discharge and provided an
		✓ Yes			No	
	7.17		provided information for the storm even	t(s) sampled in T	able D?	
		✓ Yes			No	

EPA TN1890090	Identificatio 0003	n Number	NPDES F TN0002941	Permit Number	ı	Facility Name tional Laboratory		Form Approved 03/05/19 OMB No. 2040-0004
7	Used o	r Manufactui	red Toxics		'			
Discharge Information Continued	7.18			bits 2F–2 through 2F diate or final product o		nce or a component of No → SKIP to		
ation	7.19		utants below, incl	uding TCDD if applica	able.			··
e Inform		1.		4.		7.		
charg		2.		5.		8.		
Disc		3.		6.		9.		
	N 8. BIO I 8.1	Do you hav any of your	e any knowledge		that any biolo	ur discharge within the	last three	
stin	0.0	☐ Yes	t - t t th - t			No → SKIP t	o Section	9.
Biological Toxicity Testing Data	8.2		tests and their pu est(s)	Purpose of T	est(s)	Submitted to NPD Permitting Authori		Date Submitted
al To						☐ Yes ☐	No	
ologic						☐ Yes ☐	No	
B						☐ Yes ☐	No	
SECTIO	N 9. CON	ITRACT ANA	LYSIS INFORMA	ATION (40 CFR 122.2	21(g)(12))			
	9.1	Were any of consulting fi		oorted in Section 7 (or	n Tables A th	rough C) performed by	a contrac	t laboratory or
		✓ Yes				☐ No → SKIP t	o Section	10.
	9.2	Provide info	rmation for each	contract laboratory or	consulting fi	rm below.		
				Laboratory Nui	mber 1	Laboratory Numl	per 2	Laboratory Number 3
ormation		Name of lab	ooratory/firm	GEL Laboratories, LLC				
Contract Analysis Information		Laboratory a	address	2040 Savage Road Charleston, SC (USA) 29	9407			
Contra		Phone num	ber	(843) 556-8171				
		Pollutant(s)	analyzed	Ammonia, BOD, COD, N Nitrate/nitrite, Oil & Grea VOCs/SVOCs, Phospho	se,			

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SECTIO	ECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))						
	10.1	each section, specify in Colu	sections of Form 2F that you have completed and are submitting with your application. For mn 2 any attachments that you are enclosing to alert the permitting authority. Note that not 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				
ııt		✓ Section 6	□ w/ attachments				
ateme		Section 7	✓ Table A				
on St			✓ Table B				
tificati			✓ Table C ✓ Table D				
Checklist and Certification Statement		✓ Section 8	□ w/attachments				
list an		Section 9	w/attachments (e.g., responses for additional contact laboratories or firms)				
Check		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 Johnny O. Moore	ast name) Official title Manager, ORNL Site Office				
		Signature	Date signed				

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))1 You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements. **Maximum Daily Discharge** Average Daily Discharge Source of (specify units) (specify units) Information **Number of Storm** Pollutant or Parameter **Grab Sample Taken Grab Sample Taken** (new source/new **Events Sampled** Flow-Weighted Flow-Weighted **During First During First** dischargers only; use Composite Composite codes in instructions) 30 Minutes 30 Minutes <1.67 ma/L <1.67 ma/L Oil and grease <0.008 lbs <0.008 lbs <5 mg/L <5 mg/L <5 mg/L <5 mg/L Biochemical oxygen demand (BOD₅) <0.03 lbs <0.1 lbs <0.03 lbs <0.1 lbs 23 mg/L 28.4 mg/L 23 mg/L 28.4 mg/L 3. Chemical oxygen demand (COD) 0.1 lbs 0.69 lbs 0.1 lbs 0.69 lbs 74.8 ma/L 46.8 mg/L 74.8 mg/L 46.8 ma/L Total suspended solids (TSS) 0.4 lbs 1.1 lbs 0.4 lbs 1.1 lbs 0.113 ma/L 0.118 ma/L 0.113 ma/L 0.118 ma/L 5. Total phosphorus 0.0029 lbs 0.0029 lbs 0.0006 lbs 0.0006 lbs 0.713 ma/L 0.643 ma/L 0.713 ma/L 0.643 ma/L Total Kjeldahl nitrogen (TKN) 0.004 lbs 0.016 lbs 0.004 lbs 0.016 lbs 1.32 ma/L 1.25 ma/L 1.32 ma/L 1.25 ma/L Total nitrogen (as N) 0.007 lbs 0.030 lbs 0.007 lbs 0.030 lbs 7.3 pH (minimum) 7.3 pH (maximum)

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

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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.

	Maximum Da (specif		(specif	ly Discharge y units)	Number of Storm	Source of Information	
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)	
Ammonia (as N)	0.312 mg/L 0.002 lbs	0.27 mg/L 0.0065 lbs	0.312 mg/L 0.002 lbs	0.27 mg/L 0.0065 lbs	1		
Antimony 7440-36-0	0.000385 mg/L 0.000002 lbs	0.000358 mg/L 0.0000087 lbs	0.000385 mg/L 0.000002 lbs	0.000358 mg/L 0.0000087 lbs	1		
Arsenic 7440-38-2	<0.002 mg/L <0.00001 lbs	<0.002 mg/L <0.00005 lbs	<0.002 mg/L <0.00001 lbs	<0.002 mg/L <0.00005 lbs	1		
Cadmium 7440-43-9	<0.00033 mg/L <0.000002 lbs	<0.00033 mg/L <0.0000080 lbs	<0.00033 mg/L <0.000002 lbs	<0.00033 mg/L <0.0000080 lbs	1		
Chromium 7440-47-3	<0.01 mg/L <0.00005 lbs	<0.01 mg/L <0.0002 lbs	<0.01 mg/L <0.00005 lbs	<0.01 mg/L <0.0002 lbs	1		
Copper 7440-50-8	<0.011 mg/L <0.00006 lbs	<0.011 mg/L <0.00027 lbs	<0.011 mg/L <0.00006 lbs	<0.011 mg/L <0.00027 lbs	1		
Iron 7439-89-6	1.49 mg/L 0.007 lbs	1.43 mg/L 0.035 lbs	1.49 mg/L 0.007 lbs	1.43 mg/L 0.035 lbs	1		
Lead 7439-92-1	0.00383 mg/L 0.00002 lbs	0.00334 mg/L 0.000081 lbs	0.00383 mg/L 0.00002 lbs	0.00334 mg/L 0.000081 lbs	1		
Mercury 7439-97-6					0	See Chapter 7	
Nickel 7440-02-0	<0.073 mg/L <0.0004 lbs	<0.073 mg/L <0.0018 lbs	<0.073 mg/L <0.0004 lbs	<0.073 mg/L <0.0018 lbs	1		
Nitrogen, Total Organic (as N)	0.401 mg/L 0.002 lbs	0.373 mg/L 0.0090 lbs	0.401 mg/L 0.002 lbs	0.373 mg/L 0.0090 lbs	1		
Selenium 7782-49-2	<0.0031 mg/L <0.00002 lbs	<0.0031 mg/L <0.000075 lbs	<0.0031 mg/L <0.00002 lbs	<0.0031 mg/L <0.000075 lbs	1		
Silver 7440-22-4	<0.00012 mg/L <6.00E-07 lbs	<0.00012 mg/L <0.0000029 lbs	<0.00012 mg/L <6.00E-07 lbs	<0.00012 mg/L <0.0000029 lbs	1		
Zinc 7440-66-6	0.0599 mg/L 0.0003 lbs	0.0571 mg/L 0.0014 lbs	0.0599 mg/L 0.0003 lbs	0.0571 mg/L 0.0014 lbs	1		

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

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	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes Flow-Weighted Composite		Grab Sample Taken During First 30 Minutes Flow-Weighted Composite		Events Sampled	
1,1,1-Trichloroethane 71-55-6	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,1,2,2-Tetrachloroethane 79-34-5	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,1,2-Trichloroethane 79-00-5	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,1-Dichloroethane 75-34-3	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,1-Dichloroethene 75-35-4	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,2,4,5-Tetrachlorobenzene 95-94-3	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
1,2,4-Trichlorobenzene 120-82-1	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
1,2-Dibromoethane 106-93-4	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,2-Dichlorobenzene 95-50-1	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,2-Dichloroethane 107-06-2	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,2-Dichloroethene 540-59-0	<2 ug/L <0.00001 lbs		<2 ug/L <0.00001 lbs		1	
1,2-Dichloropropane 78-87-5	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,2-Diphenylhydrazine 122-66-7	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
1,3-Dichlorobenzene 541-73-1	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
1,3-Dichloropropylene 542-75-6	<2 ug/L <0.00001 lbs		<2 ug/L <0.00001 lbs		1	
1,4-Dichlorobenzene 106-46-7	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	

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

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	Maximum Da (specif	ily Discharge y units)		Ily Discharge fy units)	Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	
2,4,5-Trichlorophenol 95-95-4	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
2,4,6-Trichlorophenol 88-06-2	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
2,4-Dichlorophenol 120-83-2	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
2,4-Dimethylphenol 105-67-9	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
2,4-Dinitrophenol 51-28-5	<106 ug/L <0.0005 lbs	<20.8 ug/L <0.00050 lbs	<106 ug/L <0.0005 lbs	<20.8 ug/L <0.00050 lbs	1	
2,4-Dinitrotoluene 121-14-2	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
2,6-Dinitrotoluene 606-20-2	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
2-Butanone 78-93-3	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
2-Chloroethylvinyl ether 110-75-8	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
2-Chloronaphthalene 91-58-7	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
2-Chlorophenol 95-57-8	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
2-Hexanone 591-78-6	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
2-Methylphenol 95-48-7	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
2-Nitrophenol 88-75-5	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
3,3'-Dichlorobenzidine 91-94-1	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
4,6-Dinitro-O-Cresol 534-52-1	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	207	OMB No. 2040-0004

		illy Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
4-Bromophenylphenyl ether 101-55-3	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
4-Chlorophenylphenyl ether 7005-72-3	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
4-Methyl-2-pentanone 108-10-1	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
4-Nitrophenol 100-02-7	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Acenaphthene 83-32-9	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Acenaphthylene 208-96-8	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Acetone 67-64-1	J3.06 ug/L J0.00002 lbs		J3.06 ug/L J0.00002 lbs		1	
Acrolein 107-02-8	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
Acrylonitrile 107-13-1	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
Allyl chloride 107-05-1	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
Aluminum 7429-90-5	1.7 mg/L 0.009 lbs	1.68 mg/L 0.041 lbs	1.7 mg/L 0.009 lbs	1.68 mg/L 0.041 lbs	1	
Aniline 62-53-3	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Anthracene 120-12-7	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Barium 7440-39-3	0.0519 mg/L 0.0003 lbs	0.0529 mg/L 0.0013 lbs	0.0519 mg/L 0.0003 lbs	0.0529 mg/L 0.0013 lbs	1	
Benzene 71-43-2	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Benzidine 92-87-5	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	

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Benzo(a)anthracene 56-55-3	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Benzo(a)pyrene 50-32-8	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Benzo(b)fluoranthene 205-99-2	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Benzo(ghi)perylene 191-24-2	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Benzo(k)fluoranthene 207-08-9	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Benzyl chloride 100-44-7	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
Beryllium 7440-41-7	<0.00014 mg/L <7.00E-07 lbs	<0.00014 mg/L <0.0000034 lbs	<0.00014 mg/L <7.00E-07 lbs	<0.00014 mg/L <0.0000034 lbs	1	
Bis(2-chloroethoxy)methane 111-91-1	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Bis(2-chloroethyl) ether 111-44-4	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Bis(2-chloroisopropyl) ether 108-60-1	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Bis(2-ethylhexyl)phthalate 117-81-7	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Boron 7440-42-8	0.0202 mg/L 0.0001 lbs	0.0212 mg/L 0.00051 lbs	0.0202 mg/L 0.0001 lbs	0.0212 mg/L 0.00051 lbs	1	
Bromodichloromethane 75-27-4	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Bromoform 75-25-2	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Bromomethane 74-83-9	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Butylbenzylphthalate 85-68-7	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	

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Calcium 7440-70-2	39.8 mg/L 0.2 lbs	40.9 mg/L 0.99 lbs	39.8 mg/L 0.2 lbs	40.9 mg/L 0.99 lbs	1	
Carbon Disulfide 75-15-0	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
Carbon tetrachloride 56-23-5	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Cesium 7440-46-2	0.000178 mg/L 9.00E-07 lbs	0.000174 mg/L 0.0000042 lbs	0.000178 mg/L 9.00E-07 lbs	0.000174 mg/L 0.0000042 lbs	1	
Chlorobenzene 108-90-7	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Chloroethane 75-00-3	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Chloroform 67-66-3	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Chloromethane 74-87-3	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Chrysene 218-01-9	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
cis-1,2-Dichloroethene 156-59-2	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
cis-1,3-Dichloropropene 10061-01-5	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Cobalt 7440-48-4	0.00108 mg/L 0.000005 lbs	0.00104 mg/L 0.000025 lbs	0.00108 mg/L 0.000005 lbs	0.00104 mg/L 0.000025 lbs	1	
Cyclohexane 110-82-7	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Dibenzo(a,h)anthracene 53-70-3	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Dibromochloromethane 124-48-1	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Diethylphthalate 84-66-2	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	

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Dimethylphthlate 131-11-3	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Di-n-butylphthalate 84-74-2	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Di-n-octylphthlate 117-84-0	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Diphenylamine 122-39-4	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Disulfoton 298-04-4	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Ethylbenzene 100-41-4	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Fluoranthene 206-44-0	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Fluorene 86-73-7	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Hexachlorobenzene 118-74-1	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Hexachlorobutadiene 87-68-3	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Hexachlorocyclopentadiene 77-47-4	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Hexachloroethane 67-72-1	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Indeno(1,2,3-cd)pyrene 193-39-5	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Isophorone 78-59-1	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Kepone 143-50-0	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
m+p Methylphenol 65794-96-9	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	

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Magnesium 7439-95-4	9.56 mg/L 0.05 lbs	9.63 mg/L 0.23 lbs	9.56 mg/L 0.05 lbs	9.63 mg/L 0.23 lbs	1	
Manganese 7439-96-5	0.102 mg/L 0.0005 lbs	0.0929 mg/L 0.0022 lbs	0.102 mg/L 0.0005 lbs	0.0929 mg/L 0.0022 lbs	1	
Methyl methacrylate 80-62-6	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
Methyl parathion 298-00-0	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Methylene chloride 75-09-2	<2 ug/L <0.00001 lbs		<2 ug/L <0.00001 lbs		1	
Molybdenum 7439-98-7	0.00429 mg/L 0.00002 lbs	0.00446 mg/L 0.00011 lbs	0.00429 mg/L 0.00002 lbs	0.00446 mg/L 0.00011 lbs	1	
Naphthalene 91-20-3	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Nitrobenzene 98-95-3	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
N-Nitrosodiethylamine 55-18-5	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
N-Nitrosodimethylamine 62-75-9	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
N-Nitroso-di-n-propylamine 621-64-7	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
N-Nitrosopyrrolidine 930-55-2	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Parathion 56-38-2	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
PCB-1016 12674-11-2					0	See Chapter 7
PCB-1221 11104-28-2					0	See Chapter 7
PCB-1232 11141-16-5					0	See Chapter 7

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PCB-1242 53469-21-9					0	See Chapter 7
PCB-1248 12672-29-6					0	See Chapter 7
PCB-1254 11097-69-1					0	See Chapter 7
PCB-1260 11096-82-5					0	See Chapter 7
P-Chloro-M-Cresol 59-50-7	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Pentachlorobenzene 608-93-5	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Pentachlorophenol 87-86-5	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Phenanthrene 85-01-8	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Phenol 108-95-2	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	<52.9 ug/L <0.0003 lbs	<10.4 ug/L <0.00025 lbs	1	
Potassium 7440-09-7	3 mg/L 0.02 lbs	3.08 mg/L 0.075 lbs	3 mg/L 0.02 lbs	3.08 mg/L 0.075 lbs	1	
Pyrene 129-00-0	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	<5.29 ug/L <0.00003 lbs	<1.04 ug/L <0.000025 lbs	1	
Sodium 7440-23-5	41.9 mg/L 0.2 lbs	44.9 mg/L 1.1 lbs	41.9 mg/L 0.2 lbs	44.9 mg/L 1.1 lbs	1	
Strontium 7440-24-6	0.115 mg/L 0.0006 lbs	0.121 mg/L 0.0029 lbs	0.115 mg/L 0.0006 lbs	0.121 mg/L 0.0029 lbs	1	
Styrene 100-42-5	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Tetrachloroethene 127-18-4	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Thallium 7440-28-0	0.0000526 mg/L 3.00E-07 lbs	<0.0000400 mg/L <9.70E-07 lbs	0.0000526 mg/L 3.00E-07 lbs	<0.0000400 mg/L <9.70E-07 lbs	1	

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Tin 7440-31-5	<0.002 mg/L <0.00001 lbs	<0.002 mg/L <0.00005 lbs	<0.002 mg/L <0.00001 lbs	<0.002 mg/L <0.00005 lbs	1	
Titanium 7440-32-6	0.176 mg/L 0.0009 lbs	0.0901 mg/L 0.0022 lbs	0.176 mg/L 0.0009 lbs	0.0901 mg/L 0.0022 lbs	1	
Toluene 108-88-3	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Total Cresols 1319-77-3	<106 ug/L <0.0005 lbs	<20.8 ug/L <0.00050 lbs	<106 ug/L <0.0005 lbs	<20.8 ug/L <0.00050 lbs	1	
trans-1,2-Dichloroethene 156-60-5	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
trans-1,3-Dichloropropene 10061-02-6	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Trichloroethene 79-01-6	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Trichlorofluoromethane 75-69-4	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Uranium 7440-61-1	0.00355 mg/L 0.00002 lbs	0.00365 mg/L 0.000088 lbs	0.00355 mg/L 0.00002 lbs	0.00365 mg/L 0.000088 lbs	1	
Vanadium 7440-62-2	0.0061 mg/L 0.00003 lbs	0.00604 mg/L 0.00015 lbs	0.0061 mg/L 0.00003 lbs	0.00604 mg/L 0.00015 lbs	1	
Vinyl acetate 108-05-4	<5 ug/L <0.00003 lbs		<5 ug/L <0.00003 lbs		1	
Vinyl chloride 75-01-4	<1 ug/L <0.000005 lbs		<1 ug/L <0.000005 lbs		1	
Xylene 1330-20-7	<3 ug/L <0.00002 lbs		<3 ug/L <0.00002 lbs		1	
Zirconium 7440-67-7	<0.0031 mg/L <0.00002 lbs	<0.0031 mg/L <0.000075 lbs	<0.0031 mg/L <0.00002 lbs	<0.0031 mg/L <0.000075 lbs	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).

EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	207	OMB No. 2040-0004
11/1090090003	1N0002941	Oak Ridge National Laboratory	207	OIVID INU. 2040-0004
			I .	

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)
3/23/2022	11.8 hrs	0.66 in	158.5 hrs	40 gpm	2900 gal

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

All flow rates were measured or estimated by measuring the time required for the stormwater discharge to fill a container of a known volume.

Outfall: **EPA ID Number** Group B1 High imprevious with dry-weather discharge TN0002941 Latitude Longitude **Outfall Number** Min Sec Deg Min Sec ReceivingWater Deg White Oak Creek First Creek Northwest Tributary Northwest Tributary White Oak Creek First Creek First Creek Fifth Creek Tributary to Clinch River White Oak Creek Fifth Creek Tributary to Melton Branch White Oak Creek

Outfall: 207 Group B1 High imprevious with dry-weather discharge EPA ID Number TN0002941

Outfall Number	Area of Impervious Surface (acres)	Total Area Drained (acres)	
001	4.218	7.705	
041	0.885	1.115	
051	2.153	4.572	
058	2.686	5.282	
207	3.519	5.11	
210	0.359	0.364	
211	4.153	4.616	
217	0.333	0.339	
218	7.495	10.59	
219	0.252	0.382	
224	0.034	0.035	
249	7.032	15.181	
250	1.086	1.916	
265	3.53	5.285	
291	2.294	4.267	
312	0.361	0.376	
368	0.771	1.535	
383	2.881	5.529	
506	0.593	0.781	

EPA Identification Number NPDES Permit Number Facility Name TN1890090003 TN0002941 Oak Ridge National Laboratory Form Approved 03/05/19 OMB No. 2040-0004

U.S Environmental Protection Agency

Form 2F	Q ,	PA	Application for NPDES Permit to Discharge Wastewater					
NPDES		-1 /	STORMWA	TER DISCHARGE	S ASSOCIAT	ED WITH INDUSTR	IAL ACTIVIT	Υ
SECTION			TION (40 CFR 122.21(g					
	1.1	Provide info	ormation on each of the	ĺ				
		Number	Receiving Water Na	me	Latitude		Longitude	
_		302	White Oak Creek	35 °	55 ' 27.71 "	N 84 °	18 ' 57.38	" W
ation		Storm Water	r: Group B1 H	High Imperviousness wi	th Dry-Weather	Discharge		
Loc								
Outfall Location								
J								
SECTION			5 (40 CFR 122.21(g)(6))	is development	authority to ma		a ala a ala da a fa ma	an atmosphine
	2.1		esently required by any for operating wastewater					
			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 Affected Outfalls Proposition of Project (list outfall purpless) Source(s) of Discharge								
				Final Compl	iance Dates			
		Desc	ription of Project	(list outfall numbers)		.,	Required	Projected
		See Appendix	K - Improvements					
ts								
Improvements								
orove								
<u><u>E</u></u>								
	2.3		attached sheets describin				environmenta	l projects
		viiat iliay ai	neor your discharges) th	at you now have und	arway or plailli	su: (Optional item)		
		-						

EP TN18900	A Identification 190003	n Number	NPDES Permit Numbe TN0002941			roved 03/05/19 No. 2040-0004	
SECTI	ON 3. SITE	DRAINAGE	MAP (40 CFR 122.26(c)(1)	(i)(A))			
Site Drainage	3.1	Have you a specific gui	attached a site drainage map dance.)	containing all required No	information to this app	ication? (See instruct	ons for
	ON 4. POL		URCES (40 CFR 122.26(c)(
	4.1		ormation on the facility's poll		le below.		
		Outfall Number	Impervious So (within a mile radio			urface Area Drained mile radius of the facility)	
		Hambor	(mainta mile tadic	specify units	(mining	Time radias of the ladingy	specify units
		302	4.551	acres	7.615		acres
				specify units			specify units
				specify units			specify units
				specify units			specify units
				specify units			specify units
				specify units			specify units
Pollutant Sources	4.2	requirement Outfall 302 is a drainage areas time of the stor contamination industrial resea on many of the systems, and so During the groupesticides are used in soil has been droadways. Reference outfall 2015 is a drainage of the systems of the s	parrative description of the facts.) It part of Group B1 stormwater outfacts and also contains a dry-weather of mwater sample collection. Since discan exist in the drainage areas - earth park with impervious surfaces buildings with some outdoor storasteam lines are located throughout wing season, herbicides are applied used to control fire ants, ticks, and listurbed by construction excavationer to Chapter 7- EPA Form 2F for not allocation and a description of	alls throughout the ORNL can component (e.g., condensate ata for this outfall was availa specially those in the central such as roads, sidewalks, at ge of metal pipes or contained the ORNL campus, and some din turf and landscaped area other nuisance insects. Fer n but are also occasionally unore detail.	mpus that have greater than a groundwater, other facility ble, it is included here on a grant of the ORNL campus. In developing and buildings, and grassed or ers, utilities such as transformedynamic laydown areas a as for weed control and to retilizers are primarily applied utilized by landscape contract.	50% impervious surface v wastewaters) that may be separate 2F form. Legacy of This outfall's drainage area graveled areas. There are mers, generator equipment re used as material deliver move invasive plants. Who to re-establish vegetation it	within their present at the CERCLA is typical of an e loading docks c, cooling y drop points. en needed, n areas where d along
	4.0		runoff. (See instructions for		Thorrodiadetaral control	modelico to roduco p	
			1	Stormwater Tr	reatment		Codes
		Outfall Number		Control Measures	and Treatment		from Exhibit 2F-1 (list)
		302	Drainage from the eastern port 291, which is in the SW Group				N/A

EPA Identification Number Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C)) 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 Johnny O. Moore Manager, ORNL Site Office Date signed Signature Non-Stormwater Discharges 5.2 Provide the testing information requested in the table below. Onsite Drainage Points Outfall Directly Observed **Description of Testing Method Used** Date(s) of Testing Number **During Test** 302 See Chapter 7 - EPA Form 2F for information. SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D)) Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. Significant Leaks or Spills None. ORNL maintains an aggressive spill prevention and control program through the ORNL SPCC Plan, which stresses awareness of spill prevention to both ORNL employees and subcontractor employees on site. As part of the Spill Contingency Plan, a subpart of the ORNL SPCC, ORNL has an experienced spill response team that is available around-the-clock for spill control and cleanup operations, and that maintains a database of spills and record of clean-up. In addition, spill materials; consisting of spreadable granular absorbents, absorbent booms, containment containers, containment curtain and oil skimmer, are available for use by the spill response team. Additionally, construction sites are required to maintain spill kits during the duration of the construction project. Over the past three years between (2019-2022), ORNL has experienced minor spills or leaks, most of which were heavy equipment- or vehicle-related, and generally involved several ounces to several gallons of ethylene glycol or petroleum-based fuels, lubricants, and/or hydraulic fluids. In every instance the spill response team enacted clean-up. None of these were reportable-quantity spills of oil or hazardous substances as defined within the ORNL NPDES Permit TN0002941, 40 CFR 117 or 40 CFR 403. SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E)) See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must Discharge Information complete. Not all applicants need to complete each table. Is this a new source or new discharge? Yes → See instructions regarding submission of No → See instructions regarding submission of estimated data. actual data. Tables A, B, C, and D 7.2 Have you completed Table A for each outfall? **✓** Yes No

NPDES Permit Number

	dentification	n Number	NPDES Permit Number	I	ity Name	Form Approved 03/05/19
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	7.3	Is the facilit wastewater	y subject to an effluent limitation guide ?	line (ELG) or effl	uent limitations in a	n NPDES permit for its process
		✓ Yes			No → SKIP to Ite	m 7.5.
	7.4		ompleted Table B by providing quantit			
			an ELG and/or (2) subject to effluent I	imitations in an N	NPDES permit for th	e facility's process wastewater?
		✓ Yes			No	
	7.5	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-2 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.7.
	7.6		sted all pollutants in Exhibit 2F–2 that			are present in the discharge and
			uantitative data or an explanation for th	ose pollutants in		
		✓ Yes			No	
	7.7		alify for a small business exemption und			ctions?
			→SKIP to Item 7.18.	✓	No	
	7.8	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-3 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.10.
tinued	7.9	Have you li Table C?	sted all pollutants in Exhibit 2F–3 that	you know or hav	e reason to believe	are present in the discharge in
Cont		✓ Yes			No	
tion	7.10	Do you exp	ect any of the pollutants in Exhibit 2F-	3 to be discharge	ed in concentrations	s of 10 ppb or greater?
orma		☐ Yes		✓	No → SKIP to Ite	m 7.12.
Discharge Information Continued	7.11		rovided quantitative data in Table C fo ons of 10 ppb or greater?	r those pollutants	s in Exhibit 2F–3 tha	at you expect to be discharged in
scha		☐ Yes			No	
Θ	7.12	Do you exp of 100 ppb	ect acrolein, acrylonitrile, 2,4-dinitroph or greater?	enol, or 2-methy	l-4,6-dinitrophenol to	o be discharged in concentrations
		Yes		✓	No → SKIP to Ite	m 7.14.
	7.13		provided quantitative data in Table C for in concentrations of 100 ppb or greate		dentified in Item 7.1	2 that you expect to be
		Yes			No	
	7.14		provided quantitative data or an explana at concentrations less than 10 ppb (or l			
		✓ Yes			No	
	7.15	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-4 are present in the	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.17.
	7.16		sted pollutants in Exhibit 2F–4 that you n in Table C?	ı know or believe	to be present in the	e discharge and provided an
		✓ Yes			No	
	7.17		provided information for the storm even	t(s) sampled in T	able D?	
		✓ Yes			No	

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7	Used o	r Manufactui	red Toxics		'			
Discharge Information Continued	7.18			bits 2F–2 through 2F liate or final product c		ice or a component of a No → SKIP to		
ation	7.19		utants below, incl	uding TCDD if applica	able.	110 2 01111 10		•
e Inform		1.	·	4.		7.		
harg		2.		5.		8.		
Disc		3.		6.		9.		
SECTIO	N 8. BIOI	LOGICAL TO	XICITY TESTING	B DATA (40 CFR 122	.21(g)(11))			
ata	8.1					ogical test for acute or our discharge within the		kicity has been made on years?
ting D		☐ Yes				✓ No → SKIP to	o Section	9.
Test	8.2	Identify the	tests and their pu	rposes below.				
Biological Toxicity Testing Data		ī	Cest(s)	Purpose of T	est(s)	Submitted to NPDI Permitting Authori		Date Submitted
cal To						☐ Yes ☐	No	
ologi						☐ Yes ☐	No	
Bi						☐ Yes ☐	No	
SECTIO	N 9. CON	TRACT ANA	LYSIS INFORM	ATION (40 CFR 122.2	21(g)(12))			
	9.1	Were any of consulting fi		oorted in Section 7 (or	n Tables A th	rough C) performed by	a contrac	t laboratory or
		✓ Yes				☐ No → SKIP to	o Section	10.
	9.2	Provide info	rmation for each	contract laboratory or	consulting fi	rm below.		
				Laboratory Nui	mber 1	Laboratory Numb	er 2	Laboratory Number 3
ormation		Name of lab	ooratory/firm	GEL Laboratories, LLC				
Contract Analysis Information		Laboratory a	address	2040 Savage Road, C (USA) 29407	harleston, SC			
		Phone num	ber	(843) 556-8171				
		Pollutant(s)	analyzed	Ammonia, BOD, COD, N Nitrate/nitrite, Oil & Grea VOCs/SVOCs, Phospho	se,			

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SECTIO	N 10. CH	ECKLIST AND CERTIFICATION	ON STATEMENT (40 CFR 122.22(a) and (d))		
	10.1	each section, specify in Colui	sections of Form 2F that you have completed and are submitting with your application. For mn 2 any attachments that you are enclosing to alert the permitting authority. Note that not 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		
i,		✓ Section 6	□ w/ attachments		
ateme		Section 7	✓ Table A		
Checklist and Certification Statement			✓ Table B		
iificati			✓ Table C ✓ Table D		
d Cert		✓ Section 8	□ w/attachments		
list an		Section 9	w/attachments (e.g., responses for additional contact laboratories or firms)		
Check		Section 10			
	10.2	Certification Statement			
		accordance with a system of submitted. Based on my inqu for gathering the information,	that this document and all attachments were prepared under my direction or supervision in designed to assure that qualified personnel properly gather and evaluate the information viry of the person or persons who manage the system or those persons directly responsible, the information submitted is, to the best of my knowledge and belief, true, accurate, and ere are significant penalties for submitting false information, including the possibility of fine g violations.		
		Name (print or type first and last name) Johnny O. Moore Official title Manager, ORNL Site Office			
		Signature	Date signed		

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))1 You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements. **Maximum Daily Discharge** Average Daily Discharge Source of (specify units) (specify units) Information **Number of Storm** Pollutant or Parameter **Grab Sample Taken Grab Sample Taken** (new source/new **Events Sampled** Flow-Weighted Flow-Weighted **During First** dischargers only; use **During First** Composite Composite codes in instructions) 30 Minutes 30 Minutes <1.69 ma/L <1.69 ma/L Oil and grease <0.018 lbs <0.018 lbs J5.62 mg/L <5 mg/L J5.62 mg/L <5 mg/L Biochemical oxygen demand (BOD₅) J0.061 lbs <0.2 lbs <0.2 lbs J0.061 lbs <8.95 mg/L 23 mg/L <8.95 mg/L 23 mg/L 3. Chemical oxygen demand (COD) <0.097 lbs 1.0 lbs <0.097 lbs 1.0 lbs 6.2 ma/L 13.7 mg/L 6.2 ma/L 13.7 ma/L Total suspended solids (TSS) 0.067 lbs 0.62 lbs 0.067 lbs 0.62 lbs 0.079 ma/L 0.0621 ma/L 0.079 ma/L 0.0621 ma/L 5. Total phosphorus 0.0028 lbs 0.00086 lbs 0.0028 lbs 0.00086 lbs 0.323 ma/L 0.302 ma/L 0.323 mg/L 0.302 ma/L Total Kjeldahl nitrogen (TKN) 0.0033 lbs 0.015 lbs 0.0033 lbs 0.015 lbs 0.486 ma/L 0.506 ma/L 0.486 ma/L 0.506 ma/L Total nitrogen (as N) 0.0053 lbs 0.023 lbs 0.0053 lbs 0.023 lbs pH (minimum) pH (maximum)

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

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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.

	Maximum Da (specif		(specif	ly Discharge y units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Ammonia (as N)	0.119 mg/L 0.0013 lbs	0.189 mg/L 0.0085 lbs	0.119 mg/L 0.0013 lbs	0.189 mg/L 0.0085 lbs	1	
Antimony 7440-36-0	0.000419 mg/L 0.0000045 lbs	0.000429 mg/L 0.000019 lbs	0.000419 mg/L 0.0000045 lbs	0.000429 mg/L 0.000019 lbs	1	
Arsenic 7440-38-2	<0.002 mg/L <0.00002 lbs	<0.002 mg/L <0.00009 lbs	<0.002 mg/L <0.00002 lbs	<0.002 mg/L <0.00009 lbs	1	
Cadmium 7440-43-9	<0.00033 mg/L <0.0000036 lbs	<0.00033 mg/L <0.000015 lbs	<0.00033 mg/L <0.0000036 lbs	<0.00033 mg/L <0.000015 lbs	1	
Chromium 7440-47-3	<0.01 mg/L <0.0001 lbs	<0.01 mg/L <0.0005 lbs	<0.01 mg/L <0.0001 lbs	<0.01 mg/L <0.0005 lbs	1	
Copper 7440-50-8	<0.011 mg/L <0.00012 lbs	<0.011 mg/L <0.00050 lbs	<0.011 mg/L <0.00012 lbs	<0.011 mg/L <0.00050 lbs	1	
Iron 7439-89-6	<0.22 mg/L <0.0024 lbs	0.247 mg/L 0.011 lbs	<0.22 mg/L <0.0024 lbs	0.247 mg/L 0.011 lbs	1	
Lead 7439-92-1	<0.0015 mg/L <0.000016 lbs	0.00225 mg/L 0.00010 lbs	<0.0015 mg/L <0.000016 lbs	0.00225 mg/L 0.00010 lbs	1	
Mercury 7439-97-6					0	See Chapter 7
Nickel 7440-02-0	<0.073 mg/L <0.00079 lbs	<0.073 mg/L <0.0033 lbs	<0.073 mg/L <0.00079 lbs	<0.073 mg/L <0.0033 lbs	1	
Nitrogen, Total Organic (as N)	0.183 mg/L 0.0020 lbs	0.134 mg/L 0.0060 lbs	0.183 mg/L 0.0020 lbs	0.134 mg/L 0.0060 lbs	1	
Selenium 7782-49-2	<0.0031 mg/L <0.000034 lbs	<0.0031 mg/L <0.00014 lbs	<0.0031 mg/L <0.000034 lbs	<0.0031 mg/L <0.00014 lbs	1	
Silver 7440-22-4	<0.00012 mg/L <0.0000013 lbs	<0.00012 mg/L <0.0000054 lbs	<0.00012 mg/L <0.0000013 lbs	<0.00012 mg/L <0.0000054 lbs	1	
Zinc 7440-66-6	0.0536 mg/L 0.00058 lbs	0.0786 mg/L 0.0035 lbs	0.0536 mg/L 0.00058 lbs	0.0786 mg/L 0.0035 lbs	1	

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

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		illy Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
1,1,1-Trichloroethane 71-55-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1,2,2-Tetrachloroethane 79-34-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1,2-Trichloroethane 79-00-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1-Dichloroethane 75-34-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1-Dichloroethene 75-35-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2,4,5-Tetrachlorobenzene 95-94-3	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
1,2,4-Trichlorobenzene 120-82-1	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
1,2-Dibromoethane 106-93-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichlorobenzene 95-50-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichloroethane 107-06-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichloroethene 540-59-0	<2 ug/L <0.00002 lbs		<2 ug/L <0.00002 lbs		1	
1,2-Dichloropropane 78-87-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Diphenylhydrazine 122-66-7	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
1,3-Dichlorobenzene 541-73-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,3-Dichloropropylene 542-75-6	<2 ug/L <0.00002 lbs		<2 ug/L <0.00002 lbs		1	
1,4-Dichlorobenzene 106-46-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	

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

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	Maximum Da (specif	ily Discharge y units)		Ily Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
2,4,5-Trichlorophenol 95-95-4	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
2,4,6-Trichlorophenol 88-06-2	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
2,4-Dichlorophenol 120-83-2	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
2,4-Dimethylphenol 105-67-9	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
2,4-Dinitrophenol 51-28-5	<20 ug/L <0.0002 lbs	<21.7 ug/L <0.00098 lbs	<20 ug/L <0.0002 lbs	<21.7 ug/L <0.00098 lbs	1	
2,4-Dinitrotoluene 121-14-2	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
2,6-Dinitrotoluene 606-20-2	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
2-Butanone 78-93-3	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
2-Chloroethylvinyl ether 110-75-8	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
2-Chloronaphthalene 91-58-7	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
2-Chlorophenol 95-57-8	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
2-Hexanone 591-78-6	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
2-Methylphenol 95-48-7	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
2-Nitrophenol 88-75-5	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
3,3'-Dichlorobenzidine 91-94-1	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
4,6-Dinitro-O-Cresol 534-52-1	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	302	OMB No. 2040-0004

		illy Discharge y units)		ly Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
4-Bromophenylphenyl ether 101-55-3	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
4-Chlorophenylphenyl ether 7005-72-3	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
4-Methyl-2-pentanone 108-10-1	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
4-Nitrophenol 100-02-7	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Acenaphthene 83-32-9	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Acenaphthylene 208-96-8	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Acetone 67-64-1	J4.05 ug/L J0.000044 lbs		J4.05 ug/L J0.000044 lbs		1	
Acrolein 107-02-8	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
Acrylonitrile 107-13-1	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
Allyl chloride 107-05-1	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
Aluminum 7429-90-5	0.178 mg/L 0.0019 lbs	0.216 mg/L 0.0097 lbs	0.178 mg/L 0.0019 lbs	0.216 mg/L 0.0097 lbs	1	
Aniline 62-53-3	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Anthracene 120-12-7	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Barium 7440-39-3	0.0132 mg/L 0.00014 lbs	0.0149 mg/L 0.00067 lbs	0.0132 mg/L 0.00014 lbs	0.0149 mg/L 0.00067 lbs	1	
Benzene 71-43-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Benzidine 92-87-5	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	

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TN1890090003	TN0002941	Oak Ridge National Laboratory	302	OMB No. 2040-0004

		illy Discharge y units)		ly Discharge fy units)	Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	
Benzo(a)anthracene 56-55-3	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Benzo(a)pyrene 50-32-8	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Benzo(b)fluoranthene 205-99-2	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Benzo(ghi)perylene 191-24-2	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Benzo(k)fluoranthene 207-08-9	<1 ug/L <0.00001 lbs	J0.358 ug/L J0.000016 lbs	<1 ug/L <0.00001 lbs	J0.358 ug/L J0.000016 lbs	1	
Benzyl chloride 100-44-7	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
Beryllium 7440-41-7	<0.00014 mg/L <0.0000015 lbs	<0.00014 mg/L <0.0000063 lbs	<0.00014 mg/L <0.0000015 lbs	<0.00014 mg/L <0.0000063 lbs	1	
Bis(2-chloroethoxy)methane 111-91-1	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Bis(2-chloroethyl) ether 111-44-4	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Bis(2-chloroisopropyl) ether 108-60-1	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Bis(2-ethylhexyl)phthalate 117-81-7	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Boron 7440-42-8	0.00445 mg/L 0.000048 lbs	0.00453 mg/L 0.00020 lbs	0.00445 mg/L 0.000048 lbs	0.00453 mg/L 0.00020 lbs	1	
Bromodichloromethane 75-27-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Bromoform 75-25-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Bromomethane 74-83-9	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Butylbenzylphthalate 85-68-7	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	

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		illy Discharge y units)		ly Discharge fy units)	Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	
Calcium 7440-70-2	7.42 mg/L 0.081 lbs	8.72 mg/L 0.39 lbs	7.42 mg/L 0.081 lbs	8.72 mg/L 0.39 lbs	1	
Carbon Disulfide 75-15-0	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
Carbon tetrachloride 56-23-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Cesium 7440-46-2	0.0000450 mg/L 4.90E-07 lbs	<0.0000400 mg/L <0.0000018 lbs	0.0000450 mg/L 4.90E-07 lbs	<0.0000400 mg/L <0.0000018 lbs	1	
Chlorobenzene 108-90-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloroethane 75-00-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloroform 67-66-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloromethane 74-87-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chrysene 218-01-9	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
cis-1,2-Dichloroethene 156-59-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
cis-1,3-Dichloropropene 10061-01-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Cobalt 7440-48-4	0.000193 mg/L 0.0000021 lbs	0.000221 mg/L 0.000010 lbs	0.000193 mg/L 0.0000021 lbs	0.000221 mg/L 0.000010 lbs	1	
Cyclohexane 110-82-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Dibenzo(a,h)anthracene 53-70-3	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Dibromochloromethane 124-48-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Diethylphthalate 84-66-2	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	

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	Maximum Da (specif	ily Discharge y units)		ly Discharge y units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Dimethylphthlate 131-11-3	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Di-n-butylphthalate 84-74-2	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Di-n-octylphthlate 117-84-0	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Diphenylamine 122-39-4	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Disulfoton 298-04-4	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Ethylbenzene 100-41-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Fluoranthene 206-44-0	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Fluorene 86-73-7	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Hexachlorobenzene 118-74-1	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Hexachlorobutadiene 87-68-3	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Hexachlorocyclopentadiene 77-47-4	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Hexachloroethane 67-72-1	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Indeno(1,2,3-cd)pyrene 193-39-5	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Isophorone 78-59-1	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Kepone 143-50-0	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
m+p Methylphenol 65794-96-9	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	

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	Maximum Da (specif	ily Discharge y units)		ly Discharge y units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Magnesium 7439-95-4	1.13 mg/L 0.012 lbs	1.47 mg/L 0.066 lbs	1.13 mg/L 0.012 lbs	1.47 mg/L 0.066 lbs	1	
Manganese 7439-96-5	0.0116 mg/L 0.00013 lbs	0.0165 mg/L 0.00074 lbs	0.0116 mg/L 0.00013 lbs	0.0165 mg/L 0.00074 lbs	1	
Methyl methacrylate 80-62-6	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
Methyl parathion 298-00-0	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Methylene chloride 75-09-2	<2 ug/L <0.00002 lbs		<2 ug/L <0.00002 lbs		1	
Molybdenum 7439-98-7	<0.0032 mg/L <0.000035 lbs	<0.0032 mg/L <0.00014 lbs	<0.0032 mg/L <0.000035 lbs	<0.0032 mg/L <0.00014 lbs	1	
Naphthalene 91-20-3	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Nitrobenzene 98-95-3	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
N-Nitrosodiethylamine 55-18-5	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
N-Nitrosodimethylamine 62-75-9	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
N-Nitroso-di-n-propylamine 621-64-7	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
N-Nitrosopyrrolidine 930-55-2	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Parathion 56-38-2	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
PCB-1016 12674-11-2					0	See Chapter 7
PCB-1221 11104-28-2					0	See Chapter 7
PCB-1232 11141-16-5					0	See Chapter 7

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		illy Discharge fy units)		ily Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
PCB-1242 53469-21-9					0	See Chapter 7
PCB-1248 12672-29-6					0	See Chapter 7
PCB-1254 11097-69-1					0	See Chapter 7
PCB-1260 11096-82-5					0	See Chapter 7
P-Chloro-M-Cresol 59-50-7	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Pentachlorobenzene 608-93-5	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Pentachlorophenol 87-86-5	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Phenanthrene 85-01-8	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Phenol 108-95-2	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	<10 ug/L <0.0001 lbs	<10.8 ug/L <0.00049 lbs	1	
Potassium 7440-09-7	0.582 mg/L 0.0063 lbs	0.558 mg/L 0.025 lbs	0.582 mg/L 0.0063 lbs	0.558 mg/L 0.025 lbs	1	
Pyrene 129-00-0	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	<1 ug/L <0.00001 lbs	<1.08 ug/L <0.000049 lbs	1	
Sodium 7440-23-5	5.79 mg/L 0.063 lbs	5.95 mg/L 0.27 lbs	5.79 mg/L 0.063 lbs	5.95 mg/L 0.27 lbs	1	
Strontium 7440-24-6	0.0145 mg/L 0.00016 lbs	0.0154 mg/L 0.00069 lbs	0.0145 mg/L 0.00016 lbs	0.0154 mg/L 0.00069 lbs	1	
Styrene 100-42-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Tetrachloroethene 127-18-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Thallium 7440-28-0	<0.0000400 mg/L <4.30E-07 lbs	<0.0000400 mg/L <0.0000018 lbs	<0.0000400 mg/L <4.30E-07 lbs	<0.0000400 mg/L <0.0000018 lbs	1	

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		i lly Discharge y units)		Average Daily Discharge (specify units)		Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Number of Storm Events Sampled	(new source/new dischargers only; use codes in instructions)
Tin 7440-31-5	<0.002 mg/L <0.00002 lbs	<0.002 mg/L <0.00009 lbs	<0.002 mg/L <0.00002 lbs	<0.002 mg/L <0.00009 lbs	1	
Titanium 7440-32-6	0.0104 mg/L 0.00011 lbs	0.0157 mg/L 0.00071 lbs	0.0104 mg/L 0.00011 lbs	0.0157 mg/L 0.00071 lbs	1	
Toluene 108-88-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Total Cresols 1319-77-3	<20 ug/L <0.0002 lbs	<21.7 ug/L <0.00098 lbs	<20 ug/L <0.0002 lbs	<21.7 ug/L <0.00098 lbs	1	
trans-1,2-Dichloroethene 156-60-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
trans-1,3-Dichloropropene 10061-02-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Trichloroethene 79-01-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Trichlorofluoromethane 75-69-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Uranium 7440-61-1	<0.0012 mg/L <0.000013 lbs	<0.0012 mg/L <0.000054 lbs	<0.0012 mg/L <0.000013 lbs	<0.0012 mg/L <0.000054 lbs	1	
Vanadium 7440-62-2	0.00161 mg/L 0.000017 lbs	0.00166 mg/L 0.000075 lbs	0.00161 mg/L 0.000017 lbs	0.00166 mg/L 0.000075 lbs	1	
Vinyl acetate 108-05-4	<5 ug/L <0.00005 lbs		<5 ug/L <0.00005 lbs		1	
Vinyl chloride 75-01-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Xylene 1330-20-7	<3 ug/L <0.00003 lbs		<3 ug/L <0.00003 lbs		1	
Zirconium 7440-67-7	<0.0031 mg/L <0.000034 lbs	<0.0031 mg/L <0.00014 lbs	<0.0031 mg/L <0.000034 lbs	<0.0031 mg/L <0.00014 lbs	1	

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

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TABLE 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)
3/23/2022	11.8 hrs	.66 in	158.5 hrs	70 gpm	5400 gal

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

All flow rates were measured or estimated by measuring the time required for the stormwater discharge to fill a container of a known volume.

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U.S Environmental Protection Agency

Form 2F	9 .	PA		Application for NPDES Permit to Discharge Wastewater								
NPDES		-1 / \	STORMWA	TER DISCHARGE	S ASSOCIAT	ED WITH INDUSTR	IAL ACTIVIT	Υ				
SECTION	N 1. OUT		TION (40 CFR 122.21(g									
	1.1	Provide info	ormation on each of the	facility's outfalls in th	ility's outfalls in the table below							
		Number	Receiving Water Na	me	Latitude		Longitude					
_		304	White Oak Creek	35 °	55 ′ 28.21 ″	N 84 °	18 ′ 55.87	" W				
Outfall Location		Storm Water	r: Group B1 H	ligh Imperviousness w	ith Dry-Weather	Discharge						
SECTION	l 2. IMPF	ROVEMENTS	G (40 CFR 122.21(g)(6))									
	2.1	Are you pre upgrading,	esently required by any for operating wastewater ischarges described in the	treatment equipme	nt or practices o		ntal programs					
	2.2		tify each applicable proje	ect in the table below								
	2.2	Diffelly iden	illy each applicable proje	ect III tile table belov	<i>.</i>		Final Compliance Dates					
			Identification and ription of Project	Affected Outfalls (list outfall numbers)	Source(s) of Discharge		Final Compi	lance Dates				
		DC30	inplion of thoject	(not outlan Hamboro)			Required	Projected				
s		See Appendix	K - Improvements									
Improvements												
	2.3	that may af	attached sheets describir fect your discharges) that	at you now have und	erway or plann		r environmenta	al projects				
		✓ Yes										

EPA Identification Number TN1890090003		n Number	NPDES Permit Number Facility Name N0002941 Cak Ridge National Laboratory		Form Approved 03/05/19 OMB No. 2040-0004					
SECTIO	N 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 instruction specific guidance.) Yes No								
SECTIO	N 4. POL		URCES (40 CFR 122.26(c)(1)(i)							
	4.1	Provide information on the facility's pollutant sources in the table below.								
		Outfall	Impervious Surfac			urface Area Drained				
		Number	(within a mile radius of	specify units	(within a	mile radius of the facility)	specify units			
		304	5.551	acres	8.749	í	acres			
				specify units			specify units			
				specify units			specify units			
				specify units			specify units			
				specify units			specify units			
				specify units			specify units			
Pollutant Sources	4.2	Provide a narrative description of the facility's significant material in the space below. (See instructions for conrequirements.) Outfall 304 is a part of Group B1 stormwater outfalls throughout the ORNL campus that have greater than 50% impervious surface within drainage areas and also contains a dry-weather component (e.g., condensate, groundwater, other facility wastewaters) that may be prestime of the stormwater sample collection. Since data was available for this outfall, it is included on a separate 2F form. Legacy CERCLA contamination can exist in the drainage areas - especially those in the central part of the ORNL campus. This outfall's drainage area is to industrial research park with impervious surfaces such as roads, sidewalks, and buildings, and grassed or graveled areas. There are located on many of the buildings with some outdoor storage of metal pipes or containers, utilities such as transformers, generator equipment, consystems, and steam lines are located throughout the ORNL campus, and some dynamic laydown areas are used as material delivery drawing the growing season, herbicides are applied in turf and landscaped areas for weed control and to remove invasive plants. When no pesticides are used to control fire ants, ticks, and other nuisance insects. Fertilizers are primarily applied to re-establish vegetation in articles are used to control fire ants, ticks, and other nuisance insects. Fertilizers are primarily applied to re-establish vegetation in articles are used to control fire ants, ticks, and other nuisance insects. Fertilizers are primarily applied to re-establish vegetation in articles are used to control fire ants, ticks, and other nuisance insects. Fertilizers are primarily applied to re-establish vegetation in articles are used to control fire ants, ticks, and other nuisance insects. Fertilizers are primarily applied to re-establish vegetation in articles are used to control fire ants, ticks, and other nuisance insects. Fertilizers are primarily applied to re-establish vegetatio								
	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							
		304	Drainage from the eastern portion of the 7600 area is directed to a retention basin prior to discharge through OF 291, which is in the SW Group B1 outfalls. See Chapter 7 - EPA Form 2F for more detail.							
		I	1				1			

NPDES Permit Number **EPA Identification Number** Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C)) 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 Johnny O. Moore Manager, ORNL Site Office Date signed Signature Non-Stormwater Discharges 5.2 Provide the testing information requested in the table below. Onsite Drainage Points Outfall Directly Observed **Description of Testing Method Used** Date(s) of Testing Number **During Test** 304 See Chapter 7 - EPA Form 2F for information. SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D)) Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. Significant Leaks or Spills None. ORNL maintains an aggressive spill prevention and control program through the ORNL SPCC Plan, which stresses awareness of spill prevention to both ORNL employees and subcontractor employees on site. As part of the Spill Contingency Plan, a subpart of the ORNL SPCC, ORNL has an experienced spill response team that is available around-the-clock for spill control and cleanup operations, and that maintains a database of spills and record of clean-up. In addition, spill materials; consisting of spreadable granular absorbents, absorbent booms, containment containers, containment curtain and oil skimmer, are available for use by the spill response team. Additionally, construction sites are required to maintain spill kits during the duration of the construction project. Over the past three years between (2019-2022), ORNL has experienced minor spills or leaks, most of which were heavy equipment- or vehicle-related, and generally involved several ounces to several gallons of ethylene glycol or petroleum-based fuels, lubricants, and/or hydraulic fluids. In every instance the spill response team enacted clean-up. None of these were reportable-quantity spills of oil or hazardous substances as defined within the ORNL NPDES Permit TN0002941, 40 CFR 117 or 40 CFR 403. SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E)) See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must Discharge Information complete. Not all applicants need to complete each table. Is this a new source or new discharge? Yes → See instructions regarding submission of No → See instructions regarding submission of estimated data. actual data. Tables A, B, C, and D 7.2 Have you completed Table A for each outfall? **✓** Yes No

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	7.3	Is the facilit wastewater	ty subject to an effluent limitation guide ??	line (ELG) or effl	uent limitations in a	n NPDES permit for its process
		✓ Yes			No → SKIP to Ite	m 7.5.
	7.4		completed Table B by providing quantit			
			an ELG and/or (2) subject to effluent I	imitations in an N	NPDES permit for th	e facility's process wastewater?
		✓ Yes			No	
	7.5	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-2 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.7.
	7.6	are present in the discharge and				
			uantitative data or an explanation for th	ose pollutants in		
		✓ Yes			No	
	7.7		alify for a small business exemption und			ctions?
			→SKIP to Item 7.18.	✓	No	
	7.8	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-3 are present in t	ne discharge?
Discharge Information Continued		✓ Yes			No → SKIP to Ite	m 7.10.
	7.9	Have you li Table C?	sted all pollutants in Exhibit 2F–3 that	you know or hav	e reason to believe	are present in the discharge in
		✓ Yes			No	
	7.10	s of 10 ppb or greater?				
		☐ Yes		✓	No → SKIP to Ite	m 7.12.
ırge Info	7.11		orovided quantitative data in Table C fo ons of 10 ppb or greater?	r those pollutants	s in Exhibit 2F–3 tha	at you expect to be discharged in
scha		☐ Yes			No	
Di	7.12	Do you exp of 100 ppb	pect acrolein, acrylonitrile, 2,4-dinitroph or greater?	enol, or 2-methy	l-4,6-dinitrophenol to	o be discharged in concentrations
		Yes		✓	No → SKIP to Ite	m 7.14.
	7.13		provided quantitative data in Table C fo in concentrations of 100 ppb or greate		dentified in Item 7.1	2 that you expect to be
		Yes			No	
	7.14		provided quantitative data or an explanate concentrations less than 10 ppb (or l			
		✓ Yes			No	
	7.15	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-4 are present in the	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.17.
	7.16		sted pollutants in Exhibit 2F–4 that you n in Table C?	ı know or believe	to be present in the	e discharge and provided an
		✓ Yes			No	
	7.17		provided information for the storm even	t(s) sampled in T	able D?	
		✓ Yes			No	

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7	Used or Manufactured Toxics									
Discharge Information Continued	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? ✓ No → SKIP to Section 8.								
ation	7.19	List the pollutants below, including TCDD if applicable.								
e Inform		1.	·	4.		7.				
harg		2.		5.		8.				
Disc		3.		6.		9.				
SECTIO	N 8. BIOI	LOGICAL TO	XICITY TESTING	6 DATA (40 CFR 122	.21(g)(11))					
	### TION 8. BIOLOGICAL TOXICITY TESTING DATA (40 CFR 122.21(g)(11)) 8.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has any of your discharges or on a receiving water in relation to your discharge within the last three years?									
ting D		☐ Yes				✓ No → SKIP t	o Section	9.		
Tes	8.2	Identify the	tests and their pu	rposes below.						
Biological Toxicity Testing Data		ī	Test(s)	Purpose of T	est(s)	Submitted to NPD Permitting Authori		Date Submitted		
cal To						☐ Yes ☐	No			
ologi						☐ Yes ☐	No			
Bi						☐ Yes ☐	No			
SECTIO	N 9. CON	TRACT ANA	ALYSIS INFORMA	ATION (40 CFR 122.2	21(g)(12))					
	9.1	Were any of consulting fi		oorted in Section 7 (or	n Tables A th	rough C) performed by	a contrac	t laboratory or		
		✓ Yes				☐ No → SKIP t	o Section	10.		
	9.2	Provide info	rmation for each	contract laboratory or	consulting fi	rm below.				
Contract Analysis Information				Laboratory Nui	mber 1	Laboratory Numl	oer 2	Laboratory Number 3		
		Name of lab	ooratory/firm	GEL Laboratories, LLC						
		Laboratory a	address	2040 Savage Road Charleston, SC (USA) 29	9407					
Contra		Phone numl	ber	(843) 556-8171						
		Pollutant(s)	analyzed	Ammonia, BOD, COD, N Nitrate/nitrite, Oil & Grea VOCs/SVOCs, Phospho	se,					

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SECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))								
	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					
Checklist and Certification Statement		✓ Section 6	□ w/ attachments					
		Section 7	✓ Table A					
ion St			✓ Table B					
tificat			✓ Table C ✓ Table D					
d Cer		✓ Section 8	□ w/attachments					
list an		✓ Section 9	w/attachments (e.g., responses for additional contact laboratories or firms)					
Check		✓ 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 Johnny O. Moore	ast name) Official title Manager, ORNL Site Office					
		Signature	Date signed					

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))1 You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements. **Maximum Daily Discharge** Average Daily Discharge Source of (specify units) (specify units) Information **Number of Storm** Pollutant or Parameter **Grab Sample Taken Grab Sample Taken** (new source/new **Events Sampled** Flow-Weighted Flow-Weighted **During First** dischargers only; use **During First** Composite Composite codes in instructions) 30 Minutes 30 Minutes J1.69 ma/L J1.69 ma/L Oil and grease J0.020 lbs J0.020 lbs <5 mg/L <5 mg/L <5 mg/L <5 mg/L Biochemical oxygen demand (BOD₅) <0.2 lbs <0.06 lbs <0.06 lbs <0.2 lbs 28.4 mg/L 33.8 mg/L 28.4 mg/L 33.8 mg/L 3. Chemical oxygen demand (COD) 0.33 lbs 0.33 lbs 1.6 lbs 1.6 lbs 23.8 ma/L 45.8 mg/L 23.8 mg/L 45.8 ma/L Total suspended solids (TSS) 0.28 lbs 2.2 lbs 0.28 lbs 2.2 lbs 0.0911 mg/L 0.108 ma/L 0.0911 ma/L 0.108 ma/L 5. Total phosphorus 0.0043 lbs 0.0013 lbs 0.0043 lbs 0.0013 lbs 3.44 mg/L 3.66 ma/L 3.44 ma/L 3.66 ma/L Total Kjeldahl nitrogen (TKN) 0.040 lbs 0.17 lbs 0.040 lbs 0.17 lbs 3.67 ma/L 3.67 ma/L 3.89 ma/L 3.89 ma/L Total nitrogen (as N) 0.043 lbs 0.19 lbs 0.043 lbs 0.19 lbs 8.4 pH (minimum) 8.4 pH (maximum)

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

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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.

	(specif	ily Discharge y units)	(specif	ly Discharge y units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Ammonia (as N)	3 mg/L 0.04 lbs	3.02 mg/L 0.14 lbs	3 mg/L 0.04 lbs	3.02 mg/L 0.14 lbs	1	
Antimony 7440-36-0	0.000388 mg/L 0.0000045 lbs	0.000346 mg/L 0.000016 lbs	0.000388 mg/L 0.0000045 lbs	0.000346 mg/L 0.000016 lbs	1	
Arsenic 7440-38-2	<0.002 mg/L <0.00002 lbs	<0.002 mg/L <0.0001 lbs	<0.002 mg/L <0.00002 lbs	<0.002 mg/L <0.0001 lbs	1	
Cadmium 7440-43-9	<0.00033 mg/L <0.0000039 lbs	<0.00033 mg/L <0.000016 lbs	<0.00033 mg/L <0.0000039 lbs	<0.00033 mg/L <0.000016 lbs	1	
Chromium 7440-47-3	<0.01 mg/L <0.0001 lbs	<0.01 mg/L <0.0005 lbs	<0.01 mg/L <0.0001 lbs	<0.01 mg/L <0.0005 lbs	1	
Copper 7440-50-8	<0.011 mg/L <0.00013 lbs	<0.011 mg/L <0.00052 lbs	<0.011 mg/L <0.00013 lbs	<0.011 mg/L <0.00052 lbs	1	
Iron 7439-89-6	0.772 mg/L 0.0090 lbs	0.701 mg/L 0.033 lbs	0.772 mg/L 0.0090 lbs	0.701 mg/L 0.033 lbs	1	
Lead 7439-92-1	0.00613 mg/L 0.000072 lbs	0.00588 mg/L 0.00028 lbs	0.00613 mg/L 0.000072 lbs	0.00588 mg/L 0.00028 lbs	1	
Mercury 7439-97-6					0	See Chapter 7
Nickel 7440-02-0	<0.073 mg/L <0.00085 lbs	<0.073 mg/L <0.0035 lbs	<0.073 mg/L <0.00085 lbs	<0.073 mg/L <0.0035 lbs	1	
Nitrogen, Total Organic (as N)	0.445 mg/L 0.0052 lbs	0.645 mg/L 0.031 lbs	0.445 mg/L 0.0052 lbs	0.645 mg/L 0.031 lbs	1	
Selenium 7782-49-2	<0.0031 mg/L <0.000036 lbs	<0.0031 mg/L <0.00015 lbs	<0.0031 mg/L <0.000036 lbs	<0.0031 mg/L <0.00015 lbs	1	
Silver 7440-22-4	<0.00012 mg/L <0.0000014 lbs	<0.00012 mg/L <0.0000057 lbs	<0.00012 mg/L <0.0000014 lbs	<0.00012 mg/L <0.0000057 lbs	1	
Zinc 7440-66-6	0.11 mg/L 0.0013 lbs	0.1 mg/L 0.005 lbs	0.11 mg/L 0.0013 lbs	0.1 mg/L 0.005 lbs	1	

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

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		illy Discharge y units)		ily Discharge fy units)	Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	
1,1,1-Trichloroethane 71-55-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1,2,2-Tetrachloroethane 79-34-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1,2-Trichloroethane 79-00-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1-Dichloroethane 75-34-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,1-Dichloroethene 75-35-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2,4,5-Tetrachlorobenzene 95-94-3	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
1,2,4-Trichlorobenzene 120-82-1	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
1,2-Dibromoethane 106-93-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichlorobenzene 95-50-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichloroethane 107-06-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Dichloroethene 540-59-0	<2 ug/L <0.00002 lbs		<2 ug/L <0.00002 lbs		1	
1,2-Dichloropropane 78-87-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,2-Diphenylhydrazine 122-66-7	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
1,3-Dichlorobenzene 541-73-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
1,3-Dichloropropylene 542-75-6	<2 ug/L <0.00002 lbs		<2 ug/L <0.00002 lbs		1	
1,4-Dichlorobenzene 106-46-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	

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

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		illy Discharge y units)		ly Discharge fy units)	Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	
2,4,5-Trichlorophenol 95-95-4	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
2,4,6-Trichlorophenol 88-06-2	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
2,4-Dichlorophenol 120-83-2	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
2,4-Dimethylphenol 105-67-9	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
2,4-Dinitrophenol 51-28-5	<109 ug/L <0.0013 lbs	<21.8 ug/L <0.0010 lbs	<109 ug/L <0.0013 lbs	<21.8 ug/L <0.0010 lbs	1	
2,4-Dinitrotoluene 121-14-2	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
2,6-Dinitrotoluene 606-20-2	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
2-Butanone 78-93-3	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
2-Chloroethylvinyl ether 110-75-8	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
2-Chloronaphthalene 91-58-7	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
2-Chlorophenol 95-57-8	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
2-Hexanone 591-78-6	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
2-Methylphenol 95-48-7	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
2-Nitrophenol 88-75-5	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
3,3'-Dichlorobenzidine 91-94-1	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
4,6-Dinitro-O-Cresol 534-52-1	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	

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		illy Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
4-Bromophenylphenyl ether 101-55-3	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
4-Chlorophenylphenyl ether 7005-72-3	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
4-Methyl-2-pentanone 108-10-1	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
4-Nitrophenol 100-02-7	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Acenaphthene 83-32-9	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Acenaphthylene 208-96-8	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Acetone 67-64-1	J4.92 ug/L J0.000057 lbs		J4.92 ug/L J0.000057 lbs		1	
Acrolein 107-02-8	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
Acrylonitrile 107-13-1	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
Allyl chloride 107-05-1	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
Aluminum 7429-90-5	1.1 mg/L 0.013 lbs	0.781 mg/L 0.037 lbs	1.1 mg/L 0.013 lbs	0.781 mg/L 0.037 lbs	1	
Aniline 62-53-3	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Anthracene 120-12-7	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Barium 7440-39-3	0.0221 mg/L 0.00026 lbs	0.0202 mg/L 0.00096 lbs	0.0221 mg/L 0.00026 lbs	0.0202 mg/L 0.00096 lbs	1	
Benzene 71-43-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Benzidine 92-87-5	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	

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	Maximum Da (specif	ily Discharge y units)		ly Discharge fy units)	Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	
Benzo(a)anthracene 56-55-3	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Benzo(a)pyrene 50-32-8	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Benzo(b)fluoranthene 205-99-2	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Benzo(ghi)perylene 191-24-2	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Benzo(k)fluoranthene 207-08-9	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Benzyl chloride 100-44-7	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
Beryllium 7440-41-7	<0.00014 mg/L <0.0000016 lbs	<0.00014 mg/L <0.0000067 lbs	<0.00014 mg/L <0.0000016 lbs	<0.00014 mg/L <0.0000067 lbs	1	
Bis(2-chloroethoxy)methane 111-91-1	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Bis(2-chloroethyl) ether 111-44-4	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Bis(2-chloroisopropyl) ether 108-60-1	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Bis(2-ethylhexyl)phthalate 117-81-7	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Boron 7440-42-8	0.00744 mg/L 0.000087 lbs	0.0073 mg/L 0.00035 lbs	0.00744 mg/L 0.000087 lbs	0.0073 mg/L 0.00035 lbs	1	
Bromodichloromethane 75-27-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Bromoform 75-25-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Bromomethane 74-83-9	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Butylbenzylphthalate 85-68-7	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	

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		ily Discharge y units)		i ly Discharge fy units)	Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	
Calcium 7440-70-2	11.1 mg/L 0.13 lbs	10.2 mg/L 0.49 lbs	11.1 mg/L 0.13 lbs	10.2 mg/L 0.49 lbs	1	
Carbon Disulfide 75-15-0	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
Carbon tetrachloride 56-23-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Cesium 7440-46-2	0.0000982 mg/L 0.0000011 lbs	0.0000846 mg/L 0.0000040 lbs	0.0000982 mg/L 0.0000011 lbs	0.0000846 mg/L 0.0000040 lbs	1	
Chlorobenzene 108-90-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloroethane 75-00-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloroform 67-66-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chloromethane 74-87-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Chrysene 218-01-9	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
cis-1,2-Dichloroethene 156-59-2	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
cis-1,3-Dichloropropene 10061-01-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Cobalt 7440-48-4	0.000539 mg/L 0.0000063 lbs	0.000478 mg/L 0.000023 lbs	0.000539 mg/L 0.0000063 lbs	0.000478 mg/L 0.000023 lbs	1	
Cyclohexane 110-82-7	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Dibenzo(a,h)anthracene 53-70-3	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Dibromochloromethane 124-48-1	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Diethylphthalate 84-66-2	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	

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		illy Discharge y units)		ly Discharge fy units)	Number of Storm	Source of Information
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Dimethylphthlate 131-11-3	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Di-n-butylphthalate 84-74-2	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Di-n-octylphthlate 117-84-0	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Diphenylamine 122-39-4	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Disulfoton 298-04-4	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Ethylbenzene 100-41-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1	
Fluoranthene 206-44-0	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Fluorene 86-73-7	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Hexachlorobenzene 118-74-1	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Hexachlorobutadiene 87-68-3	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Hexachlorocyclopentadiene 77-47-4	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Hexachloroethane 67-72-1	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Indeno(1,2,3-cd)pyrene 193-39-5	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Isophorone 78-59-1	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Kepone 143-50-0	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
m+p Methylphenol 65794-96-9	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	

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Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Magnesium 7439-95-4	2.47 mg/L 0.029 lbs	2.14 mg/L 0.10 lbs	2.47 mg/L 0.029 lbs	2.14 mg/L 0.10 lbs	1	
Manganese 7439-96-5	0.0402 mg/L 0.00047 lbs	0.0337 mg/L 0.0016 lbs	0.0402 mg/L 0.00047 lbs	0.0337 mg/L 0.0016 lbs	1	
Methyl methacrylate 80-62-6	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1	
Methyl parathion 298-00-0	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Methylene chloride 75-09-2	<2 ug/L <0.00002 lbs		<2 ug/L <0.00002 lbs		1	
Molybdenum 7439-98-7	<0.0032 mg/L <0.000037 lbs	<0.0032 mg/L <0.00015 lbs	<0.0032 mg/L <0.000037 lbs	<0.0032 mg/L <0.00015 lbs	1	
Naphthalene 91-20-3	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1	
Nitrobenzene 98-95-3	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
N-Nitrosodiethylamine 55-18-5	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
N-Nitrosodimethylamine 62-75-9	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
N-Nitroso-di-n-propylamine 621-64-7	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
N-Nitrosopyrrolidine 930-55-2	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
Parathion 56-38-2	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1	
PCB-1016 12674-11-2					0	See Chapter 7
PCB-1221 11104-28-2					0	See Chapter 7
PCB-1232 11141-16-5					0	See Chapter 7

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PCB-1242 53469-21-9					0	See Chapter 7	
PCB-1248 12672-29-6					0	See Chapter 7	
PCB-1254 11097-69-1					0	See Chapter 7	
PCB-1260 11096-82-5					0	See Chapter 7	
P-Chloro-M-Cresol 59-50-7	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1		
Pentachlorobenzene 608-93-5	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1		
Pentachlorophenol 87-86-5	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1		
Phenanthrene 85-01-8	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1		
Phenol 108-95-2	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	<54.5 ug/L <0.00064 lbs	<10.9 ug/L <0.00052 lbs	1		
Potassium 7440-09-7	0.753 mg/L 0.0088 lbs	0.646 mg/L 0.031 lbs	0.753 mg/L 0.0088 lbs	0.646 mg/L 0.031 lbs	1		
Pyrene 129-00-0	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	<5.45 ug/L <0.000064 lbs	<1.09 ug/L <0.000052 lbs	1		
Sodium 7440-23-5	4.58 mg/L 0.054 lbs	4.55 mg/L 0.22 lbs	4.58 mg/L 0.054 lbs	4.55 mg/L 0.22 lbs	1		
Strontium 7440-24-6	0.0187 mg/L 0.00022 lbs	0.0179 mg/L 0.00085 lbs	0.0187 mg/L 0.00022 lbs	0.0179 mg/L 0.00085 lbs	1		
Styrene 100-42-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Tetrachloroethene 127-18-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Thallium 7440-28-0	<0.0000400 mg/L <4.70E-07 lbs	<0.0000400 mg/L <0.0000019 lbs	<0.0000400 mg/L <4.70E-07 lbs	<0.0000400 mg/L <0.0000019 lbs	1		

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		Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Source of Information	
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Number of Storm Events Sampled	(new source/new dischargers only; use codes in instructions)	
Tin 7440-31-5	<0.002 mg/L <0.00002 lbs	<0.002 mg/L <0.0001 lbs	<0.002 mg/L <0.00002 lbs	<0.002 mg/L <0.0001 lbs	1		
Titanium 7440-32-6	0.0721 mg/L 0.00084 lbs	0.0582 mg/L 0.0028 lbs	0.0721 mg/L 0.00084 lbs	0.0582 mg/L 0.0028 lbs	1		
Toluene 108-88-3	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Total Cresols 1319-77-3	<109 ug/L <0.0013 lbs	<21.8 ug/L <0.0010 lbs	<109 ug/L <0.0013 lbs	<21.8 ug/L <0.0010 lbs	1		
trans-1,2-Dichloroethene 156-60-5	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
trans-1,3-Dichloropropene 10061-02-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Trichloroethene 79-01-6	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Trichlorofluoromethane 75-69-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Uranium 7440-61-1	<0.0012 mg/L <0.000014 lbs	<0.0012 mg/L <0.000057 lbs	<0.0012 mg/L <0.000014 lbs	<0.0012 mg/L <0.000057 lbs	1		
Vanadium 7440-62-2	0.00334 mg/L 0.000039 lbs	0.00329 mg/L 0.00016 lbs	0.00334 mg/L 0.000039 lbs	0.00329 mg/L 0.00016 lbs	1		
Vinyl acetate 108-05-4	<5 ug/L <0.00006 lbs		<5 ug/L <0.00006 lbs		1		
Vinyl chloride 75-01-4	<1 ug/L <0.00001 lbs		<1 ug/L <0.00001 lbs		1		
Xylene 1330-20-7	<3 ug/L <0.00004 lbs		<3 ug/L <0.00004 lbs		1		
Zirconium 7440-67-7	<0.0031 mg/L <0.000036 lbs	<0.0031 mg/L <0.00015 lbs	<0.0031 mg/L <0.000036 lbs	<0.0031 mg/L <0.00015 lbs	1		

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

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TABLE 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)
3/23/2022	11.8 hrs	.66 in	158.5 hrs	75 gpm	5700 gal

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

All flow rates were measured or estimated by measuring the time required for the stormwater discharge to fill a container of a known volume.

Stormwater Group B2

Low Imperviousness with Dry-Weather Discharge

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U.S Environmental Protection Agency

Form 2F	9	EPA	Application for NPDES Permit to Discharge Wastewater								
NPDES		-1 / \	STORMWA [*]	TER DISCHARG	ES ASSOCIA ⁻	TED WITH INDUSTR	IAL ACTIVIT	Υ			
SECTION			TION (40 CFR 122.21(g)								
	1.1	Provide info	ormation on each of the f	ĺ							
		Number	Receiving Water Nan	ne	Latitude		Longitude				
_		234	White Oak Creek	35 °	56 ' 3.68 "	N 84 °	18 ′ 5.31	" W			
ation		Storm Water	r: Group B2 Lo	ow Imperviousness w	ith Dry-Weather	Discharge					
Outfall Location		Other Outfali	Is Included: 191; 223; 23	:0; 235; 264; 267; 34	1; 365; 367; 436	: 482; 583					
SECTION	N 2. IMP F 2.1		6 (40 CFR 122.21(g)(6)) esently required by any fe	ederal state or loc	al authority to m	eet an implementation	schedule for c	onstructing			
	2.1	upgrading,	or operating wastewater ischarges described in the	treatment equipme	nt or practices o		ntal programs				
	2.2	Briefly identify each applicable project in the table below.									
		,					Final Compl	iance Dates			
			Identification and ription of Project	Affected Outfalls (list outfall numbers)	Source	Source(s) of Discharge		Projected			
ents		See Appendix	K - Improvements								
Improvements											
	2.3		L attached sheets describin fect your discharges) tha		derway or plann		r environmenta	I Il projects			

EPA I TN1890090	dentification 003	n Number	NPDES Permit Number TN0002941		Facility Name Form Approved 03 ational Laboratory OMB No. 2040					
SECTIO	N 3 SITE	DRAINAGE	MAP (40 CFR 122.26(c)(1)(i)(<i>F</i>	<i>\</i> \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\						
Site Drainage Map	3.1	Have you a specific gui	attached a site drainage map cor	••	information to this applic	cation? (See instruction	ons for			
		✓ Yes		□ No						
SECTIO			URCES (40 CFR 122.26(c)(1)(i)							
	4.1		ormation on the facility's pollutar							
		Outfall Number	Impervious Surfa (within a mile radius of			irface Area Drained nile radius of the facility)				
				specify units			specify units			
		234	14.654	acres	24.709	έ	ncres			
				specify units			specify units			
				specify units			specify units			
				specify units			specify units			
				specify units			specify units			
				specify units			specify units			
4.2 Bolintant Sources		requiremer Outfall 234 rep and include a c Legacy CERCI surfaces such a outdoor storage throughout can station with tan chemicals, peti landscaped are	Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.) outfall 234 represents Stormwater Group B2 Outfalls on the ORNL campus that have less than 50% impervious surface within their drainage areas not include a dry-weather component (e.g. other non-process wastewaters) that may be present at the time of the stormwater sample collection. egacy CERCLA contamination can exist in the drainage areas. Outfall 234 drainage area is typical of an industrial research park with impervious urfaces such as roads, sidewalks, and buildings, and grassed or graveled areas. There are loading docks on many of the buildings with some utdoor storage of metal pipes or containers, utilities such as transformers, generator equipment, cooling systems, and steam lines are located arroughout campus, and some outdoor areas are used as material delivery drop points. The Outfall 234 drainage area includes an onsite fueling tation with tanks that hold up to 8,500 gallons of ethanol, 15,000 gallons of gasoline, 6,000 gallons of diesel, and outdoor staging areas for various hemicals, petroleum products, equipment, or material awaiting disposition. During the growing season, herbicides are applied in turf and andscaped areas for weed control and to remove invasive plants. When needed, pesticides are used to control nuisance insects. Fertilizers are rimarily applied to re-establish vegetation in areas where soil has been disturbed by construction excavation but are also occasionally utilized by							
	4.3		location and a description of extraction and a description of extractions for spe		d non-structural control r	neasures to reduce p	ollutants in			
		Storriwater	runon. (See instructions for spe	Stormwater Ti	reatment					
		Outfall Number		Control Measures	and Treatment		Codes from Exhibit 2F-1 (list)			
		234	Outfall 234 drainage is moderated lare in place to separate particulates				N/A			
			Outfall 230 includes pervious paver	ment in the Hillside Pkg	lot draining to the SW detention	on basin	N/A			
			Outfall 365 consists of several drop preserve hydrology; an oil/water se	ponds to control runoff parator filters runoff fror	around the parking garage; an the parking garage	wetland was installed to	N/A			
			Outfall 191 drainage from the wester through the outfall pipe	ern portion of this area is	s directed to a retention basin	prior to discharge	N/A			
			Outfall 436 has a stormwater deten	tion pond from a soil sto	ockpile area		N/A			
			See Chapter 7 - EPA Form 2F for additional detail.							

EPA Identification Number Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 OMB No. 2040-0004 Oak Ridge National Laboratory SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C)) 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 Johnny O. Moore Manager, ORNL Site Office Date signed Signature Non-Stormwater Discharges 5.2 Provide the testing information requested in the table below. Onsite Drainage Points Outfall Directly Observed **Description of Testing Method Used** Date(s) of Testing Number **During Test** 234 See Chapter 7 - EPA Form 2F for information. SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D)) Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. Significant Leaks or Spills A water line break resulting in release of chlorinated water through Outfall 234 to White Oak Creek caused aguatic species mortality in Oct 2022. This incident was reported as required by the NPDES permit. ORNL maintains an aggressive spill prevention and control program through the ORNL SPCC Plan, which stresses awareness of spill prevention to both ORNL employees and subcontractor employees on site. As part of the Spill Contingency Plan, a subpart of the ORNL SPCC, ORNL has an experienced spill response team that is available around-the-clock for spill control and cleanup operations, and that maintains a database of spills and record of clean-up. In addition, spill materials; consisting of spreadable granular absorbents, absorbent booms, containment containers, containment curtain and oil skimmer; are available for use by the spill response team. Additionally, construction sites are required to maintain spill kits during the duration of the construction project. Over the past three years between (2019-2022), ORNL has experienced minor spills or leaks, most of which were heavy equipment- or vehicle-related, and generally involved several ounces to several gallons of ethylene glycol or petroleum-based fuels, lubricants, and/or hydraulic fluids. In every instance the spill response team enacted clean-up. None of these were reportable-quantity spills of oil or hazardous substances as defined within the ORNL NPDES Permit TN0002941, 40 CFR 117 or 40 CFR 403. SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E)) See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must Discharge Information complete. Not all applicants need to complete each table. Is this a new source or new discharge? Yes → See instructions regarding submission of No → See instructions regarding submission of estimated data. actual data. Tables A, B, C, and D 7.2 Have you completed Table A for each outfall? **✓** Yes No

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	7.3	la tha facilit	y subject to an effluent limitation guide			
	1.5	wastewater			uent iiniitations in a	IT NEDES PEITIILIOI IIS PIOCESS
		✓ Yes			No → SKIP to Ite	m 7.5.
	7.4		ompleted Table B by providing quantit			
			an ELG and/or (2) subject to effluent	imitations in an f		e facility's process wastewater?
	7.5	100	over here were to be Provenier and Here		No - O	and Produce O
	7.5	-	w or have reason to believe any pollut	ants in Exhibit 21	-	_
	7.6	✓ Yes	atad all walls tanta in Evhibit OF O that	vav knavk an hav	No → SKIP to Ite	
	7.0		sted all pollutants in Exhibit 2F–2 that uantitative data or an explanation for th	•		are present in the discharge and
		✓ Yes			No	
	7.7	Do you qua	alify for a small business exemption un	der the criteria sp	pecified in the Instru	ctions?
		☐ Yes	→SKIP to Item 7.18.	✓	No	
	7.8	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2	-3 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.10.
panu	7.9	Have you li Table C?	sted all pollutants in Exhibit 2F–3 that	you know or hav	e reason to believe	are present in the discharge in
Sonti		✓ Yes			No	
tion (7.10	Do you exp	ect any of the pollutants in Exhibit 2F-	-3 to be discharg	ed in concentrations	s of 10 ppb or greater?
orma		☐ Yes		✓	No → SKIP to Ite	m 7.12.
Discharge Information Continued	7.11		rovided quantitative data in Table C fo ons of 10 ppb or greater?	r those pollutant	s in Exhibit 2F–3 tha	at you expect to be discharged in
scha		☐ Yes			No	
Dis	7.12	Do you exp of 100 ppb	ect acrolein, acrylonitrile, 2,4-dinitroph or greater?	enol, or 2-methy	l-4,6-dinitrophenol t	o be discharged in concentrations
		Yes		•	No → SKIP to Ite	m 7.14.
	7.13		rovided quantitative data in Table C for in concentrations of 100 ppb or greate		dentified in Item 7.1	2 that you expect to be
		☐ Yes	•		No	
	7.14		provided quantitative data or an explanat concentrations less than 10 ppb (or l			
		✓ Yes			No	
	7.15	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2	-4 are present in the	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.17.
	7.16		sted pollutants in Exhibit 2F–4 that you in Table C?	ı know or believe	to be present in the	e discharge and provided an
		✓ Yes			No	
	7.17	Have you p	provided information for the storm even	t(s) sampled in T	able D?	
		✓ Yes			No	

	Identificatio 0003	n Number	NPDES F TN0002941	Permit Number	ı	Facility Name tional Laboratory		Form Approved 03/05/19 OMB No. 2040-0004		
7	Used o	r Manufactui	red Toxics		'					
Continue	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.								
ation	7.19		utants below, incl	uding TCDD if applica	able.			··		
e Inform		1.		4.		7.				
charg		2.		5.		8.				
Disc		3.		6.		9.				
	N 8. BIO I 8.1	Do you hav any of your	e any knowledge		that any biolo	ur discharge within the	last three			
stin	0.0	☐ Yes	t - t t th - t			No → SKIP t	o Section	9. 		
cicity Te	8.2		tests and their pu est(s)	Purpose of T	est(s)	Submitted to NPD Permitting Authori		Date Submitted		
al To						☐ Yes ☐	No			
ologic						☐ Yes ☐	No			
B						☐ Yes ☐	No			
SECTIO	N 9. CON	ITRACT ANA	LYSIS INFORMA	ATION (40 CFR 122.2	21(g)(12))					
	9.1	Were any of consulting fi		oorted in Section 7 (or	n Tables A th	rough C) performed by	a contrac	t laboratory or		
		✓ Yes				No → SKIP to Section 10.				
	9.2	Provide info	rmation for each	contract laboratory or	consulting fi	rm below.				
				Laboratory Nui	mber 1	Laboratory Numl	per 2	Laboratory Number 3		
ormation		Name of lab	oratory/firm	GEL Laboratories, LLC						
act Analysis Inf		Laboratory a	address	2040 Savage Road Charleston, SC (USA) 29	9407					
TN1890090003 TN1890090003 To a second part of the		Phone num	ber	(843) 556-8171						
		Pollutant(s)	analyzed	Ammonia, BOD, COD, N Nitrate/nitrite, Oil & Grea VOCs/SVOCs, Phospho	se,					

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SECTIO	N 10. CH	ECKLIST AND CERTIFICATION	ON STATEMENT (40 CFR 122.22(a) and (d))
	10.1	each section, specify in Colu	sections of Form 2F that you have completed and are submitting with your application. For mn 2 any attachments that you are enclosing to alert the permitting authority. Note that not 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
ınt		Section 6	□ w/ attachments
ateme		Section 7	✓ Table A
on St			✓ Table B
tificati			✓ Table C ✓ Table D
Checklist and Certification Statement		✓ Section 8	□ w/attachments
list an		✓ Section 9	w/attachments (e.g., responses for additional contact laboratories or firms)
Check		Section 10	
)	10.2	Certification Statement	
J		accordance with a system of submitted. Based on my inqu for gathering the information	that this document and all attachments were prepared under my direction or supervision in designed to assure that qualified personnel properly gather and evaluate the information viry of the person or persons who manage the system or those persons directly responsible, the information submitted is, to the best of my knowledge and belief, true, accurate, and ere are significant penalties for submitting false information, including the possibility of fine g violations.
		Name (print or type first and Johnny O. Moore	last name) Official title Manager, ORNL Site Office
		Signature	Date signed

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))1 You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements. **Maximum Daily Discharge** Average Daily Discharge Source of (specify units) (specify units) Information **Number of Storm** Pollutant or Parameter **Grab Sample Taken Grab Sample Taken** (new source/new Flow-Weighted Flow-Weighted **Events Sampled** During First dischargers only; use **During First** Composite Composite codes in instructions) 30 Minutes 30 Minutes <1.54 ma/L <1.54 ma/L Oil and grease <0.00030 lbs <0.00030 lbs <4 mg/L <4 mg/L <4 mg/L <4 mg/L Biochemical oxygen demand (BOD₅) <0.0008 lbs <0.9 lbs <0.0008 lbs <0.9 lbs 48.8 mg/L 35.5 mg/L 48.8 mg/L 35.5 mg/L 3. Chemical oxygen demand (COD) 0.0094 lbs 0.0094 lbs 8.0 lbs 8.0 lbs 3.7 ma/L 278 ma/L 3.7 ma/L 278 ma/L Total suspended solids (TSS) 0.00071 lbs 63 lbs 0.00071 lbs 63 lbs 0.0869 ma/L 0.0869 ma/L <0.02 ma/L <0.02 ma/L 5. Total phosphorus <0.000004 lbs <0.000004 lbs 0.020 lbs 0.020 lbs <0.033 ma/L 0.661 ma/L <0.033 ma/L 0.661 mg/L Total Kjeldahl nitrogen (TKN) <0.0000063 lbs 0.15 lbs <0.0000063 lbs 0.15 lbs 0.892 ma/L 0.892 ma/L 1.08 ma/L 1.08 ma/L Total nitrogen (as N) 0.00017 lbs 0.24 lbs 0.00017 lbs 0.24 lbs 7.5 pH (minimum) 7.5 pH (maximum)

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

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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.

	Maximum Daily Discharge (specify units)		(specif	ly Discharge y units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Ammonia (as N)	0.0589 mg/L 0.000011 lbs	0.241 mg/L 0.054 lbs	0.0589 mg/L 0.000011 lbs	0.241 mg/L 0.054 lbs	1	
Antimony 7440-36-0	0.00031 mg/L 6.00E-08 lbs	0.00072 mg/L 0.00016 lbs	0.00031 mg/L 6.00E-08 lbs	0.00072 mg/L 0.00016 lbs	1	
Arsenic 7440-38-2	<0.002 mg/L <4.00E-07 lbs	<0.004 mg/L <0.0009 lbs	<0.002 mg/L <4.00E-07 lbs	<0.004 mg/L <0.0009 lbs	1	
Cadmium 7440-43-9	<0.00033 mg/L <6.30E-08 lbs	<0.00066 mg/L <0.00015 lbs	<0.00033 mg/L <6.00E-08 lbs	<0.00066 mg/L <0.00015 lbs	1	
Chromium 7440-47-3	<0.01 mg/L <0.000002 lbs	<0.02 mg/L <0.005 lbs	<0.01 mg/L <0.000002 lbs	<0.02 mg/L <0.005 lbs	1	
Copper 7440-50-8	<0.011 mg/L <0.0000021 lbs	<0.022 mg/L <0.0050 lbs	<0.011 mg/L <0.0000021 lbs	<0.022 mg/L <0.0050 lbs	1	
Iron 7439-89-6	<0.22 mg/L <0.000042 lbs	5.61 mg/L 1.3 lbs	<0.22 mg/L <0.000042 lbs	5.61 mg/L 1.3 lbs	1	
Lead 7439-92-1	<0.0015 mg/L <2.90E-07 lbs	0.00971 mg/L 0.0022 lbs	<0.0015 mg/L <2.90E-07 lbs	0.00971 mg/L 0.0022 lbs	1	
Mercury 7439-97-6					0	See Chapter 7
Nickel 7440-02-0	<0.073 mg/L <0.000014 lbs	<0.146 mg/L <0.033 lbs	<0.073 mg/L <0.000014 lbs	<0.146 mg/L <0.033 lbs	1	
Nitrogen, Total Organic (as N)	<0.033 mg/L <0.0000063 lbs	0.42 mg/L 0.095 lbs	<0.033 mg/L <0.0000063 lbs	0.42 mg/L 0.095 lbs	1	
Selenium 7782-49-2	<0.0209 mg/L <0.0000040 lbs	<0.0418 mg/L <0.0094 lbs	<0.0209 mg/L <0.0000040 lbs	<0.0418 mg/L <0.0094 lbs	1	
Silver 7440-22-4	<0.00012 mg/L <2.30E-08 lbs	<0.00024 mg/L <0.000054 lbs	<0.00012 mg/L <2.00E-08 lbs	<0.00024 mg/L <0.000054 lbs	1	
Zinc 7440-66-6	<0.04 mg/L <0.000008 lbs	<0.08 mg/L <0.02 lbs	<0.04 mg/L <0.000008 lbs	<0.08 mg/L <0.02 lbs	1	

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

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	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
1,1,1-Trichloroethane 71-55-6	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,1,2,2-Tetrachloroethane 79-34-5	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,1,2-Trichloroethane 79-00-5	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,1-Dichloroethane 75-34-3	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,1-Dichloroethene 75-35-4	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,2,4,5-Tetrachlorobenzene 95-94-3	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
1,2,4-Trichlorobenzene 120-82-1	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
1,2-Dibromoethane 106-93-4	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,2-Dichlorobenzene 95-50-1	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,2-Dichloroethane 107-06-2	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,2-Dichloroethene 540-59-0	2.01 ug/L 3.90E-07 lbs		2.01 ug/L 3.90E-07 lbs		1	
1,2-Dichloropropane 78-87-5	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,2-Diphenylhydrazine 122-66-7	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
1,3-Dichlorobenzene 541-73-1	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
1,3-Dichloropropylene 542-75-6	<2 ug/L <4.00E-07 lbs		<2 ug/L <4.00E-07 lbs		1	
1,4-Dichlorobenzene 106-46-7	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	234	OMB No. 2040-0004

	Maximum Da (specif	ily Discharge y units)		i ly Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
2,4,5-Trichlorophenol 95-95-4	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
2,4,6-Trichlorophenol 88-06-2	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
2,4-Dichlorophenol 120-83-2	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
2,4-Dimethylphenol 105-67-9	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
2,4-Dinitrophenol 51-28-5	<20.3 ug/L <0.0000039 lbs	<20 ug/L <0.005 lbs	<20.3 ug/L <0.0000039 lbs	<20 ug/L <0.005 lbs	1	
2,4-Dinitrotoluene 121-14-2	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
2,6-Dinitrotoluene 606-20-2	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
2-Butanone 78-93-3	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
2-Chloroethylvinyl ether 110-75-8	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
2-Chloronaphthalene 91-58-7	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
2-Chlorophenol 95-57-8	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
2-Hexanone 591-78-6	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
2-Methylphenol 95-48-7	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
2-Nitrophenol 88-75-5	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
3,3'-Dichlorobenzidine 91-94-1	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
4,6-Dinitro-O-Cresol 534-52-1	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	

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	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
4-Bromophenylphenyl ether 101-55-3	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
4-Chlorophenylphenyl ether 7005-72-3	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
4-Methyl-2-pentanone 108-10-1	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
4-Nitrophenol 100-02-7	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Acenaphthene 83-32-9	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Acenaphthylene 208-96-8	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Acetone 67-64-1	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
Acrolein 107-02-8	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
Acrylonitrile 107-13-1	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
Allyl chloride 107-05-1	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
Aluminum 7429-90-5	0.0766 mg/L 0.000015 lbs	8.49 mg/L 1.9 lbs	0.0766 mg/L 0.000015 lbs	8.49 mg/L 1.9 lbs	1	
Aniline 62-53-3	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Anthracene 120-12-7	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Barium 7440-39-3	0.159 mg/L 0.000031 lbs	0.101 mg/L 0.023 lbs	0.159 mg/L 0.000031 lbs	0.101 mg/L 0.023 lbs	1	
Benzene 71-43-2	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Benzidine 92-87-5	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	

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	Maximum Da (specif	ily Discharge y units)		Ily Discharge fy units)	Number of Storm	Source of Information
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Benzo(a)anthracene 56-55-3	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Benzo(a)pyrene 50-32-8	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Benzo(b)fluoranthene 205-99-2	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Benzo(ghi)perylene 191-24-2	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Benzo(k)fluoranthene 207-08-9	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Benzyl chloride 100-44-7	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
Beryllium 7440-41-7	<0.00014 mg/L <2.70E-08 lbs	<0.00028 mg/L <0.000063 lbs	<0.00014 mg/L <3.00E-08 lbs	<0.00028 mg/L <0.000063 lbs	1	
Bis(2-chloroethoxy)methane 111-91-1	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Bis(2-chloroethyl) ether 111-44-4	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Bis(2-chloroisopropyl) ether 108-60-1	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Bis(2-ethylhexyl)phthalate 117-81-7	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Boron 7440-42-8	0.021 mg/L 0.0000040 lbs	0.012 mg/L 0.0027 lbs	0.021 mg/L 0.0000040 lbs	0.012 mg/L 0.0027 lbs	1	
Bromodichloromethane 75-27-4	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Bromoform 75-25-2	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Bromomethane 74-83-9	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Butylbenzylphthalate 85-68-7	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	

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Calcium 7440-70-2	106 mg/L 0.020 lbs	46.6 mg/L 11 lbs	106 mg/L 0.020 lbs	46.6 mg/L 11 lbs	1	
Carbon Disulfide 75-15-0	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
Carbon tetrachloride 56-23-5	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Cesium 7440-46-2	<0.0000400 mg/L <8.00E-09 lbs	0.000735 mg/L 0.00017 lbs	<0.0000400 mg/L <1.00E-08 lbs	0.000735 mg/L 0.00017 lbs	1	
Chlorobenzene 108-90-7	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Chloroethane 75-00-3	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Chloroform 67-66-3	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Chloromethane 74-87-3	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Chrysene 218-01-9	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
cis-1,2-Dichloroethene 156-59-2	2.01 ug/L 3.90E-07 lbs		2.01 ug/L 3.90E-07 lbs		1	
cis-1,3-Dichloropropene 10061-01-5	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Cobalt 7440-48-4	0.000348 mg/L 6.70E-08 lbs	0.00362 mg/L 0.00082 lbs	0.000348 mg/L 7.00E-08 lbs	0.00362 mg/L 0.00082 lbs	1	
Cyclohexane 110-82-7	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Dibenzo(a,h)anthracene 53-70-3	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Dibromochloromethane 124-48-1	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Dichlorodifluoromethane 75-71-8	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	

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		illy Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
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Diethylphthalate 84-66-2	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Dimethylphthlate 131-11-3	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Di-n-butylphthalate 84-74-2	J5.11 ug/L J9.80E-07 lbs	J3.68 ug/L J0.00083 lbs	J5.11 ug/L J9.80E-07 lbs	J3.68 ug/L J0.00083 lbs	1	
Di-n-octylphthlate 117-84-0	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Disulfoton 298-04-4	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Ethylbenzene 100-41-4	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Fluoranthene 206-44-0	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Fluorene 86-73-7	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Hexachlorobenzene 118-74-1	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Hexachlorobutadiene 87-68-3	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Hexachlorocyclopentadiene 77-47-4	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Hexachloroethane 67-72-1	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Indeno(1,2,3-cd)pyrene 193-39-5	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Isophorone 78-59-1	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Kepone 143-50-0	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
m+p Methylphenol 65794-96-9	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	

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Magnesium 7439-95-4	16.3 mg/L 0.0031 lbs	11.2 mg/L 2.5 lbs	16.3 mg/L 0.0031 lbs	11.2 mg/L 2.5 lbs	1	
Manganese 7439-96-5	0.0105 mg/L 0.0000020 lbs	0.151 mg/L 0.034 lbs	0.0105 mg/L 0.0000020 lbs	0.151 mg/L 0.034 lbs	1	
Methyl methacrylate 80-62-6	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
Methyl parathion 298-00-0	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Methylene chloride 75-09-2	<2 ug/L <4.00E-07 lbs		<2 ug/L <4.00E-07 lbs		1	
Molybdenum 7439-98-7	0.0034 mg/L 6.50E-07 lbs	<0.0064 mg/L <0.0014 lbs	0.0034 mg/L 6.50E-07 lbs	<0.0064 mg/L <0.0014 lbs	1	
Naphthalene 91-20-3	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Nitrobenzene 98-95-3	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
N-Nitrosodiethylamine 55-18-5	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
N-Nitrosodimethylamine 62-75-9	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
N-Nitroso-di-n-propylamine 621-64-7	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
N-Nitrosodiphenylamine 86-30-6	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
N-Nitrosopyrrolidine 930-55-2	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Parathion 56-38-2	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
PCB-1016 12674-11-2					0	See Chapter 7
PCB-1221 11104-28-2					0	See Chapter 7

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PCB-1232 11141-16-5					0	See Chapter 7
PCB-1242 53469-21-9					0	See Chapter 7
PCB-1248 12672-29-6					0	See Chapter 7
PCB-1254 11097-69-1					0	See Chapter 7
PCB-1260 11096-82-5					0	See Chapter 7
P-Chloro-M-Cresol 59-50-7	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Pentachlorobenzene 608-93-5	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Pentachlorophenol 87-86-5	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Phenanthrene 85-01-8	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Phenol 108-95-2	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	<10.1 ug/L <0.0000019 lbs	<10 ug/L <0.002 lbs	1	
Potassium 7440-09-7	3.35 mg/L 0.00064 lbs	3.59 mg/L 0.81 lbs	3.35 mg/L 0.00064 lbs	3.59 mg/L 0.81 lbs	1	
Pyrene 129-00-0	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	<1.01 ug/L <1.90E-07 lbs	<1 ug/L <0.0002 lbs	1	
Sodium 7440-23-5	208 mg/L 0.040 lbs	31 mg/L 7.0 lbs	208 mg/L 0.040 lbs	31 mg/L 7.0 lbs	1	
Strontium 7440-24-6	0.28 mg/L 0.000054 lbs	0.0619 mg/L 0.014 lbs	0.28 mg/L 0.000054 lbs	0.0619 mg/L 0.014 lbs	1	
Styrene 100-42-5	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Tetrachloroethene 127-18-4	J0.44 ug/L J8.40E-08 lbs		J0.44 ug/L J8.00E-08 lbs		1	

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

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	Maximum Da (specif	ily Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Thallium 7440-28-0	<0.0000400 mg/L <8.00E-09 lbs	0.0000984 mg/L 0.000022 lbs	<0.0000400 mg/L <1.00E-08 lbs	0.0000984 mg/L 0.000022 lbs	1	
Tin 7440-31-5	<0.002 mg/L <4.00E-07 lbs	<0.004 mg/L <0.0009 lbs	<0.002 mg/L <4.00E-07 lbs	<0.004 mg/L <0.0009 lbs	1	
Titanium 7440-32-6	0.0694 mg/L 0.000013 lbs	0.203 mg/L 0.046 lbs	0.0694 mg/L 0.000013 lbs	0.203 mg/L 0.046 lbs	1	
Toluene 108-88-3	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Total Cresols 1319-77-3	<20.3 ug/L <0.0000039 lbs	<20 ug/L <0.005 lbs	<20.3 ug/L <0.0000039 lbs	<20 ug/L <0.005 lbs	1	
trans-1,2-Dichloroethene 156-60-5	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
trans-1,3-Dichloropropene 10061-02-6	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Trichloroethene 79-01-6	J1.22 ug/L J2.30E-07 lbs		J1.22 ug/L J2.30E-07 lbs		1	
Trichlorofluoromethane 75-69-4	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Uranium 7440-61-1	0.00232 mg/L 4.50E-07 lbs	<0.0024 mg/L <0.00054 lbs	0.00232 mg/L 4.50E-07 lbs	<0.0024 mg/L <0.00054 lbs	1	
Vanadium 7440-62-2	<0.00245 mg/L <4.70E-07 lbs	0.0133 mg/L 0.0030 lbs	<0.00245 mg/L <4.70E-07 lbs	0.0133 mg/L 0.0030 lbs	1	
Vinyl acetate 108-05-4	<5 ug/L <0.000001 lbs		<5 ug/L <0.000001 lbs		1	
Vinyl chloride 75-01-4	<1 ug/L <2.00E-07 lbs		<1 ug/L <2.00E-07 lbs		1	
Xylene 1330-20-7	<3 ug/L <6.00E-07 lbs		<3 ug/L <6.00E-07 lbs		1	
Zirconium 7440-67-7	<0.0031 mg/L <6.00E-07 lbs	<0.0062 mg/L <0.0014 lbs	<0.0031 mg/L <6.00E-07 lbs	<0.0062 mg/L <0.0014 lbs	1	

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

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TABLE 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)
1/12/2023	9.8 hrs	.99 in	92.5 hrs	450 gpm	27000 gal

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

All flow rates were measured or estimated by measuring the time required for the stormwater discharge to fill a container of a known volume.

Form 2F - Section 1.1 Continuation Page

Outfall: 234			Gro	roup B2 Low impervious w/dry-weather discharge			w/dry-weather discharge	EPA ID Number	TN0002941
	Latitu	atitude Longitude							
Outfall Number	Deg	Min	Sec	Deg	Min	Sec	ReceivingWater		
191	35	56	07	84	16	36	Tributary to Clinch River		
223	35	55	42	84	18	36	White Oak Creek		
230	35	55	44	84	18	35	White Oak Creek		
234	35	56	04	84	18	05	White Oak Creek		
235	35	55	24	84	19	03	White Oak Creek		
264	35	55	40	84	18	53	Fifth Creek		
267	35	55	47	84	18	59	Fifth Creek		
341	35	55	27	84	19	14	First Creek		
365	35	55	41	84	18	54	Fifth Creek		
367	35	55	42	84	18	55	Fifth Creek		
436	35	57	11	84	17	42	White Oak Creek		
482	35	55	08	84	18	12	Tributary to Melton Branch		
583	35	54	34	84	18	57	White Oak Creek		

Form 2F - Section 4.1 Continuation Page

Outfall: 2	934 Grou	p B2 Low impervious w/d	ry-weather discharge	EPA ID Number	TN0002941

Outfall Number	Area of Impervious Surface (acres)	Total Area Drained (acres)	
191	2.89	6.43	
223	0.461	1.335	
230	2.374	36.839	
234	14.654	24.709	
235	3.824	7.54	
264	0.051	0.099	
267	4.624	10.759	
341	1.904	3.209	
365	5.452	13.574	
367	0.552	0.714	
436	11.018	37.175	
482	0.257	4.452	
583	0.604	29.176	

Stormwater Group C1

High Imperviousness - Stormwater Only

EPA Identification Number NPDES Permit Number Facility Name TN1890090003 TN0002941 Oak Ridge National Laboratory Form Approved 03/05/19 OMB No. 2040-0004



U.S Environmental Protection Agency

2F	9	Application for NPDES Permit to Discharge Wastewater											
NPDES			STORMWA	TER DISCHARGES	S ASSOCIATED WIT	H INDUSTRI	AL ACTIVIT	Υ					
SECTION	N 1. OUT		TION (40 CFR 122.21(g)										
	1.1		ormation on each of the fa										
		Outfall Number	Receiving Water Nan	ne l	Latitude		Longitude						
r		403	White Oak Creek	35 ° 5	5 ′ 27.2 ″ N	84 °	18 ′ 56.77	" W					
atio		Storm Water: Group C1 High Imperviousness - Stormwater Only											
Outfall Location		Other Outfal	Is Included: 006; 016; 043; 064; 065; 070; 081; 113; 141; 142; 161; 162; 164; 165; 166; 209; 221; 226; 232; 241; 243; 262; 266; 269; 301; 342; 343; 361; 362; 364; 460; 461; 462; 463; 466; 467; 469; 470; 472; 485; 486; 487; 490; 581; 582; 590; 591; 592; 674; 701; 791; 792										
SECTION	l 2. IMPI	I ROVEMENTS	S (40 CFR 122.21(g)(6))										
	2.1	Are you pre	esently required by any fe										
			or operating wastewater		or practices or any oth	er environmen	tal programs	that could					
		✓ Yes	isonarges described in th	scharges described in this application? ☐ No → SKIP to Section 3.									
	2.2		tify each applicable proje	at in the table below		TO OCCUOIT	<u> </u>						
	2.2	Briefly identify each applicable project in the table below. Final Compliance Dates											
			Identification and	Affected Outfalls (list outfall numbers) Source(s) of Disch	charge								
		Desc	ription of Project	(list outfall numbers)	, ,	Ū	Required	Projected					
		See Appendix	K - Improvements										
provements													
vem													
npro													
<u>E</u>													
	2.3	Have you a	ttached sheets describin	any additional wate	r pollution control progr	ams (or other	L environmenta	l projects					
			fect your discharges) tha					. ,					
		✓ Yes □ No											

EPA TN189009				roved 03/05/19 No. 2040-0004					
SECTIO	N 3. SITE	DRAINAGE	MAP (40 CFR 122.26(c)	(1)(i)(A))					
Site Drainage Map	3.1	Have you a specific gui		nap containing all requir	ed information to this app	lication? (See instruct	ions for		
SECTIO	N 4. POL	LUTANT SO	URCES (40 CFR 122.26((c)(1)(i)(B))					
	4.1		ormation on the facility's p		able below.				
		Outfall		s Surface Area		Surface Area Drained			
		Number	(within a mile r	radius of the facility) specify units	(Within a	mile radius of the facility)	specify units		
		403	0.525	acres	0.935		acres		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
Pollutant Sources	4.2	Provide a narrative description of the facility's significant material in the space below. (See instructions for cor requirements.) Outfall 403 was selected to represent Stormwater Group C1 outfalls that have greater than 50% impervious surface in their drainage an stormwater-only outfalls. Legacy CERCLA contamination can exist in the drainage areas - especially those in the central part of the OR Outfall 403 drains stormwater from paved parking lots around the Process Waste Treatment Complex Bldg 3608. The drainage areas in this group are typical of an industrial research park with impervious surfaces and grassed or graveled areas. Loading docks exist on se buildings and utilities such as transformers, generator equipment, cooling systems, and steam lines are located throughout the ORNL of Storm drainage from the Tru Waste Processing Center (TWPC) is included in this Outfall 403 drainage which is a waste treatment facility Melton Valley that receives, treats, packages, and stores low-level and TRU waste for eventual off-site disposal at various DOE sites are commercial facilities around the country. The TWPC is considered a Non-Reactor, Hazard Category 2 Nuclear Facility. Across ORNL, It are applied in turf and landscaped areas for weed control and to remove invasive plants. When needed, pesticides are used to control r insects. Fertilizers are primarily applied to re-establish vegetation in areas where soil has been disturbed by construction excavation bu occasionally applied by landscape contractors in turf grass areas and along roadways. Refer to Chapter 7 - EPA Form 2F for more determined.							
	4.3				and non-structural control	measures to reduce p	ollutants in		
		stormwater	runoff. (See instructions	Stormwater	Treatment				
		Outfall Number			es and Treatment		Codes from Exhibit 2F-1 (list)		
		403		ge area is located SE of the ORNL campus. SW runoff is routed through Outfalls area has RCRA-permitted hazardous chemical and hazardous waste buildings.					
			See Chapter 7 - EPA Form			V			

NPDES Permit Number **EPA Identification Number** Facility Name Form Approved 03/05/19 TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004 SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C)) 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 Johnny O. Moore Manager, ORNL Site Office Date signed Signature Non-Stormwater Discharges 5.2 Provide the testing information requested in the table below. Onsite Drainage Points Outfall Directly Observed **Description of Testing Method Used** Date(s) of Testing Number **During Test** 403 See Chapter 7 - EPA Form 2F for information. SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D)) Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. Significant Leaks or Spills None. ORNL maintains an aggressive spill prevention and control program through the ORNL SPCC Plan, which stresses awareness of spill prevention to both ORNL employees and subcontractor employees on site. As part of the Spill Contingency Plan, a subpart of the ORNL SPCC, ORNL has an experienced spill response team that is available around-the-clock for spill control and cleanup operations, and that maintains a database of spills and record of clean-up. In addition, spill materials; consisting of spreadable granular absorbents, absorbent booms, containment containers, containment curtain and oil skimmer, are available for use by the spill response team. Additionally, construction sites are required to maintain spill kits during the duration of the construction project. Over the past three years between (2019-2022), ORNL has experienced minor spills or leaks, most of which were heavy equipment- or vehicle-related, and generally involved several ounces to several gallons of ethylene glycol or petroleum-based fuels, lubricants, and/or hydraulic fluids. In every instance the spill response team enacted clean-up. None of these were reportable-quantity spills of oil or hazardous substances as defined within the ORNL NPDES Permit TN0002941, 40 CFR 117 or 40 CFR 403. SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E)) See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must Discharge Information complete. Not all applicants need to complete each table. Is this a new source or new discharge? Yes → See instructions regarding submission of No → See instructions regarding submission of estimated data. actual data. Tables A, B, C, and D 7.2 Have you completed Table A for each outfall? **✓** Yes No

EPA Identification Number NPDES Permit Number Facility Name				,	Form Approved 03/05/19	
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	7.3	Is the facilit wastewater	y subject to an effluent limitation guide ?	line (ELG) or effl	uent limitations in a	n NPDES permit for its process
		✓ Yes			No → SKIP to Ite	m 7.5.
	7.4		ompleted Table B by providing quantita			
			an ELG and/or (2) subject to effluent I	imitations in an N	NPDES permit for th	e facility's process wastewater?
		✓ Yes			No	
	7.5	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-2 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.7.
	7.6		sted all pollutants in Exhibit 2F–2 that			are present in the discharge and
			uantitative data or an explanation for th	ose pollutants in		
		✓ Yes			No	
	7.7		alify for a small business exemption und			ctions?
			→SKIP to Item 7.18.	✓	No	
	7.8	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-3 are present in t	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.10.
tinued	7.9	Have you li Table C?	sted all pollutants in Exhibit 2F–3 that	you know or hav	e reason to believe	are present in the discharge in
Con		✓ Yes			No	
tion	7.10	Do you exp	ect any of the pollutants in Exhibit 2F-	-3 to be discharg	ed in concentrations	s of 10 ppb or greater?
orma		☐ Yes		✓	No → SKIP to Ite	m 7.12.
Discharge Information Continued	7.11		rovided quantitative data in Table C fo ons of 10 ppb or greater?	r those pollutants	s in Exhibit 2F–3 tha	at you expect to be discharged in
scha		☐ Yes			No	
ΙŌ	7.12	Do you exp of 100 ppb	ect acrolein, acrylonitrile, 2,4-dinitroph or greater?	enol, or 2-methy	l-4,6-dinitrophenol to	o be discharged in concentrations
		Yes		✓	No → SKIP to Ite	m 7.14.
	7.13		rovided quantitative data in Table C fo in concentrations of 100 ppb or greate		dentified in Item 7.13	2 that you expect to be
		Yes			No	
	7.14		provided quantitative data or an explana at concentrations less than 10 ppb (or l			
		Yes		✓	No	
	7.15	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-4 are present in the	ne discharge?
		✓ Yes			No → SKIP to Ite	m 7.17.
	7.16		sted pollutants in Exhibit 2F–4 that you n in Table C?	ı know or believe	to be present in the	e discharge and provided an
		✓ Yes			No	
	7.17		provided information for the storm even	t(s) sampled in T	able D?	
		✓ Yes			No	

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7	Used o	r Manufactui	red Toxics		'			
Discharge Information Continued	7.18			bits 2F–2 through 2F diate or final product o		nce or a component of No → SKIP to		
ation	7.19		utants below, incl	uding TCDD if applica	able.			··
e Inform		1.		4.		7.		
charg		2.		5.		8.		
Disc		3.		6.		9.		
	N 8. BIO I 8.1	Do you hav any of your	e any knowledge		that any biolo	ur discharge within the	last three	
stin	0.0	☐ Yes	t - t t th - t			No → SKIP t	o Section	9.
Biological Toxicity Testing Data	8.2		tests and their pu est(s)	Purpose of T	est(s)	Submitted to NPD Permitting Authori		Date Submitted
al To						☐ Yes ☐	No	
ologic						☐ Yes ☐	No	
B						☐ Yes ☐	No	
SECTIO	N 9. CON	ITRACT ANA	LYSIS INFORMA	ATION (40 CFR 122.2	21(g)(12))			
	9.1	Were any of consulting fi		oorted in Section 7 (or	n Tables A th	rough C) performed by	a contrac	t laboratory or
		✓ Yes				☐ No → SKIP t	o Section	10.
	9.2	Provide info	rmation for each	contract laboratory or	consulting fi	rm below.		
				Laboratory Nui	mber 1	Laboratory Numl	per 2	Laboratory Number 3
ormation		Name of lab	ooratory/firm	GEL Laboratories, LLC				
Contract Analysis Information		Laboratory a	address	2040 Savage Road Charleston, SC (USA) 29	9407			
Contra		Phone num	ber	(843) 556-8171				
		Pollutant(s)	analyzed	Ammonia, BOD, COD, N Nitrate/nitrite, Oil & Grea VOCs/SVOCs, Phospho	se,			

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SECTIO	N 10. CH	ECKLIST AND CERTIFICATION	ON STATEMENT (40 CFR 122.22(a) and (d))
	10.1	each section, specify in Colu	sections of Form 2F that you have completed and are submitting with your application. For mn 2 any attachments that you are enclosing to alert the permitting authority. Note that not 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
ınt		Section 6	□ w/ attachments
ateme		Section 7	✓ Table A
ion St			✓ Table B
Checklist and Certification Statement			✓ Table C ✓ Table D
ld Cer		✓ Section 8	□ w/attachments
list an		Section 9	w/attachments (e.g., responses for additional contact laboratories or firms)
Check		✓ Section 10	
	10.2	Certification Statement	
		accordance with a system of submitted. Based on my inqu for gathering the information	that this document and all attachments were prepared under my direction or supervision in lesigned to assure that qualified personnel properly gather and evaluate the information liry of the person or persons who manage the system or those persons directly responsible, the information submitted is, to the best of my knowledge and belief, true, accurate, and ere are significant penalties for submitting false information, including the possibility of fine g violations.
		Name (print or type first and Johnny O. Moore	ast name) Official title Manager, ORNL Site Office
		Signature	Date signed

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
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	BLE A. CONVENTIONAL AND NON CONVE must provide the results of at least one analy				See instructions for ad	ditional dotails and roa	iromonto
100	must provide the results of at least one affair	Maximum Dai	Maximum Daily Discharge (specify units)		ly Discharge / units)	Number of Storm	Source of Information
	Pollutant or Parameter	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	ghted Grab Sample Taken Flow-Weighted		Events Sampled	(new source/new dischargers only; use codes in instructions)
1.	Oil and grease	<1.56 mg/L <0.00004 lbs		<1.56 mg/L <0.00004 lbs		1	
2.	Biochemical oxygen demand (BOD₅)					0	Pollutant not expected to be present
3.	Chemical oxygen demand (COD)					0	Pollutant not expected to be present
4.	Total suspended solids (TSS)	10.3 mg/L 0.0003 lbs	52.1 mg/L 1.3 lbs	10.3 mg/L 0.0003 lbs	52.1 mg/L 1.3 lbs	1	
5.	Total phosphorus	0.129 mg/L 0.000003 lbs	J0.0462 mg/L J0.0011 lbs	0.129 mg/L 0.000003 lbs	J0.0462 mg/L J0.0011 lbs	1	
6.	Total Kjeldahl nitrogen (TKN)	<0.033 mg/L <8.00E-07 lbs	0.309 mg/L 0.0075 lbs	<0.033 mg/L <8.00E-07 lbs	0.309 mg/L 0.0075 lbs	1	
7.	Total nitrogen (as N)	1.68 mg/L 0.00004 lbs	0.665 mg/L 0.016 lbs	1.68 mg/L 0.00004 lbs	0.665 mg/L 0.016 lbs	1	
	pH (minimum)	7.2					
8.	pH (maximum)	7.2					

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

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

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

	Maximum Daily Discharge (specify units)		(specif	ly Discharge iy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Ammonia (as N)	0.0588 mg/L 0.000001 lbs	0.241 mg/L 0.0058 lbs	0.0588 mg/L 0.000001 lbs	0.241 mg/L 0.0058 lbs	1	
Antimony 7440-36-0	<0.00026 mg/L <7.00E-09 lbs	0.000302 mg/L 0.0000073 lbs	<0.00026 mg/L <1.00E-08 lbs	0.000302 mg/L 0.0000073 lbs	1	
Arsenic 7440-38-2	<0.002 mg/L <5.00E-08 lbs	<0.002 mg/L <0.00005 lbs	<0.002 mg/L <5.00E-08 lbs	<0.002 mg/L <0.00005 lbs	1	
Cadmium 7440-43-9	<0.00033 mg/L <8.00E-09 lbs	<0.00033 mg/L <0.0000080 lbs	<0.00033 mg/L <1.00E-08 lbs	<0.00033 mg/L <0.0000080 lbs	1	
Chromium 7440-47-3	<0.01 mg/L <3.00E-07 lbs	<0.01 mg/L <0.0002 lbs	<0.01 mg/L <3.00E-07 lbs	<0.01 mg/L <0.0002 lbs	1	
Copper 7440-50-8	<0.011 mg/L <3.00E-07 lbs	<0.011 mg/L <0.00027 lbs	<0.011 mg/L <3.00E-07 lbs	<0.011 mg/L <0.00027 lbs	1	
Iron 7439-89-6	<0.22 mg/L <0.000006 lbs	0.904 mg/L 0.022 lbs	<0.22 mg/L <0.000006 lbs	0.904 mg/L 0.022 lbs	1	
Lead 7439-92-1	<0.0015 mg/L <4.00E-08 lbs	0.00396 mg/L 0.000096 lbs	<0.0015 mg/L <4.00E-08 lbs	0.00396 mg/L 0.000096 lbs	1	
Mercury 7439-97-6					0	See Chapter 7
Nickel 7440-02-0	<0.073 mg/L <0.000002 lbs	<0.073 mg/L <0.0018 lbs	<0.073 mg/L <0.000002 lbs	<0.073 mg/L <0.0018 lbs	1	
Nitrogen, Total Organic (as N)	<0.033 mg/L <8.00E-07 lbs	J0.068 mg/L J0.0016 lbs	<0.033 mg/L <8.00E-07 lbs	J0.068 mg/L J0.0016 lbs	1	
Selenium 7782-49-2	<0.0209 mg/L <5.00E-07 lbs	<0.0209 mg/L <0.00051 lbs	<0.0209 mg/L <5.00E-07 lbs	<0.0209 mg/L <0.00051 lbs	1	
Silver 7440-22-4	<0.00012 mg/L <3.00E-09 lbs	<0.00012 mg/L <0.0000029 lbs	<0.00012 mg/L <0.00E+00 lbs	<0.00012 mg/L <0.0000029 lbs	1	
Zinc 7440-66-6	0.0848 mg/L 0.000002 lbs	0.237 mg/L 0.0057 lbs	0.0848 mg/L 0.000002 lbs	0.237 mg/L 0.0057 lbs	1	

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
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	Maximum Da (specif	ily Discharge y units)	Average Daily Discharge (specify units)		Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
1,1,1-Trichloroethane 71-55-6	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,1,2,2-Tetrachloroethane 79-34-5	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,1,2-Trichloroethane 79-00-5	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,1-Dichloroethane 75-34-3	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,1-Dichloroethene 75-35-4	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,2,4,5-Tetrachlorobenzene 95-94-3	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
1,2,4-Trichlorobenzene 120-82-1	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
1,2-Dibromoethane 106-93-4	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,2-Dichlorobenzene 95-50-1	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,2-Dichloroethane 107-06-2	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,2-Dichloroethene 540-59-0	<2 ug/L <5.00E-08 lbs		<2 ug/L <5.00E-08 lbs		1	
1,2-Dichloropropane 78-87-5	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,2-Diphenylhydrazine 122-66-7	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
1,3-Dichlorobenzene 541-73-1	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
1,3-Dichloropropylene 542-75-6	<2 ug/L <5.00E-08 lbs		<2 ug/L <5.00E-08 lbs		1	
1,4-Dichlorobenzene 106-46-7	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	

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		ily Discharge y units)		ly Discharge y units)	Number of Storm	Source of Information (new source/new dischargers only; use codes in instructions)
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	
2,4,5-Trichlorophenol 95-95-4	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
2,4,6-Trichlorophenol 88-06-2	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
2,4-Dichlorophenol 120-83-2	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
2,4-Dimethylphenol 105-67-9	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
2,4-Dinitrophenol 51-28-5	<20.4 ug/L <5.00E-07 lbs	<110 ug/L <0.0027 lbs	<20.4 ug/L <5.00E-07 lbs	<110 ug/L <0.0027 lbs	1	
2,4-Dinitrotoluene 121-14-2	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
2,6-Dinitrotoluene 606-20-2	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
2-Butanone 78-93-3	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
2-Chloroethylvinyl ether 110-75-8	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
2-Chloronaphthalene 91-58-7	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
2-Chlorophenol 95-57-8	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
2-Hexanone 591-78-6	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
2-Methylphenol 95-48-7	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
2-Nitrophenol 88-75-5	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
3,3'-Dichlorobenzidine 91-94-1	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
4,6-Dinitro-O-Cresol 534-52-1	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	

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		illy Discharge fy units)		ily Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
4-Bromophenylphenyl ether 101-55-3	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
4-Chlorophenylphenyl ether 7005-72-3	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
4-Methyl-2-pentanone 108-10-1	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
4-Nitrophenol 100-02-7	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Acenaphthene 83-32-9	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Acenaphthylene 208-96-8	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Acetone 67-64-1	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
Acrolein 107-02-8	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
Acrylonitrile 107-13-1	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
Allyl chloride 107-05-1	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
Aluminum 7429-90-5	<0.075 mg/L <0.000002 lbs	0.788 mg/L 0.019 lbs	<0.075 mg/L <0.000002 lbs	0.788 mg/L 0.019 lbs	1	
Aniline 62-53-3	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Anthracene 120-12-7	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Barium 7440-39-3	0.0499 mg/L 0.000001 lbs	0.0257 mg/L 0.00062 lbs	0.0499 mg/L 0.000001 lbs	0.0257 mg/L 0.00062 lbs	1	
Benzene 71-43-2	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Benzidine 92-87-5	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	

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	Maximum Da (specif	ily Discharge y units)		ily Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Benzo(a)anthracene 56-55-3	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Benzo(a)pyrene 50-32-8	J0.602 ug/L J2.00E-08 lbs	<5.52 ug/L <0.00013 lbs	J0.602 ug/L J2.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Benzo(b)fluoranthene 205-99-2	J0.541 ug/L J1.00E-08 lbs	<5.52 ug/L <0.00013 lbs	J0.541 ug/L J1.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Benzo(ghi)perylene 191-24-2	J1.04 ug/L J3.00E-08 lbs	J3.36 ug/L J0.000081 lbs	J1.04 ug/L J3.00E-08 lbs	J3.36 ug/L J0.000081 lbs	1	
Benzo(k)fluoranthene 207-08-9	J0.439 ug/L J1.00E-08 lbs	<5.52 ug/L <0.00013 lbs	J0.439 ug/L J1.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Benzyl chloride 100-44-7	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
Beryllium 7440-41-7	<0.00014 mg/L <4.00E-09 lbs	<0.00014 mg/L <0.0000034 lbs	<0.00014 mg/L <0.00E+00 lbs	<0.00014 mg/L <0.0000034 lbs	1	
Bis(2-chloroethoxy)methane 111-91-1	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Bis(2-chloroethyl) ether 111-44-4	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Bis(2-chloroisopropyl) ether 108-60-1	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Bis(2-ethylhexyl)phthalate 117-81-7	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Boron 7440-42-8	0.0413 mg/L 0.000001 lbs	0.00831 mg/L 0.00020 lbs	0.0413 mg/L 0.000001 lbs	0.00831 mg/L 0.00020 lbs	1	
Bromodichloromethane 75-27-4	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Bromoform 75-25-2	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Bromomethane 74-83-9	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Butylbenzylphthalate 85-68-7	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	

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		ily Discharge y units)		i ly Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Calcium 7440-70-2	87.7 mg/L 0.002 lbs	24.3 mg/L 0.59 lbs	87.7 mg/L 0.002 lbs	24.3 mg/L 0.59 lbs	1	
Carbon Disulfide 75-15-0	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
Carbon tetrachloride 56-23-5	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Cesium 7440-46-2	<0.0000400 mg/L <1.00E-09 lbs	0.00011 mg/L 0.0000027 lbs	<0.000400 mg/L <0.00E+00 lbs	0.00011 mg/L 0.0000027 lbs	1	
Chlorobenzene 108-90-7	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Chloroethane 75-00-3	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Chloroform 67-66-3	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Chloromethane 74-87-3	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Chrysene 218-01-9	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
cis-1,2-Dichloroethene 156-59-2	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
cis-1,3-Dichloropropene 10061-01-5	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Cobalt 7440-48-4	0.000268 mg/L 7.00E-09 lbs	0.000504 mg/L 0.000012 lbs	0.000268 mg/L 1.00E-08 lbs	0.000504 mg/L 0.000012 lbs	1	
Cyclohexane 110-82-7	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Dibenzo(a,h)anthracene 53-70-3	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Dibromochloromethane 124-48-1	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Dichlorodifluoromethane 75-71-8	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	

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Diethylphthalate 84-66-2	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Dimethylphthlate 131-11-3	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Di-n-butylphthalate 84-74-2	J5.43 ug/L J1.00E-07 lbs	J3.53 ug/L J0.000085 lbs	J5.43 ug/L J1.00E-07 lbs	J3.53 ug/L J0.000085 lbs	1	
Di-n-octylphthlate 117-84-0	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Disulfoton 298-04-4	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Ethylbenzene 100-41-4	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Fluoranthene 206-44-0	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Fluorene 86-73-7	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Hexachlorobenzene 118-74-1	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Hexachlorobutadiene 87-68-3	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Hexachlorocyclopentadiene 77-47-4	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Hexachloroethane 67-72-1	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Indeno(1,2,3-cd)pyrene 193-39-5	J1 ug/L J3.00E-08 lbs	J2.98 ug/L J0.000072 lbs	J1 ug/L J3.00E-08 lbs	J2.98 ug/L J0.000072 lbs	1	
Isophorone 78-59-1	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Kepone 143-50-0	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
m+p Methylphenol 65794-96-9	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	

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Magnesium 7439-95-4	7.81 mg/L 0.0002 lbs	3.12 mg/L 0.076 lbs	7.81 mg/L 0.0002 lbs	3.12 mg/L 0.076 lbs	1	
Manganese 7439-96-5	0.00706 mg/L 2.00E-07 lbs	0.0294 mg/L 0.00071 lbs	0.00706 mg/L 2.00E-07 lbs	0.0294 mg/L 0.00071 lbs	1	
Methyl methacrylate 80-62-6	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1	
Methyl parathion 298-00-0	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Methylene chloride 75-09-2	<2 ug/L <5.00E-08 lbs		<2 ug/L <5.00E-08 lbs		1	
Molybdenum 7439-98-7	<0.0032 mg/L <8.00E-08 lbs	<0.0032 mg/L <0.000077 lbs	<0.0032 mg/L <8.00E-08 lbs	<0.0032 mg/L <0.000077 lbs	1	
Naphthalene 91-20-3	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Nitrobenzene 98-95-3	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
N-Nitrosodiethylamine 55-18-5	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
N-Nitrosodimethylamine 62-75-9	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
N-Nitroso-di-n-propylamine 621-64-7	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
N-Nitrosodiphenylamine 86-30-6	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
N-Nitrosopyrrolidine 930-55-2	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Parathion 56-38-2	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
PCB-1016 12674-11-2					0	See Chapter 7
PCB-1221 11104-28-2					0	See Chapter 7

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).

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	403	OMB No. 2040-0004

		illy Discharge y units)		i ly Discharge fy units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
PCB-1232 11141-16-5					0	See Chapter 7
PCB-1242 53469-21-9					0	See Chapter 7
PCB-1248 12672-29-6					0	See Chapter 7
PCB-1254 11097-69-1					0	See Chapter 7
PCB-1260 11096-82-5					0	See Chapter 7
P-Chloro-M-Cresol 59-50-7	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Pentachlorobenzene 608-93-5	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Pentachlorophenol 87-86-5	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Phenanthrene 85-01-8	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Phenol 108-95-2	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	<10.2 ug/L <3.00E-07 lbs	<55.2 ug/L <0.0013 lbs	1	
Potassium 7440-09-7	1.81 mg/L 0.00005 lbs	0.973 mg/L 0.024 lbs	1.81 mg/L 0.00005 lbs	0.973 mg/L 0.024 lbs	1	
Pyrene 129-00-0	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	<1.02 ug/L <3.00E-08 lbs	<5.52 ug/L <0.00013 lbs	1	
Sodium 7440-23-5	55 mg/L 0.001 lbs	6.08 mg/L 0.15 lbs	55 mg/L 0.001 lbs	6.08 mg/L 0.15 lbs	1	
Strontium 7440-24-6	0.163 mg/L 0.000004 lbs	0.0338 mg/L 0.00082 lbs	0.163 mg/L 0.000004 lbs	0.0338 mg/L 0.00082 lbs	1	
Styrene 100-42-5	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1	
Tetrachloroethene 127-18-4	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		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).

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	403	OMB No. 2040-0004

		illy Discharge y units)		ly Discharge fy units)	Number of Storm	Source of Information	
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)	
Thallium 7440-28-0	<0.0000400 mg/L <1.00E-09 lbs	<0.0000400 mg/L <9.70E-07 lbs	<0.0000400 mg/L <0.00E+00 lbs	<0.0000400 mg/L <9.70E-07 lbs	1		
Tin 7440-31-5	<0.002 mg/L <5.00E-08 lbs	<0.002 mg/L <0.00005 lbs	<0.002 mg/L <5.00E-08 lbs	<0.002 mg/L <0.00005 lbs	1		
Titanium 7440-32-6	0.0629 mg/L 0.000002 lbs	0.18 mg/L 0.0044 lbs	0.0629 mg/L 0.000002 lbs	0.18 mg/L 0.0044 lbs	1		
Toluene 108-88-3	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1		
Total Cresols 1319-77-3	<20.4 ug/L <5.00E-07 lbs	<110 ug/L <0.0027 lbs	<20.4 ug/L <5.00E-07 lbs	<110 ug/L <0.0027 lbs	1		
trans-1,2-Dichloroethene 156-60-5	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1		
trans-1,3-Dichloropropene 10061-02-6	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1		
Trichloroethene 79-01-6	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1		
Trichlorofluoromethane 75-69-4	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1		
Uranium 7440-61-1	<0.0012 mg/L <3.00E-08 lbs	<0.0012 mg/L <0.000029 lbs	<0.0012 mg/L <3.00E-08 lbs	<0.0012 mg/L <0.000029 lbs	1		
Vanadium 7440-62-2	<0.0009 mg/L <2.00E-08 lbs	<0.00245 mg/L <0.000059 lbs	<0.0009 mg/L <2.00E-08 lbs	<0.00245 mg/L <0.000059 lbs	1		
Vinyl acetate 108-05-4	<5 ug/L <1.00E-07 lbs		<5 ug/L <1.00E-07 lbs		1		
Vinyl chloride 75-01-4	<1 ug/L <3.00E-08 lbs		<1 ug/L <3.00E-08 lbs		1		
Xylene 1330-20-7	<3 ug/L <8.00E-08 lbs		<3 ug/L <8.00E-08 lbs		1		
Zirconium 7440-67-7	<0.0031 mg/L <8.00E-08 lbs	<0.0031 mg/L <0.000075 lbs	<0.0031 mg/L <8.00E-08 lbs	<0.0031 mg/L <0.000075 lbs	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).

EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	403	OMB No. 2040-0004

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

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

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)
1/12/2023	9.8 hrs	.99 in	92.5 hrs	60 gpm	2900 gal

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

All flow rates were measured or estimated by measuring the time required for the stormwater discharge to fill a container of a known volume.

Form 2F - Section 1.1 Continuation Page

Outfall: 403				Grou	р С1 Н	ligh imperv	ious - SW only	EPA ID Number	TN0002941
	Latitud	le		Longit	ude				
Outfall Number	Deg	Min	Sec	Deg	Min	Sec	ReceivingWater		
006	35	55	35	84	18	47	White Oak Creek		
016	35	55	48	84	18	29	White Oak Creek		
043	35	55	28	84	19	16	First Creek		
064	35	55	41	84	18	54	Fifth Creek		
065	35	55	43	84	18	56	Fifth Creek		
070	35	55	48	84	18	59	Fifth Creek		
081	35	55	03	84	18	19	Tributary to Melton Branch		
113	35	55	45	84	18	35	White Oak Creek		
141	35	55	24	84	19	12	First Creek		
142	35	55	26	84	19	13	First Creek		
161	35	55	39	84	18	51	Fifth Creek		
162	35	55	38	84	18	52	Fifth Creek		
164	35	55	41	84	18	53	Fifth Creek		
165	35	55	42	84	18	54	Fifth Creek		
166	35	55	44	84	18	56	Fifth Creek		
209	35	55	35	84	18	47	White Oak Creek		
221	35	55	42	84	18	36	White Oak Creek		
226	35	55	43	84	18	35	White Oak Creek		
232	35	55	54	84	18	21	White Oak Creek		
241	35	55	25	84	19	13	First Creek		
243	35	55	26	84	19	13	First Creek		
262	35	55	40	84	18	53	Fifth Creek		
266	35	55	44	84	18	57	Fifth Creek		
269	35	55	48	84	19	00	Fifth Creek		
301	35	55	28	84	18	57	White Oak Creek		
342	35	55	28	84	19	15	First Creek		
343	35	55	34	84	19	21	First Creek		
361	35	55	38	84	18	52	Fifth Creek		
362	35	55	39	84	18	52	Fifth Creek		
364	35	55	41	84	18	53	Fifth Creek		
403	35	55	27	84	18	57	White Oak Creek		
460	35	55	35	84	18	49	Fifth Creek		
461	35	55	35	84	18	49 7 - 14	43 Fifth Creek		

Outfall: 403				Grou	p C1 H	ligh impe	rvious - SW only	EPA ID Number	TN0002941
	Latitu	de		Longit	ude				
Outfall Number	Deg	Min	Sec	Deg	Min	Sec	ReceivingWater		
462	35	55	35	84	18	49	Fifth Creek		
463	35	55	37	84	18	50	Fifth Creek		
466	35	55	38	84	18	51	Fifth Creek		
467	35	55	41	84	18	53	Fifth Creek		
469	35	55	43	84	18	55	Fifth Creek		
470	35	55	43	84	18	55	Fifth Creek		
472	35	55	43	84	18	56	Fifth Creek		
485	35	55	02	84	18	49	White Oak Creek		
486	35	54	60	84	18	51	White Oak Creek		
487	35	54	59	84	18	52	White Oak Creek		
490	35	56	04	84	16	45	Tributary to Clinch River		
581	35	54	59	84	18	20	Tributary to Melton Branch		
582	35	55	03	84	18	19	Melton Branch		
590	35	55	18	84	17	19	Tributary to Clinch River		
591	35	55	18	84	17	19	Tributary to Clinch River		
592	35	55	20	84	17	19	Tributary to Clinch River		
674	35	55	50	84	19	02	Fifth Creek		
701	35	55	20	84	19	04	White Oak Creek		
791	35	56	10	84	16	39	Tributary to Clinch River		
792	35	56	16	84	16	26	Clinch River		

Outfall: 403 Group C1 High impervious - SW only EPA ID Number TN0002941

Outfall Number	Area of Impervious Surface (acres)	Total Area Drained (acres)	
006	0.316	0.335	
016	2.475	2.983	
043	0.172	0.302	
064	0.365	0.436	
065	0.754	1.04	
070	0.021	0.027	
081	2.918	6.973	
113	0.175	0.215	
141	0.378	0.42	
142	0.192	0.324	
161	0.183	0.249	
162	0.292	0.322	
164	0.159	0.201	
165	0.007	0.007	
166	0.035	0.041	
209	1.063	1.315	
221	0.049	0.071	
226	0.068	0.145	
232	0.976	1.214	
241	0.097	0.196	
243	0.085	0.085	
262	0.442	0.442	
266	0.494	0.557	
269	0.036	0.042	
301	0.169	0.18	
342	0.305	0.682	
343	1.91	3.247	
361	0.0005	0.002	
362	0.528	0.671	
364	0.075	0.087	
403	0.525	0.935	
460	0.354	0.495	
461	0.026 7 -	145 0.069	

Outfall: 403 Group C1 High impervious - SW only EPA ID Number TN0002941

Outfall Number	Area of Impervious Surface (acres)	Total Area Drained (acres)	
462	0.457	0.658	
463	0.033	0.1	
466	0.035	0.053	
467	0.059	0.084	
469	0.05	0.05	
470	0.248	0.617	
472	0.065	0.068	
485	0.285	0.548	
486	0.465	0.692	
487	0.122	0.272	
490	0.068	0.109	
581	1.314	2.204	
582	0.697	1.304	
590	0.566	0.579	
591	0.327	0.327	
592	0.82	1.607	
674	0.904	1.456	
701	0.474	1.071	
791	0.324	0.389	
792	0.98	1.382	

Stormwater Group C2

Low Imperviousness - Stormwater Only

EPA Identification Number NPDES Permit Number Facility Name TN1890090003 TN0002941 Oak Ridge National Laboratory Form Approved 03/05/19 OMB No. 2040-0004



U.S Environmental Protection Agency

Form 2F	9	EPA	Application for NPDES Permit to Discharge Wastewater							
NPDES		,	STORMWA	TER DISCHARGE	S ASSOCIATED W	TH INDUSTRI	AL ACTIVIT	Υ		
SECTION			TION (40 CFR 122.21(g)							
	1.1	Outfall	ormation on each of the fa	ĺ						
		Number	Receiving Water Nan	ne	Latitude		Longitude			
_	434 White Oak Creek 35 ° 56 ′ 5.18 ″ N 84 ° 18							" W		
ation		Storm Water	r: Group C2 La	w Imperviousness - S	tormwater Only	•				
Outfall Location		Other Outfali			; 102; 104; 107; 108; 11 ; 464; 468; 473; 484; 48		: 170; 203; 208	; 214; 216;		
SECTION			6 (40 CFR 122.21(g)(6))							
	2.1	upgrading, affect the d	esently required by any fe or operating wastewater lischarges described in th	treatment equipmer	t or practices or any o	ther environmen	ital programs			
	0.0	✓ Yes				SKIP to Section	3 .			
	2.2	Briefly iden	tify each applicable proje	ct in the table below	I					
			Identification and	Affected Outfalls	Source(s) of D	ischarge	Final Compl	iance Dates		
		Desc	ription of Project	(list outfall numbers)		Ü	Required	Projected		
		See Appendix	K - Improvements							
v										
orovements										
over										
<u> m</u>										
	2.3	Have you	attached sheets describing	n anv additional wat	er pollution control pro	grams (or other	environments	al projects		
	2.0		ffect your discharges) tha				OTTAILOTTI II II II II II	i projecta		
		✓ Yes		☐ No						

TN18900900		TN0002941 TN0002941 Facility Name Oak Ridge National Laboratory			OMB No. 2040-0004				
SECTION	I 3. SITE	DRAINAGE	MAP (40 CFR 122.26(c)(1)(i)(A))						
Site Drainage Map	3.1	Have you a specific gui	ttached a site drainage map conta dance.)	aining all required	information to this appl	ication? (See instructi	ons for		
S Drai		✓ Yes		□ No					
SECTION	l 4. POL	LUTANT SOL	URCES (40 CFR 122.26(c)(1)(i)(E	3))					
	4.1	Provide info	ormation on the facility's pollutant	sources in the tab	ole below.				
		Outfall Number	Impervious Surface (within a mile radius of the	e facility)	ility) (within a mile radius of the facilit				
		424	C 500	specify units	19.23		specify units		
		434	6.569	acres	19.23	Č	acres		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
				specify units			specify units		
Pollutant Sources	4.2	Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.) Outfall 434 was chosen to represent grouped stormwater outfalls in Group C2 throughout the ORNL campus that have less than 50% impervious surface within their drainage areas and are stormwater-only discharge pipes. Legacy CERCLA contamination can exist in the drainage areas - especially those in the central part of the ORNL campus. Outfall 434 drainage area is typical of an industrial research park with impervious surface such as roads, sidewalks, and buildings, and grassed or graveled areas. There are loading docks on many of the buildings with some outdoor storage of metal pipes or containers, utilities such as transformers, generator equipment, cooling systems, and steam lines are located throughou the ORNL campus, and some outdoor areas are used as material delivery drop points. The Outfall 434 drainage area includes provisional outdoo staging areas for various chemicals, petroleum products, equipment, or material awaiting disposition. During the growing season, herbicides are applied in turf and landscaped areas for weed control and to remove invasive plants. When needed, pesticides are used to control nuisance insects. Fertilizers are primarily applied to re-establish vegetation in areas where soil has been disturbed by construction excavation but are also occasionally utilized by landscape contractors in turf grass areas and along roadways. Refer to Chapter 7 - EPA Form 2F for more detail.							
	4.3	1	location and a description of exis	•	d non-structural control	measures to reduce p	ollutants in		
		stormwater	runoff. (See instructions for speci						
				Stormwater Ti	reatment		Codes		
		Outfall Number		Control Measures	and Treatment		from Exhibit 2F-1 (list)		
	ethel Valley Rd with	N/A							
Runoff from electrical substation 0901 is partially routed through an O/W separator. A concrete stora containment and an O/W separator that is routed to Outfall 091.							N/A		
	Two SW detention ponds are located around the Copper Ridge Spoil Pile and drain to Outfall 010								
			A 5000-gal rain harvest tank is located	d at Bldg 4020 which	is located in the Outfall 675	drainage area.	N/A		
			A runon diversion ditch and a parking	on ditch and a parking area runoff retention basin are located in the Outfall 433 drainage area					
	OF 313 drains a wetland pond serving as a retention basin; a SW infiltration system is located under the parking are near Bldg 5200; and a retention basin was also constructed with pervious asphalt.								

TN1890090003 TN0002941 OMB No. 2040-0004 Oak Ridge National Laboratory SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C)) 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 Johnny O. Moore Manager, ORNL Site Office Date signed Signature Non-Stormwater Discharges 5.2 Provide the testing information requested in the table below. Onsite Drainage Points Outfall Directly Observed **Description of Testing Method Used** Date(s) of Testing Number **During Test** 434 See Chapter 7 - EPA Form 2F for information. SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D)) Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. Significant Leaks or Spills A water line break resulting in release of chlorinated water through Outfall 434 to White Oak Creek caused aguatic species mortality in Oct 2022. This incident was reported as required by the NPDES permit. ORNL maintains an aggressive spill prevention and control program through the ORNL SPCC Plan, which stresses awareness of spill prevention to both ORNL employees and subcontractor employees on site. As part of the Spill Contingency Plan, a subpart of the ORNL SPCC, ORNL has an experienced spill response team that is available around-the-clock for spill control and cleanup operations, and that maintains a database of spills and record of clean-up. In addition, spill materials; consisting of spreadable granular absorbents, absorbent booms, containment containers, containment curtain and oil skimmer; are available for use by the spill response team. Additionally, construction sites are required to maintain spill kits during the duration of the construction project. Over the past three years between (2019-2022), ORNL has experienced minor spills or leaks, most of which were heavy equipment- or vehicle-related, and generally involved several ounces to several gallons of ethylene glycol or petroleum-based fuels, lubricants, and/or hydraulic fluids. In every instance the spill response team enacted clean-up. None of these were reportable-quantity spills of oil or hazardous substances as defined within the ORNL NPDES Permit TN0002941, 40 CFR 117 or 40 CFR 403. SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E)) See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must Discharge Information complete. Not all applicants need to complete each table. Is this a new source or new discharge? Yes → See instructions regarding submission of No → See instructions regarding submission of estimated data. actual data. Tables A, B, C, and D 7.2 Have you completed Table A for each outfall? **✓** Yes No

Facility Name

Form Approved 03/05/19

NPDES Permit Number

EPA Identification Number

	dentification	n Number	NPDES Permit Number	I	ity Name	Form Approved 03/05/19					
TN1890090	003		TN0002941	Oak Ridge Nationa	l Laboratory	OMB No. 2040-0004					
	7.3	Is the facilit wastewater	y subject to an effluent limitation guide ?	line (ELG) or effl	uent limitations in a	n NPDES permit for its process					
		✓ Yes			No → SKIP to Ite	m 7.5.					
	7.4		ompleted Table B by providing quantit								
			an ELG and/or (2) subject to effluent I	imitations in an N	NPDES permit for th	e facility's process wastewater?					
		✓ Yes			No						
	7.5	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-2 are present in t	ne discharge?					
		✓ Yes			No → SKIP to Ite	m 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 provided quantitative data or an explanation for those pollutants in Table C?									
			uantitative data or an explanation for th	ose pollutants in							
		✓ Yes			No						
	7.7		alify for a small business exemption und			ctions?					
			→SKIP to Item 7.18.	✓	No						
	7.8	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-3 are present in t	ne discharge?					
		✓ Yes			No → SKIP to Ite	m 7.10.					
tinued	7.9	Have you li Table C?	sted all pollutants in Exhibit 2F–3 that	you know or hav	e reason to believe	are present in the discharge in					
Cont		✓ Yes			No						
tion	7.10	Do you expect any of the pollutants in Exhibit 2F–3 to be discharged in concentrations of 10 ppb or greater?									
orma		☐ Yes		✓	No → SKIP to Ite	m 7.12.					
Discharge Information Continued	7.11		rovided quantitative data in Table C fo ons of 10 ppb or greater?	r those pollutants	s in Exhibit 2F–3 tha	at you expect to be discharged in					
scha		☐ Yes			No						
Θ	7.12	Do you exp of 100 ppb	ect acrolein, acrylonitrile, 2,4-dinitroph or greater?	enol, or 2-methy	l-4,6-dinitrophenol to	o be discharged in concentrations					
		Yes		✓	No → SKIP to Ite	m 7.14.					
	7.13		provided quantitative data in Table C for in concentrations of 100 ppb or greate		dentified in Item 7.1	2 that you expect to be					
		Yes			No						
	7.14		provided quantitative data or an explana at concentrations less than 10 ppb (or l								
		✓ Yes			No						
	7.15	Do you kno	w or have reason to believe any pollut	ants in Exhibit 2F	-4 are present in the	ne discharge?					
		✓ Yes			No → SKIP to Ite	m 7.17.					
	7.16		sted pollutants in Exhibit 2F–4 that you n in Table C?	ı know or believe	to be present in the	e discharge and provided an					
		✓ Yes			No						
	7.17		provided information for the storm even	t(s) sampled in T	able D?						
		✓ Yes			No						

EPA Identification Number TN1890090003		NPDES F TN0002941	Permit Number	Facility Name Oak Ridge National Laboratory			Form Approved 03/05/19 OMB No. 2040-0004	
7	Used o	r Manufactui	red Toxics		'			
Discharge Information Continued	7.18			bits 2F–2 through 2F diate or final product o		ice or a component of a No → SKIP to		
ation	7.19		utants below, incl	uding TCDD if applica	able.	110 2 01111 10		•
e Inform		1.		4.		7.		
harg		2.		5.		8.		
Disc		3.		6.		9.		
	N 8. BIO I 8.1	Do you hav any of your	re any knowledge discharges or on		that any biolo	ur discharge within the	last three	•
stine	0.0	☐ Yes				✓ No → SKIP to	o Section	9.
Biological Toxicity Testing Data	8.2		tests and their pu	Purpose of T	est(s)	Submitted to NPDI Permitting Authori		Date Submitted
al To						☐ Yes ☐	No	
ologic						☐ Yes ☐	No	
Bi						☐ Yes ☐	No	
SECTIO				ATION (40 CFR 122.2				
	9.1	Were any of consulting fi		oorted in Section 7 (or	n Tables A th	rough C) performed by	a contrac	t laboratory or
		✓ Yes				☐ No → SKIP to	o Section	10.
	9.2	Provide info	rmation for each	contract laboratory or	consulting fi	rm below.		
				Laboratory Nui	mber 1	Laboratory Numb	per 2	Laboratory Number 3
ormation		Name of lab	ooratory/firm	GEL Laboratories, LLC				
Contract Analysis Information		Laboratory a	address	2040 Savage Road SC 29407	Charleston,			
Contr		Phone num	ber	(843) 556-8171				
		Pollutant(s)	analyzed	Ammonia, BOD, COD, N Nitrate/nitrite, Oil & Grea VOCs/SVOCs, Phospho	se,			

EPA Identification Number NPDES Permit Number Facility Name Form Approved 03/05/19
TN1890090003 TN0002941 Oak Ridge National Laboratory OMB No. 2040-0004

SECTIO	N 10. CH	ECKLIST AND CERTIFICATION	ON STATEMENT (40 CFR 122.22(a) and (d))					
	10.1	each section, specify in Colu	sections of Form 2F that you have completed and are submitting with your application. For mn 2 any attachments that you are enclosing to alert the permitting authority. Note that not 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					
ant		✓ Section 6	□ w/ attachments					
ateme		Section 7	✓ Table A					
ion St			✓ Table B					
tificat			✓ Table C ✓ Table D					
Checklist and Certification Statement		✓ Section 8	□ w/attachments					
list an		✓ Section 9	w/attachments (e.g., responses for additional contact laboratories or firms)					
Check		✓ 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 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 responsion for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, complete. I am aware that there are significant penalties for submitting false information, including the possibility of and imprisonment for knowing violations.						
		Name (print or type first and Johnny O. Moore	ast name) Official title Manager, ORNL Site Office					
		Signature	Date signed					

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
TN1890090003	TN0002941	Oak Ridge National Laboratory	434	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. Maximum Daily Discharge Average Daily Discharge Source of (specify units) (specify units) Information **Number of Storm** Pollutant or Parameter **Grab Sample Taken Grab Sample Taken** (new source/new **Events Sampled** Flow-Weighted Flow-Weighted **During First** dischargers only; use **During First** Composite Composite codes in instructions) 30 Minutes 30 Minutes 5.75 ma/L 5.75 ma/L Oil and grease 0.03 lbs 0.03 lbs 0 Pollutant not expected Biochemical oxygen demand (BOD₅) to be present 0 Pollutant not expected 3. Chemical oxygen demand (COD) to be present 82 ma/L 35.4 ma/L 82 ma/L 35.4 ma/L Total suspended solids (TSS) 0.29 lbs 0.4 lbs 0.29 lbs 0.4 lbs 0.0967 ma/L 0.138 ma/L 0.0967 ma/L 0.138 ma/L 5. Total phosphorus 0.0007 lbs 0.00079 lbs 0.0007 lbs 0.00079 lbs 1.83 ma/L 1.61 ma/L 1.83 ma/L 1.61 ma/L Total Kjeldahl nitrogen (TKN) 0.009 lbs 0.013 lbs 0.009 lbs 0.013 lbs 2.5 ma/L 2.21 ma/L 2.21 ma/L $2.5 \, \text{ma/L}$ Total nitrogen (as N) 0.01 lbs 0.018 lbs 0.01 lbs 0.018 lbs 8.3 pH (minimum) 8.3 pH (maximum)

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

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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.

	Maximum Da (specif	ily Discharge y units)	Average Dai	ly Discharge y units)	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Ammonia (as N)	0.491 mg/L 0.002 lbs	0.459 mg/L 0.0038 lbs	0.491 mg/L 0.002 lbs	0.459 mg/L 0.0038 lbs	1	
Antimony 7440-36-0	0.0188 mg/L 0.00009 lbs	0.014 mg/L 0.00011 lbs	0.0188 mg/L 0.00009 lbs	0.014 mg/L 0.00011 lbs	1	
Arsenic 7440-38-2	0.0175 mg/L 0.00009 lbs	0.0189 mg/L 0.00015 lbs	0.0175 mg/L 0.00009 lbs	0.0189 mg/L 0.00015 lbs	1	
Cadmium 7440-43-9	<0.00033 mg/L <0.000002 lbs	<0.00033 mg/L <0.0000027 lbs	<0.00033 mg/L <0.000002 lbs	<0.00033 mg/L <0.0000027 lbs	1	
Chromium 7440-47-3	<0.01 mg/L <0.00005 lbs	<0.01 mg/L <0.00008 lbs	<0.01 mg/L <0.00005 lbs	<0.01 mg/L <0.00008 lbs	1	
Copper 7440-50-8	0.0399 mg/L 0.0002 lbs	0.0159 mg/L 0.00013 lbs	0.0399 mg/L 0.0002 lbs	0.0159 mg/L 0.00013 lbs	1	
Iron 7439-89-6	1.06 mg/L 0.005 lbs	0.349 mg/L 0.0029 lbs	1.06 mg/L 0.005 lbs	0.349 mg/L 0.0029 lbs	1	
Lead 7439-92-1	0.00737 mg/L 0.00004 lbs	0.00203 mg/L 0.000017 lbs	0.00737 mg/L 0.00004 lbs	0.00203 mg/L 0.000017 lbs	1	
Nickel 7440-02-0	<0.073 mg/L <0.0004 lbs	<0.073 mg/L <0.00060 lbs	<0.073 mg/L <0.0004 lbs	<0.073 mg/L <0.00060 lbs	1	
Nitrogen, Total Organic (as N)	1.34 mg/L 0.007 lbs	1.15 mg/L 0.0094 lbs	1.34 mg/L 0.007 lbs	1.15 mg/L 0.0094 lbs	1	
Selenium 7782-49-2	<0.0031 mg/L <0.00002 lbs	<0.0031 mg/L <0.000025 lbs	<0.0031 mg/L <0.00002 lbs	<0.0031 mg/L <0.000025 lbs	1	
Silver 7440-22-4	0.000213 mg/L 0.000001 lbs	<0.00012 mg/L <9.80E-07 lbs	0.000213 mg/L 0.000001 lbs	<0.00012 mg/L <9.80E-07 lbs	1	
Zinc 7440-66-6	0.0748 mg/L 0.0004 lbs	<0.04 mg/L <0.0003 lbs	0.0748 mg/L 0.0004 lbs	<0.04 mg/L <0.0003 lbs	1	

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

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		i ily Discharge y units)	Average Dai	ly Discharge y units)	Number of Storm	Source of Information	
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)	
Aluminum 7429-90-5	0.895 mg/L 0.004 lbs	0.399 mg/L 0.0033 lbs	0.895 mg/L 0.004 lbs	0.399 mg/L 0.0033 lbs	1		
Barium 7440-39-3	0.0343 mg/L 0.0002 lbs	0.017 mg/L 0.00014 lbs	0.0343 mg/L 0.0002 lbs	0.017 mg/L 0.00014 lbs	1		
Beryllium 7440-41-7	<0.00014 mg/L <7.00E-07 lbs	<0.00014 mg/L <0.0000011 lbs	<0.00014 mg/L <7.00E-07 lbs	<0.00014 mg/L <0.0000011 lbs	1		
Boron 7440-42-8	0.0126 mg/L 0.00006 lbs	0.0131 mg/L 0.00011 lbs	0.0126 mg/L 0.00006 lbs	0.0131 mg/L 0.00011 lbs	1		
Calcium 7440-70-2	17.5 mg/L 0.09 lbs	13.6 mg/L 0.11 lbs	17.5 mg/L 0.09 lbs	13.6 mg/L 0.11 lbs	1		
Cesium 7440-46-2	0.000185 mg/L 9.00E-07 lbs	0.0000856 mg/L 7.00E-07 lbs	0.000185 mg/L 9.00E-07 lbs	0.0000856 mg/L 7.00E-07 lbs	1		
Cobalt 7440-48-4 0.00068 mg/L 0.000003 lbs		0.00031 mg/L 0.0000025 lbs	0.00068 mg/L 0.000003 lbs	0.00031 mg/L 0.0000025 lbs	1		
Magnesium 7439-95-4	2.94 mg/L 0.01 lbs	2.09 mg/L 0.017 lbs	2.94 mg/L 0.01 lbs	2.09 mg/L 0.017 lbs	1		
Manganese 7439-96-5	0.104 mg/L 0.0005 lbs	0.0414 mg/L 0.00034 lbs	0.104 mg/L 0.0005 lbs	0.0414 mg/L 0.00034 lbs	1		
Molybdenum 7439-98-7	<0.0032 mg/L <0.00002 lbs	<0.0032 mg/L <0.000026 lbs	<0.0032 mg/L <0.00002 lbs	<0.0032 mg/L <0.000026 lbs	1		
Potassium 7440-09-7	2.09 mg/L 0.01 lbs	1.38 mg/L 0.011 lbs	2.09 mg/L 0.01 lbs	1.38 mg/L 0.011 lbs	1		
Sodium 7440-23-5	1.79 mg/L 0.009 lbs	2.89 mg/L 0.024 lbs	1.79 mg/L 0.009 lbs	2.89 mg/L 0.024 lbs	1		
Strontium 7440-24-6	0.0276 mg/L 0.0001 lbs	0.0357 mg/L 0.00029 lbs	0.0276 mg/L 0.0001 lbs	0.0357 mg/L 0.00029 lbs	1		
Thallium 7440-28-0	0.0000860 mg/L 4.00E-07 lbs	<0.0000400 mg/L <3.30E-07 lbs	0.0000860 mg/L 4.00E-07 lbs	<0.0000400 mg/L <3.30E-07 lbs	1		
Tin 7440-31-5	0.00424 mg/L 0.00002 lbs	<0.002 mg/L <0.00002 lbs	0.00424 mg/L 0.00002 lbs	<0.002 mg/L <0.00002 lbs	1		
Titanium 7440-32-6	0.043 mg/L 0.0002 lbs	0.0188 mg/L 0.00015 lbs	0.043 mg/L 0.0002 lbs	0.0188 mg/L 0.00015 lbs	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).

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number	Form Approved 03/05/19
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	Maximum Da (specif	•	Average Dail	-	Number of Storm	Source of Information
Pollutant and CAS Number (if available)	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Events Sampled	(new source/new dischargers only; use codes in instructions)
Uranium 7440-61-1	<0.0012 mg/L <0.000006 lbs	<0.0012 mg/L <0.0000098 lbs	<0.0012 mg/L <0.000006 lbs	<0.0012 mg/L <0.0000098 lbs	1	
Vanadium 7440-62-2	<0.0009 mg/L <0.000005 lbs	<0.0009 mg/L <0.000007 lbs	<0.0009 mg/L <0.000005 lbs	<0.0009 mg/L <0.000007 lbs	1	
Zirconium 7440-67-7	<0.0031 mg/L <0.00002 lbs	<0.0031 mg/L <0.000025 lbs	<0.0031 mg/L <0.00002 lbs	<0.0031 mg/L <0.000025 lbs	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).

EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number	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)
10/12/2022	16 hrs	0.14 in	726.5 hrs	30 gpm	980 gal

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

All flow rates were measured or estimated by measuring the time required for the stormwater discharge to fill a container of a known volume.

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Form 2F - Section 1.1 Continuation Page

Outfall: 434			Grou	p C2 L	ow impe	rvious - SW only	EPA ID Number	TN0002941	
Latitude				Longitude					
Outfall Number	Deg	Min	Sec	Deg	Min	Sec	ReceivingWater		
588	35	54	26	84	19	06	White Oak Creek		
675	35	55	50	84	19	02	Fifth Creek		

Outfall: 434 Group C2 Low impervious - SW only EPA ID Number TN0002941

Outfall Number	Area of Impervious Surface (acres)	Total Area Drained (acres)	
004	0.005	0.021	
010	1.607	53.949	
011	0.886	7.238	
017	0.016	0.16	
033	2.971	48.148	
084	0.172	0.507	
091	1.419	39.144	
102	0.787	3.691	
104	0.412	4.206	
107	0.274	0.47	
108	0.069	1.389	
111	0.114	0.195	
114	0.103	0.572	
168	0.032	0.068	
169	Not defined	Not defined	
170	0.108	0.334	
203	0.117	30.612	
208	0.124	0.275	
214	0.272	0.597	
216	0.179	2.738	
245	4.376	10.049	
247	Not defined	Not defined	
268	0.73	3.219	
313	16.102	77.465	
431	0.784	3.398	
432	0.475	1.362	
433	2.565	27.42	
434	6.569	19.23	
464	0.129	0.485	
468	0.069	0.219	
473	0.081	0.409	
484	0.661	2.066	
488	1.611	7 - 161 22.651	

Form 2F - Section 4.1 Continuation Page

Outfall:	434	Group C2 Low impervious - SW only	EPA ID Number TN0002941

Outfall Number	Area of Impervious Surface (acres)	Total Area Drained (acres)	
588	3.555	35.966	
675	1.407	7.765	

DOE NPDES Permit No. 0002941 Application Appendices



Appendix A – Outfalls Summary

Table A-1 provides a list of the outfalls included in this NPDES permit application package along with their corresponding EPA NPDES Permit Application Forms that are being submitted.

	Ta	ble A-1					
(Outfalls Summary - Corresponding 2023 Permit Application Forms						
Outfall ID	Receiving Stream	Forms Submitted					
	C	Form 1	Form 2C	Form 2E	Form 2F		
N/A	N/A General Information	X					
X01	White Oak Creek		X				
X12	White Oak Creek		X				
001	White Oak Creek			X	X		
004	White Oak Creek				X		
005	White Oak Creek			X			
006	White Oak Creek				X		
010	Clinch River				X		
011	Clinch River				X		
014	White Oak Creek			X			
016	White Oak Creek				X		
017	White Oak Creek				X		
021	White Oak Creek			X			
031	White Oak Creek			X			
033	White Oak Creek				X		
041	First Creek			X	X		
043	First Creek				X		
051	Northwest Tributary			X	X		
052	Northwest Tributary			X			
053	Northwest Tributary			X			
054	Northwest Tributary			X			
055	Northwest Tributary			X			
056	Northwest Tributary			X			
057	Northwest Tributary			X			
058	Northwest Tributary			X	X		
064	Fifth Creek				X		
065	Fifth Creek				X		
070	Fifth Creek				X		
081	Melton Branch			X	X		
084	Melton Branch				X		
085	Melton Branch			X			
091	Fifth Creek				X		
102	White Oak Creek			X	X		

	T	able A-1					
	Outfalls Summary - Corresponding 2023 Permit Application Forms						
Outfall ID	Receiving Stream			Submitted			
		Form 1	Form 2C	Form 2E	Form 2F		
104	White Oak Creek				X		
107	White Oak Creek				X		
108	White Oak Creek				X		
111	White Oak Creek				X		
113	White Oak Creek				X		
114	White Oak Creek				X		
141	First Creek				X		
142	First Creek				X		
161	Fifth Creek				X		
162	Fifth Creek				X		
164	Fifth Creek				X		
165	Fifth Creek				X		
166	Fifth Creek				X		
168	Fifth Creek				X		
169	Fifth Creek				X		
170	Fifth Creek				X		
191	Clinch River			X	X		
203	White Oak Creek				X		
204	White Oak Creek			X	X		
207	White Oak Creek			X	X		
208	White Oak Creek				X		
209	White Oak Creek				X		
210	White Oak Creek			X	X		
211	White Oak Creek			X	X		
212	White Oak Creek			X			
213	White Oak Creek			X			
214	White Oak Creek			X	X		
216	White Oak Creek				X		
217	White Oak Creek			X	X		
218	White Oak Creek			X	X		
219	White Oak Creek			X	X		
220	White Oak Creek			X			
221	White Oak Creek				X		
223	White Oak Creek			X	X		
224	White Oak Creek			X	X		
226	White Oak Creek				X		
227	White Oak Creek			X	X		
230	White Oak Creek			X	X		
231	White Oak Creek			X	X		

		able A-1					
	Outfalls Summary - Corresponding 2023 Permit Application Forms						
Outfall ID	Receiving Stream			Submitted	T		
		Form 1	Form 2C	Form 2E	Form 2F		
232	White Oak Creek				X		
234	White Oak Creek			X	X		
235	White Oak Creek			X	X		
241	First Creek				X		
243	First Creek			X	X		
245	First Creek				X		
247	First Creek				X		
249	First Creek			X	X		
250	First Creek			X	X		
261	Fifth Creek			X			
262	Fifth Creek				X		
263	Fifth Creek			X			
264	Fifth Creek			X	X		
265	Fifth Creek			X	X		
266	Fifth Creek				X		
267	Fifth Creek			X	X		
268	Fifth Creek				X		
269	Fifth Creek				X		
281	Melton Branch			X	X		
291	Clinch River			X	X		
301	White Oak Creek				X		
302	White Oak Creek			X	X		
304	White Oak Creek			X	X		
310	White Oak Creek			X			
312	White Oak Creek			X	X		
313	White Oak Creek			X	X		
314	White Oak Creek			X	X		
341	First Creek			X	X		
342	First Creek				X		
343	First Creek				X		
361	Fifth Creek				X		
362	Fifth Creek				X		
363	Fifth Creek			X	X		
364	Fifth Creek				X		
365	Fifth Creek			X	X		
367	Fifth Creek			X	X		
368	Fifth Creek			X	X		
383	Melton Branch			X	X		
403	White Oak Creek				X		

		le A-1			
O.,4fall ID	Outfalls Summary - Correspond	ing 2023 Pe		Submitted	
Outfall ID	Receiving Stream	Form 1	Form 2C		Form 2F
431	White Oak Creek	TOTHIT	10111120	TOTHI ZE	X
432	White Oak Creek				X
433	White Oak Creek				X
434	White Oak Creek				X
435	White Oak Creek			X	X
436	White Oak Creek			X	X
437	White Oak Creek			X	X
443	First Creek			X	
447	First Creek			X	
460	Fifth Creek				X
461	Fifth Creek				X
462	Fifth Creek				X
463	Fifth Creek				X
464	Fifth Creek				X
466	Fifth Creek				X
467	Fifth Creek				X
468	Fifth Creek				X
469	Fifth Creek				X
470	Fifth Creek				X
472	Fifth Creek				X
473	Fifth Creek				X
481	Melton Branch			X	X
482	Melton Branch			X	X
484	Melton Branch				X
485	White Oak Creek				X
486	White Oak Creek				X
487	White Oak Creek				X
488	White Oak Creek				X
490	Unnamed tributary to BC				X
	Embayment				
506	White Oak Creek			X	X
581	Melton Branch				X
582	Melton Branch				X
583	White Oak Creek			X	X
585	Melton Branch			X	
588	White Oak Creek -new outfall				X
590	Unnamed tributary to BC				X
	Embayment				
591	Unnamed tributary to BC				X

	Table A-1							
	Outfalls Summary - Corresponding 2023 Permit Application Forms							
Outfall ID	ID Receiving Stream Forms Submitted							
		Form 1	Form 2C	Form 2E	Form 2F			
	Embayment							
592	Unnamed tributary to BC				X			
	Embayment							
630	White Oak Creek			X				
674	Fifth Creek				X			
675	Fifth Creek				X			
701	New outfall - old X01 (when new			X	X			
	STP online)							
732	New Outfall - SIPRC			X	X			
791	New outfall near 6725				X			
792	New outfall draining area north in				X			
	7608							

Appendix B – Antidegradation Statement

Appendix B - Antidegradation Statement

Summary

The ORNL NPDES permit is under application for renewal in 2023. ORNL has discharged wastewaters to its receiving streams since the mid-1940s, therefore the wastewater and receiving-stream data and corresponding information contained in the permit renewal application package reflect not only wastewater constituents that are being discharged under current conditions, or those that are planned for discharge from future ORNL facilities and programs, but also encompass legacy pollutants that were discharged prior to modern environmental regulations. This NPDES permit renewal application is not intended to seek permitting or account for such legacy pollutants, however, their continued presence in the ORNL environment makes it probable that the data in this application package reflect that presence. Therefore, over time it is reasonable that water quality has been degraded by legacy contamination, authorized discharges, and other natural conditions at levels more than de minimis for some water quality parameters. This permit application proposes to continue all of the authorized wastewater discharges, in addition to potentially three (3) new discharge streams/outfalls which would possibly be measurable at the discharge points, though none of the discharges are believed to individually cause more than de minimis degradation to the receiving streams.

Even though ORNL has been making significant efforts to improve overall water quality of the receiving streams on-site over time, there are currently two (2) ORNL receiving streams (White Oak Creek and Melton Branch), that exhibit impairment defined by TN as "cause unknown". ORNL has been implementing investigative measures of this impairment through the NPDES Permit Water Quality Protection Plan (WQPP) and as a result of these efforts has determined stream locations/reaches where specific Tennessee water quality criteria (WQC) have at times been exceeded for copper, temperature, and mercury. As these locations are identified, on-site operations controls/remediation can be implemented to attempt to control these occasional exceedances.

For the past 40 years ORNL has pursued continuous improvement with its wastewater discharges and continues to plan for this in the future. ORNL has spent, and continues to spend a significant amount of time, energy, and resources on capital environmental advancements and upgrades throughout ORNL campus. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process has attempted to remove, isolate, or otherwise remediate many significant sources of water pollution on the Oak Ridge Reservation (ORR), including at ORNL. Many of these CERCLA cleanup efforts are ongoing and others are also planned throughout ORNL campus. In addition, upgrades to onsite wastewater treatment facilities (such as the new sewage treatment plant) have also been constructed and brought into operation, underground piping infrastructure has been characterized and remediated where necessary, and extensive internal programs have been implemented at ORNL in order to facilitate regulatory compliance through environmental awareness and oversight. Meanwhile, significant growth has taken place both on and off campus and as new facilities have been planned/built on-site, considerations have been made to incorporate, where possible, improvements to existing wastewater facilities. In addition, a few new research facilities, such as the National Transportation Research Center and the Carbon Fiber Technology Facility, have been chosen to be located off-site in other parts of Knoxville, Tennessee (TN) and Oak Ridge, TN respectively which thereby, relieves the on-site wastewater treatment facilities from treating these additional wastewaters (since most of the wastewater discharges from these facilities are being treated at offsite municipal wastewater treatment facilities, rather than onsite at ORNL).

While ORNL strives to incorporate continuous improvement and environmental protection and restoration where possible throughout campus, circumstances including extensive growth/expansion, revised environmental rules/regulations, and new Department of Energy (DOE) mission changes and challenges will continue to result in discharges that contribute to conditions that are potentially above de minimis levels as defined in the WQC. Types of future ORNL initiatives with this potential include new or increased cooling system discharges, wastewater-treatment-facility discharges that may vary

based on mission requirements and/or system upgrades or expansions, and other design, operational, and mission needs that would not be short-term or episodic, that may present themselves over time.

At this time, there are three (3) facility projects planned at ORNL that will result in potentially three (3) new non-process wastewater outfalls, which are included in this NPDES permit renewal application package. The projects are the Translational Research Capability (TRC) project, the Second Target Station (STS) project, and the Stable Isotope Production and Research Center (SIPRC) project. All of these projects will directly or indirectly support research/development activities at ORNL in support of DOE missions, which provide national and international scientific and technological benefit. While the TRC and SIPRC are currently under construction, the other new STS facility in the design/planning stages. The wastewater effluents from these three (3) facilities are anticipated to include cooling-system blowdown and condensate discharges in amounts and with effluent-quality characteristics typical of these types of facilities. For the TRC project, anticipated peak cooling tower blowdown and condensate discharge rates are 15 and 6 gpm, respectively. For the SIPRC project, these are anticipated to be 10.8 and 3.8 gpm. The preliminary design for the STS is still in progress; therefore, meaningful discharge-rate estimates are not vet available for this facility. None of these facilities are anticipated to discharge pollutant constituents in greater-than-de minimis amounts; however, since many of these projects are in their early stages of design/construction this cannot be known with certainty. As designs mature and the facilities are completed, commissioned, brought online, and effluent characterizations can be made, any impacts on the de-minimis requirements of the TN antidegradation standards that may become apparent will be appropriately addressed with TDEC.

Beyond this general acknowledgement of future potential of incremental degradation, specific instances where it is anticipated that degradation may, or will occur will be individually addressed as appropriate. If or when increases have occurred or will occur, they are typically transient/short-lived, due to efforts to control and reduce them. Additionally, the overall trend over time is that there has been decreases in concentrations of pollutants in ORNL receiving streams, resulting in gradual increases in their respective "available assimilative capacities." However, this antidegradation statement will include an alternatives analysis and socio-economic justification for the mission and activities of ORNL that result in the subject discharges and will also address any current or future discharges above de minimis levels that may occur. The antidegradation statement for ORNL will discuss both the current state and anticipated future state of its receiving stream the White Oak Creek (WOC) watershed which has been, is, and will continue to be influenced by ORNL discharges.

Overview of ORNL (ORNL Wastewater Discharges, and Receiving Streams)

ORNL is the DOE's largest multiprogram science and energy national laboratory. It was constructed beginning in 1943 within the White Oak Creek watershed of the Lower Clinch River basin, established first as a part of the secret World War II Manhattan Project to pioneer a method for producing plutonium. Since that time, ORNL's mission has evolved from wartime weapons-development support to the creation of the Department of Energy in the 1970s which led to an expansion of ORNL's research and development programs into areas of energy production, transmission, and conservation. The current mission of ORNL is to facilitate scientific discoveries and technical breakthroughs that will accelerate the development and deployment of solutions in clean energy and global security, providing benefit and economic opportunity for the United States. ORNL is an international leader in a range of scientific areas that support DOE missions. The laboratory's major missions today include research and development in materials science and engineering; computer and computational science; neutron scattering; neutron science and technology; biological and environmental research; nuclear physics and engineering; nuclear energy technologies; fusion science and technology; enhanced national security; and energy efficiency and renewable energy.

Various DOE missions at ORNL over the years have resulted in the release of environmental pollutants (including radionuclides, organics, and metals). Since the 1970s, pollutants released from ongoing activities at ORNL have been monitored and controlled under environmental regulations and permits including those based in the Clean Air Act, the

Clean Water Act, the Resource Conservation and Recovery Act, and the Toxic Substances Control Act. Since the 1980s, legacy pollutants from past activities at ORNL have been being characterized and remediated in cooperation with Tennessee Department of Environment and Conservation (TDEC) and the Environmental Protection Agency (EPA), under CERCLA. Today, ORNL operations and discharges are compliant with the applicable regulations and permits. The WOC watershed, while not yet free from impairment as determined by TN regulations, has seen significant recovery in recent years in terms of reductions in concentrations of pollutants present (see Figures 1-6), and in the improved health and diversity of resident aquatic species populations as reported under ORNL's NPDES WQPP.

Figures 1-6 indicate, for several pollutants-of-interest, the successes of DOE on-site efforts to control and reduce the presence of pollutants in the watershed. Compliance with WQC has been achieved at monitored locations. While changes occur over time in ORNL configuration, conditions, and operations, any of which can potentially result in changes in pollutant fluxes to the environment, the overall trends of decreasing pollutant concentrations in the aquatic environment are consistent with the antidegradation concept and goals.

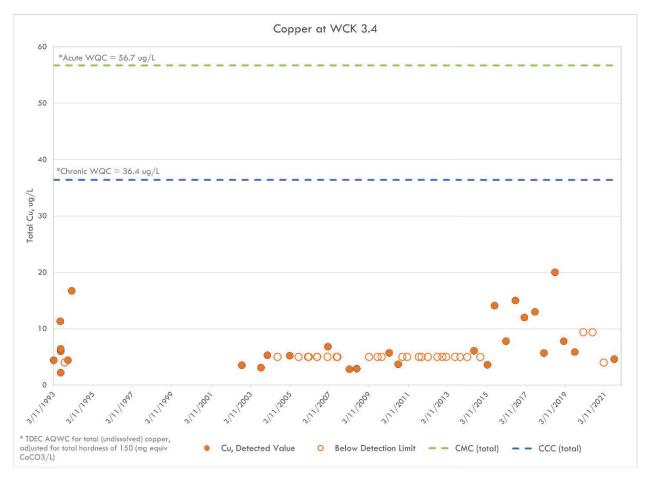


Figure 1. Total (unfiltered) Copper concentrations from grab samples at WCK 3.4/7500 Road Bridge, 1993 to 2021.

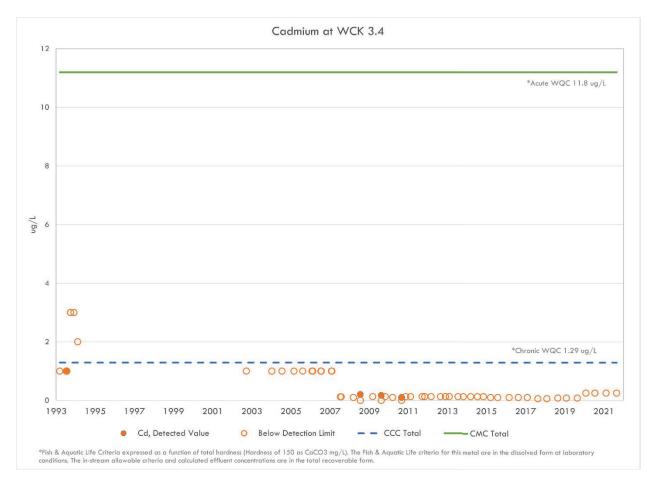


Figure 2. Total (unfiltered) Cadmium concentrations from grab samples at WCK 3.4/7500 Road Bridge, 1993 to 2021.

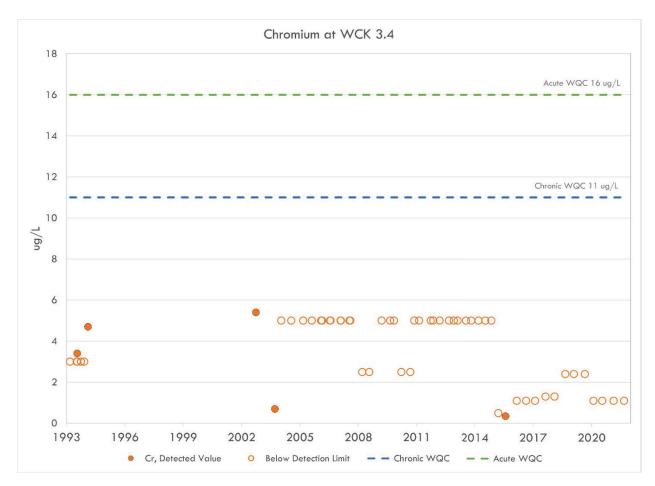


Figure 3. Total (unfiltered) Chromium concentrations from grab samples at WCK 3.4/7500 Road Bridge, 1993 to 2021.

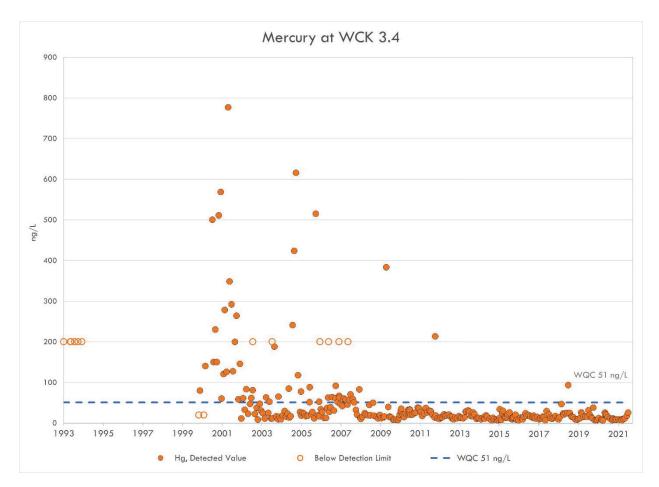


Figure 4. Mercury concentrations from grab samples at WCK 3.4/7500 Road Bridge, 1993 to 2021.

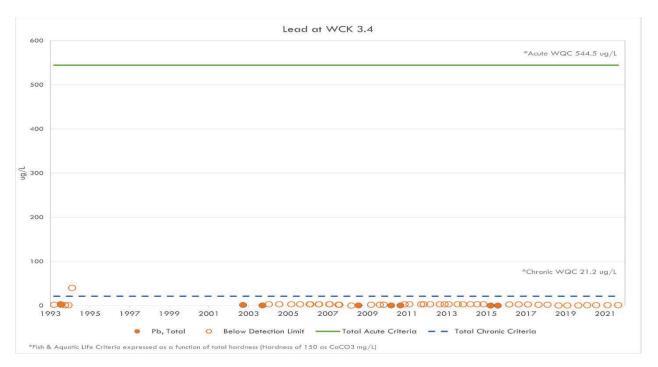


Figure 5. Total (unfiltered) Lead concentrations from grab samples at WCK 3.4/7500 Road Bridge, 1993 to 2021.

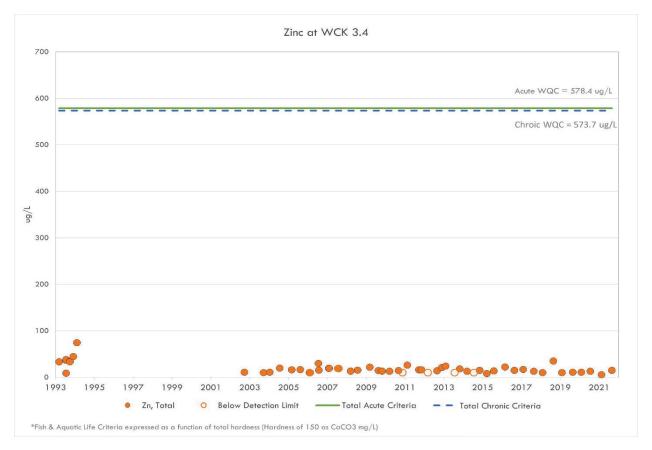


Figure 6. Total (unfiltered) Zinc concentrations from grab samples at WCK 3.4/7500 Road Bridge, 1993 to 2021.

ORNL has two (2) onsite wastewater treatment facilities -- a Sewage Treatment Plant (STP) and a Process Wastewater Treatment Complex (PWTC). Treated wastewaters may include sanitary wastewaters; process wastewaters; storm water runoff; and wastewater from remediation of legacy contamination which is managed under CERCLA. For over 30 years, DOE has used an internal waste acceptance criteria/variance process as an internal process review in order to assure that wastewater treatment discharges meet applicable regulations. In addition, ORNL has many non-process operational wastewater discharges (outfalls) that include wastewaters such as: cooling tower blowdown, once thru cooling waters, boiler blowdown, reverse osmosis reject water, steam condensate, heating ventilation and air conditioning (HVAC) condensate, groundwater, and some may contain stormwater runoff. Some of these discharges may receive dechlorination prior to discharge, as needed. Where appropriate, ORNL discharges are permitted either under the Clean Water Act/ORNL NPDES permit, or under CERCLA records of decision (ROD).

ORNL discharges and runoff enter WOC and its minor tributaries, all of which are within the Lower Clinch River watershed. WOC, originating in Bethel Valley, and Melton Branch (a tributary of WOC), originating in the Melton Valley, both flow in and around the industrialized areas of ORNL and receive discharges from current-day and legacy operations. WOC and Melton Branch are currently designated by TN to support uses including fish and aquatic life and recreation. While efforts are ongoing to treat wastewater from research processes, to remove and/or isolate legacy contaminants from previous activities, to reroute discharge pipes, and to minimize solids transport in storm water, discharges from ORNL influence water quality and quantity in this watershed. Surface water contaminants may include biodegradable material, residual chlorine, volatile organic compounds (VOCs), suspended solids, metals such as copper,

mercury, and iron, PCBs, and radionuclides. Many of these contaminants are from legacy sources which continue to be addressed by the DOE under CERCLA.

The State of TN's 2022 303(d) List describes WOC as impaired due to the presence of cesium and strontium (although no specific water quality standards exist for either contaminant), as well as also being listed as "cause unknown" (loss of biological integrity due to undetermined cause). Melton Branch is listed as impaired due to the presence of strontium and "cause unknown". In addition, the 303(d) list describes the Potential Impairment Sources for both WOC and Melton Branch to be "CERCLA NPL (Superfund) Sites."

Alternatives Analysis

Over the years, various alternatives have been selected and implemented in cases where these discharges needed improvements to make them environmentally acceptable. Programmatic alternatives include the CERCLA investigative and remedial process, under which actions are determined, planned, and taken when remediation of legacy pollution is warranted, and the NPDES WQPP process, which determines situations, sources, and potential corrective actions of pollution caused by NPDES-permitted discharges. Selected situation- or source-specific alternatives have included eliminating discharges and/or constituents, treating discharges in-place to remove certain constituents, rerouting discharges to onsite wastewater treatment facilities for treatment prior to discharge, upgrading onsite wastewater treatment facilities, and constructing new onsite wastewater treatment facilities. The investment DOE has made and continues to make at ORNL for projects like the PWTC upgrades, as well as the new STP (construction ongoing) shows DOE's commitment to improving the environment.

Alternatives that have been evaluated but not implemented due to feasibility/cost constraints include rerouting discharges to larger receiving streams (e.g., WOC downstream of the ORNL campus, or the Clinch River). In addition to alternatives analyses conducted to evaluate a proposed project against budget and operational criteria, National Environmental Policy Act (NEPA) assessments are required for federal projects with potential environmental impacts. NEPA evaluations are routinely conducted for proposed ORNL projects, to ensure that environmental impacts of alternatives are considered and minimized. Alternatives that have been selected to mitigate specific constituents in current and anticipated future ORNL discharges will be discussed in later sections of this statement which are specific to each constituent.

Socio-Economic Aspects of ORNL

ORNL operations have a favorable socio-economic impact on local, state, national, and international entities and their associated workforces. ORNL employs over 6,000 full-time staff most of whom reside in Anderson County, Knox County, and other surrounding counties, and annually hosts approximately 1,500 visiting scientists as well as hundreds of undergraduate, graduate, and post-doctoral interns and researchers. The annual operating budget for ORNL exceeds \$2 billion. ORNL activities are conducted in 265 separate, operational buildings on the main campus, and in 16 offsite leased facilities, as well as the National Transportation Research Center in Hardin Valley, and the Carbon Fiber Technology Facility in the Horizon Center in Oak Ridge. ORNL also provides leadership and regional and national support for innovation, including regional economic development organizations and DOE Energy Efficiency and Renewable Energy Tech2Market initiatives.¹

In recent years, ORNL has added several new facilities to enhance capabilities for neutron science, genomics, nanomaterials, and computational research. ORNL has been selected as the site of the DOE Office of Science's National Leadership Computing Facility for unclassified high-performance computing. ORNL has established research-and-development partnership facilities with universities and the private sector, including the Joint Institute for Computational Sciences, the Joint Institute for Biological Sciences, the Center for Nanophase Materials Sciences, the Manufacturing Demonstration Facility, and the Carbon Fiber Technology Facility. Approximately 20% of the ORNL operating budget is

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¹ FY 2022 ORNL Annual Plan, (ORNL Office of Institutional Planning)

the result of Strategic Partnership Projects (SPP), where ORNL's core capabilities serve the needs of non-DOE sponsors. By providing private sector partners with timely access to ORNL's unique expertise and resources, the SPP program allows ORNL and partner institutions to enhance their research and development programs and, in the case of business partners, accelerate the delivery of new technologies to the marketplace. ORNL has SPP agreements with more than 300 companies, collaborates with over 200 universities, and has joint faculty agreements with 20 universities.²

Basis for Determination

One of the key tools for fostering improvement of surface-water impairment/degradation at ORNL is the NPDES WQPP. Since 2008, ORNL NPDES permits have required ORNL to develop and continue the WQPP to adaptively monitor, evaluate, and develop management actions for improvement in areas including storm water runoff, chlorine control, biological communities, radioactivity, PCBs and mercury. Data from monitoring ORNL outfalls since 1986 has established a clearer understanding of outfalls where there may be constituents of concern. These data also indicate outfalls that are of limited concern, where repetition of current monitoring and reporting is not fruitful, and where a more flexible approach is warranted whereby the WQPP is maintained and annually updated to most effectively assess all outfalls and to focus on outfalls associated with significant findings. The WQPP also provides ORNL staff with Best Management Practices for activities such as construction, facility and vehicle maintenance, painting, and the management and use of environmentally controlled substances such as fuels, solvents, and pesticides. The WQPP report is updated annually, to facilitate adaptive monitoring/planning based on knowledge gained from previous years' monitoring. The WQPP process also includes a requirement to provide an annual report of findings and future plans to TDEC, which typically include adjustments to the outfall monitoring approaches based on the findings.

Since the WQPP was begun in 2008, WQPP investigations and reporting have shown improvements in mercury and PCB concentrations at the WOC watershed monitoring points, with TN water quality criteria for mercury being substantially met at all points in the ORNL main campus area (there are still occasional mercury WQC exceedances at White Oak Dam, though those are becoming less frequent). The WQPP commitment is for ORNL to gain understanding of issues within the watershed and then develop methods/proposals to control those issues. Ideally, potential stream impairment issues can be identified and corrected before they require formalization in the TN 303(d) listing of impaired waters. The following sections discuss various investigations of potential impairment of WOC undertaken by ORNL in the WQPP, and alternatives that are either being implemented or considered to mitigate potential impairment sources.

WQPP - Biological Integrity Investigation

There has been substantial ecological recovery has been documented since the 1980s, when species richness and other community metrics were initially found to be quite low. This recovery is attributed to such ORNL efforts as treating or removing chlorinated water and other toxic process-based discharges, controlling site storm water runoff pollution, and remediating sources of legacy contamination. Still, WOC is listed as impaired for "cause unknown" (loss of biological integrity due to unknown cause) in the current and proposed Tennessee 303(d) lists of impaired waters, and the NPDES-required studies of fish and macroinvertebrate communities have confirmed ecological impairment downstream of ORNL discharges, including in White Oak Creek, First Creek, and Fifth Creek. The 2021 WQPP report results suggest that the rate of biological recovery has slowed in the watershed in recent WQPP³ studies are underway to evaluate the remaining causes of biological impairment.

The condition of biological communities is typically measured using "biometrics" which interpret existing narrative biological criteria based on regional reference data. Biological criteria are based on macroinvertebrate monitoring at reference streams grouped into bioregions for assessment purposes. Numeric biocriteria are based on a multi-metric index

² FY 2022 ORNL Annual Plan, (ORNL Office of Institutional Planning)

³ Oak Ridge National Laboratory NPDES Water Quality Protection Plan 2021 Biannual Progress Report Appendix B - 10

compared to historic targeted and probabilistic monitoring. Tennessee biocriteria are described in TDEC's Water Pollution Control Quality System Standard Operating Procedures for Macroinvertebrate Stream Surveys. Areas are identified as ecoregions, which have relatively similar soil, hydrology, vegetation, and related characteristics. ORNL is situated within the ecoregion known as Bioregion 67f, Southern Limestone/Dolomite Valleys and Low Rolling Hills, which includes the Lower Clinch River watershed and White Oak Creek. Scores for White Oak Creek watershed from the 2021 WQPP report indicate that with few exceptions, conditions at all but the upstream-most site in White Oak Creek (WCK 6.8) are "Partially Supporting – Slightly Impaired" for use by fish and aquatic life, while results for WCK 6.8 have consistently indicated that this site is "Fully Supporting – Non-impaired."

As specific causes of biological integrity loss in the WOC watershed have not yet been determined with certainty by TN or by ORNL, comprehensive corrective-action alternatives are not yet available. The preferred course of action is to further investigate biological integrity loss under the WQPP, while simultaneously developing and implementing corrective actions for any specific constituents that are determined to be potential contributors to that loss.

WQPP – Copper Investigation

In 2014, the upper reach of WOC in the ORNL main campus area was found to occasionally exceed state fish-and-aquatic life concentration-based water quality criteria for copper (Cu), based on instream monitoring conducted under the ORNL WQPP (Figure 7). WQPP investigations indicated that discharges of blowdown water from ORNL cooling towers to WOC could be significant contributors to the instream Cu concentrations. ORNL considered alternatives to mitigate the amount of Cu in its cooling-tower discharges (ex. For existing cooling tower blowdown - use of alternate cooling-tower water treatment chemicals). Ion-exchange treatment is also being evaluated at ORNL, as a possible means to physically remove copper from cooling-tower-blowdown prior to discharge.

By 2018, Cu concentrations in the WOC reach of interest had declined and remain below WQC, as a result of investigations and changes made to cooling tower additives under WQPP. The relationship between actions taken and instream Cu concentrations are currently undergoing evaluation, and Cu remains a main study component of the WQPP. For new cooling towers, where it meets operational criteria, a copper-mitigating measure has been implemented: procuring new cooling towers whose heat exchangers do not contain copper piping. New cooling towers have been installed to provide adequate cooling to Building 5600, home to ORNL's new Leadership supercomputer. One new 5600 cooling tower is equipped with stainless-steel heat-exchanger piping rather than Cu heat-exchanger piping. Alternatives that were considered but not selected for Cu control, due to cost and/or programmatic impacts, include diverting the cooling tower blowdown from the larger, copper-bearing towers into underground piping for discharge farther downstream in the watershed, thus relieving the upstream reaches of WOC from some of the Cu loading that they had been experiencing, and discharging the blowdown water instead in a reach of WOC having a greater baseflow rate and thus a greater dilution factor. This scenario could further enhance compliance with TN water quality standards for Cu, if needed.

Farther downstream in WOC the water quality criteria for Cu are currently met. One of the main water sources to WOC is Outfall 210, whose effluent consists mainly of once-through, noncontact cooling water supplied to ORNL by the City of Oak Ridge's water filtration plant. Outfall 210 effluent has been monitored and found to contain low Cu concentrations, which suggests that the city water does not contain an appreciable concentration of Cu. This finding reduces the concern associated with city water being used for once-through cooling followed by dechlorination and discharge, since the city water has not been found to be a significant source of Cu to ORNL receiving streams.

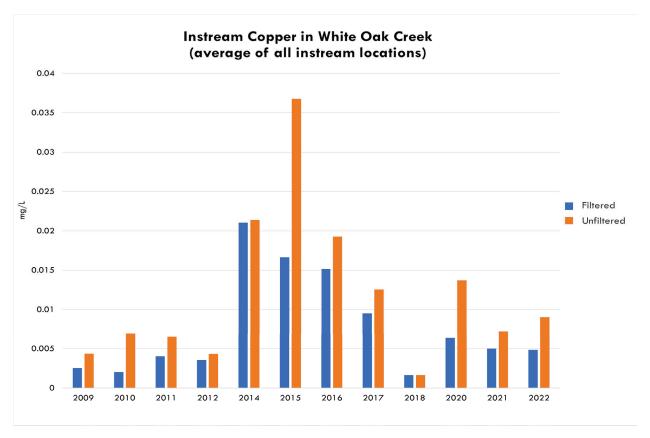


Figure 7. Evaluation of all instream copper in White Oak Creek from annual concentration averages. Samples included grabs and 24-hour composites at all White Oak Creek Instream Locations, 2009-2022.

WQPP – Temperature Investigation

Under WQPP and other previous water-quality monitoring at numerous instream locations on ORNL receiving streams, including over 20 years of NPDES permit-required temperature profile monitoring, TN stream temperature criteria have been found to occasionally be exceeded in some areas throughout ORNL campus. However, almost all these readings, upon closer investigation, were found to be caused by storm water runoff that occurred during a time when pavement had become heated by sunlight. Hence, the excursions of temperature criteria were almost all due to ambient conditions rather than to any particular ORNL activity.

There has been one ORNL monitoring location where temperature-criteria exceedance has been noted more than just infrequently/sporadically and not caused by storm runoff from sun-heated pavement is at Outfall 281, which includes blowdown water from the 7900 Area cooling tower. Measures have been taken in the past the help regulate the temperature from this outfall, including rerouting the discharge pathway to provide more overland flow prior to reaching the receiving stream (a tributary to Melton Branch), modifying the operations of the cooling-tower, and finding-and-fixing leaks in the 7900 cooling-water system.

Temperature considerations and controls are very much a part of the planning process for the new data center needs upcoming in Building 5600, which will introduce requirements for additional cooling capacity. Although the reach of WOC that would receive cooling-tower blowdown from a new 5600 area tower(s) is not currently impaired by temperature change, as a selected temperature-control alternative, one or more physical chillers will be installed to treat the cooling-tower blowdown, in order to ensure that the discharge's temperature is held to acceptable levels that will not negatively impact the receiving stream.

WQPP - Chlorine Control investigation

ORNL water balance data suggests that approximately 0.17 million gallons per day (mgd) of once-through cooling water is discharged from ORNL facilities to White Oak Creek and its tributaries. This flow represents over 50% of the total water volume discharged from the facility and, without proper management, can create adverse water quality impacts. The source of the chlorine is the chlorinated water which ORNL obtains from the City of Oak Ridge's water treatment plant to supply process, cooling, and drinking water.

The NPDES permit, since 2008, requires ORNL to maintain a Chlorine Control Strategy (CCS), which utilizes residual oxidant-load monitoring at several outfalls having the potential to discharge chlorinated/brominated water, combined with scheduled monitoring at instream compliance points, to monitor and control total residual oxidant (chlorine/bromine) in ORNL receiving streams. Total residual oxidant (TRO) is monitored and controlled in effluents from several cooling towers that discharge blowdown to receiving streams; chlorine- and bromine-based formulations are used to control biogrowth in cooling towers. Several instream chlorine monitoring points were designated in the 2008 permit, located in receiving streams in close downstream proximity to outfalls with the potential to discharge chlorinated water, as part of the CCS requirement of that permit and where chlorine is monitored for NPDES-permit-compliance purposes. Frequent monitoring of these instream points since 2008 has rarely resulted in detection of chlorine in ORNL receiving streams, and in the few cases where chlorine was detected, a cause and corrective action were always able to be determined. To facilitate compliance with NPDES Permit chlorine limits and TN WQC, several alternatives have been implemented, including constant dechlorination of (chlorinated) cooling water and cooling tower discharges, an ongoing program to find and fix leaks in underground (chlorinated) water supply piping, and dechlorination of discharges from fire hydrants when hydrants are being field-tested.

The CCS has now been in effect for approximately 14 years at ORNL and is considered to have been largely effective in controlling discharges of chlorinated water from ORNL sources. These effects are evidenced in part by the gradual recovery trend of aquatic species in ORNL receiving streams.

WQPP – Other Investigations

As new issues of concern are discovered in the receiving streams at ORNL through WQPP sampling and analysis, further investigation and monitoring of those parameters will be continued under WQPP in order to attempt to determine a root cause and for possible mitigation. For example, total selenium was recently detected at instream monitoring locations within WOC watershed at concentrations that were sometimes above chronic WQC. However, the sources of selenium have not yet been identified and will be investigated further under WQPP.

WQPP – Operational Best Management Practices

The ORNL WQPP stipulates management-practice measures to be taken at ORNL to minimize the effects of site activities on the WOC Watershed. Key examples include:

Sediment control in storm water runoff: Measures including stormwater pollution prevention plans (SWPPPs) are instituted for all activities involving soil excavation or other surface-soil disturbance, whether or not the activity is subject to permitting under the Tennessee General NPDES Permit for Construction Site Runoff.

Pest Management contract with a local company. There are associated management guidelines to minimize chemical use, personnel exposure, and release to the environment. Fertilizers are applied to re-establish vegetation in erosional areas and especially where soil has been disturbed by construction excavation. Fertilizer is also applied periodically to turf areas, on an as-needed basis typically during the growing season months (April – September). Herbicides are applied for security, safety, maintenance, and housekeeping purposes, in the minimal amounts necessary to meet site needs. Herbicides and potentially fungicides are applied in turf landscaped areas for weed control. Invasive plant species are often physically

removed. Herbicides approved for aquatic use are used to remove invasive or other undesirable plants growing in riparian zones.

Riparian zone protection: Throughout the main ORNL campus, the creek riparian zone predominantly consists of trees, shrubs, and understory vegetation. Riparian mitigation zones have been established at ORNL since 1995, allowing the zone's vegetation to grow and mature. Native vegetation has been encouraged on the creek banks since 1999, providing canopy habitat for the stream. There have been efforts to eradicate invasive plant species throughout the WOC watershed and to encourage native species. These measures support ORNL aquatic environments by providing canopy shade and food sources for creek fauna, stabilizing creekbanks against erosion, and providing filtration of nonpoint-source storm water runoff.

WQPP - Legacy (CERCLA) Contaminants

Both WOC and Melton Branch are influenced not only by ORNL's current operations, but also past and ongoing releases from CERCLA-regulated legacy areas. In the mid-1990s, the major contaminants of concern identified by CERCLA investigation in Melton Valley were three radionuclides: strontium (90Sr), tritium (3H), and sediment-bound cesium (137Cs). Since then, a number of remedial actions have been taken or will be taken with the primary goal of significantly reducing or eliminating inputs of these contaminants into surface waters and ground waters. For years, 3H and 90Sr had migrated from legacy Melton Valley waste burial areas. 137Cs was present primarily in soils of the WOC floodplain, having been deposited in the creek bed and in overbank flooding areas through years of process releases from ORNL. CERCLA remedial actions stipulated in the Record of Decision for Melton Valley were completed in 2006, and the site is currently being monitored to verify the effectiveness of the actions. Included in those actions were the removal of highly contaminated floodplain soils, hydrologic isolation of waste burial grounds, removal or closure-in-place of several former wastewater holding ponds, and construction and operation of shallow groundwater collection systems to capture wasteburial-ground leachate for treatment. Since completion of the CERCLA remediation of Melton Valley, the discharges of contaminants from the waste areas to White Oak Creek have significantly diminished. The CERCLA risk-based goals laid out in the Record of Decision are largely met for radiological discharges at White Oak Dam on an annual average basis.

Another CERCLA legacy pollutant of concern has been mercury. Surface water sampling and analysis for TDEC Ambient Water Quality Criteria shows that mercury is the principal residual contaminant that occasionally exceeds criteria in surface water in Melton Valley, specifically in White Oak Lake and at the White Oak Dam discharge point. Although mercury continues to emanate from legacy sources in Bethel Valley, several successful corrective actions related to mercury have been completed since 2007, and the instream mercury concentration is generally less than the ambient water quality criterion of 51 ng/L at locations including the 7500 Bridge (WCK 3.4) where White Oak Creek enters Melton Valley, a point where mercury is monitored for CERCLA compliance purposes. Corrective actions for mercury have included rerouting and pretreating building sumps that collected groundwater containing mercury to wastewater treatment facilities and optimizing Process Waste Treatment Complex carbon filtration systems to maximize mercury removal. Mercury concentrations in fish tissue have declined in most monitoring locations in the WOC Watershed, with values generally falling below the 0.3 mg/kg TN fish-tissue consumption advisory limit. Residual mercury in stream channel sediment and in the sediment in the White Oak Lakebed deposits is thought to be the main source of elevated mercury concentrations in water and fish tissue in White Oak Lake.

Conclusions

ORNL receiving streams have, in the past, exceeded de minimis concentrations of some water quality criteria, and, given the nature of ORNL operations, in spite of infrastructure and operational mitigation measures, the potential for similar exceedance exists in the future. Of the pollutants discussed in this antidegradation statement, the primary ones which studies show may contribute to White Oak Creek's 303(d)-listed biological integrity impairment are Cu and temperature. Cu concentrations have largely met water quality criteria but have been of note in a single reach of WOC; and temperature

criteria are largely met other than in cases where storm water runoff is warmed by rain falling on pavement heated by the sun. As shown in Figures 1-6, concentrations of key pollutants have generally declined (improved) in ORNL receiving streams compared to 5 - 20 years ago and continue to do so. Instances where increases have or may occur are typically transient or of short duration. As such, it is not straightforward to determine exactly what pollutant background concentrations de minimis percentages are or will be in the future. As these improvement trends are recognized, it should also be acknowledged that depending on mission priorities, successes of control measures, and specific future revisions of specific environmental rules and criteria, there will continue to be the potential for ORNL discharges to temporarily contribute to de minimis exceedances. It should also be acknowledged that the nature and function of ORNL are expected to continue providing strong socio-economic justification for potential future degradation, and that ORNL, through programs including the WQPP, will continue to work toward understandings and corrective actions where de minimis exceedances have the potential to occur.

Appendix C – CERCLA Outfalls

Appendix C – CERCLA Outfalls

The outfalls listed in Table B-1 below were removed from ORNL's NPDES permit when it was reissued in 2008 primarily because the effluents that are being discharged through them are solely associated with CERCLA activities. Therefore, no 2023 NPDES permit applications are being submitted for these outfalls.

Table C-1 – CERCLA Only Outfalls	
Outfall Number	
080	
082	
092	
181	
282	
283	
285	
286	
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293	
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682	

Appendix D – Outfalls No Longer Needing a NPDES Permit

Appendix D – Outfalls Not Needing a NPDES Permit

The outfalls listed in Table D-1 below were either never permitted since they were never outfalls needing an NPDES permit, or were previously NPDES permitted in past permit cycles, but for various reasons (ex. physical removal, source eliminated, plugging, etc.) are no longer needing an NPDES permit. Therefore, no 2023 NPDES permit applications are being submitted for these outfalls.

	Table D-1 – Outfalls Not Needing a NPDES Permit					
Outfall Number	Reasoning					
009	No longer an Outfall: Source eliminated by construction project					
X13	Not an Outfall: Instream Flow Data Collection, Melton Branch					
X14	Not an Outfall: Instream Flow Data Collection, White Oak Creek					
X15	Not an Outfall: Instream Flow Data Collection, White Oak Dam					
X16	Not an Outfall: Instream Cl Monitoring Point, First Creek					
X17	Not an Outfall: Instream Cl Monitoring Point, First Creek					
X18	Not an Outfall: Instream Cl Monitoring Point, Fifth Creek					
X19	Not an Outfall: Instream Cl Monitoring Point, Fifth Creek					
X20	Not an Outfall: Instream Cl Monitoring Point, Fifth Creek					
X21	Not an Outfall: Instream Cl Monitoring Point, White Oak Creek					
X22	Not an Outfall: Instream Cl Monitoring Point, White Oak Creek					
X23	Not an Outfall: Instream Cl Monitoring Point, White Oak Creek					
X24	Not an Outfall: Instream Cl Monitoring Point, White Oak Creek					
X25	Not an Outfall: Instream Cl Monitoring Point, White Oak Creek					
X26	Not an Outfall: Instream Cl Monitoring Point, White Oak Creek					
X27	Not an Outfall: Instream Cl Monitoring Point, Melton Branch					
X28	Not an Outfall: Instream PAA Monitoring Point, White Oak Creek					

	Table D-1 – Outfalls Not Needing a NPDES Permit				
Outfall Number	Reasoning				
X29	Not an Outfall: Instream PAA Monitoring Point, White Oak Creek				
086	Outfall physically removed				
087	Outfall physically removed				
101	No flow - source eliminated				
103	Outfall plugged				
106	Source eliminated				
171	Source eliminated from demolition of Building 3084				
202	Outfall physically removed				
205	Not an outfall - abandoned potable water line				
206	Only conveys groundwater - does not need permit				
222	Source eliminated				
303	Outfall physically removed				
309	Outfall physically removed				
311	Steam pit re-routed to OF 217 - outfall plugged				
381	Outfall physically removed				
382	Outfall physically removed				
385	Source eliminated				
386	Source eliminated				
465	Source eliminated				
471	Outfall Does Not Exist Mistakenly Permitted in Previous Permits				
483	Source eliminated - replaced by OF 583				
489	Source eliminated - replaced by OF 583				

Appendix E – Background Stream Data

Appendix E - Background Stream Data

Sampling at instream locations on White Oak Creek commenced in 2021 through 2022 to acquire background data upstream of the Sewage Treatment Plant (Outfall X01) at WCK 3.9 and upstream of the Process Waste Treatment Complex (Outfall X12) at WCK 4.1. Refer to the topographic map in Appendix G for the WCK locations.

	В	ackground Data for	STP from WCK 3.9		
Parameter	Units	Minimum Concentration	Average Concentration	Maximum Concentration	Number of Data Points
Antimony, total	mg/L	7.64E-05	<1.82E-04	<2.60E-04	7
Arsenic, total	mg/L	<4.00E-04	<1.11E-03	<2.00E-03	7
Cadmium, total	mg/L	<2.55E-05	<4.17E-04	1.85E-03	7
Chromium, total	mg/L	<1.55E-03	<5.17E-03	<1.00E-02	7
Copper, total	mg/L	<4.12E-03	<7.37E-03	<1.10E-02	7
Lead, total	mg/L	2.06E-04	<7.67E-04	<1.50E-03	7
Mercury, total	mg/L	8.3E-06	1.6E-05	2.9E-05	7
Nickel, total	mg/L	<6.19E-03	<3.48E-02	<7.30E-02	7
Selenium, total	mg/L	<2.00E-03	<2.77E-03	4.93E-03	7
Silver, total	mg/L	<1.20E-04	<2.03E-04	<2.66E-04	7
Thallium, total	mg/L	<8.35E-06	<2.70E-05	6.18E-05	7
Zinc, total	mg/L	<8.09E-03	<2.26E-02	<4.00E-02	7
Conductivity	mS/cm	0.288	0.386	0.471	7
Dissolved Oxygen	mg/L	8.1	9.1	9.9	7
рН	StdUnit	7.8		8.3	7
Temperature	degC	4.5	14.6	19	7
Turbidity	NTU	1	3	5	7
Hardness (as CaCO3)	mg/L	145		217	7

	Background Data for PWTC from WCK 4.1					
Parameter	Units	Minimum Concentration	Average Concentration	Maximum Concentration	Number of Data Points	
Antimony, total	mg/L	9.76E-05	<2.09E-04	<2.60E-04	7	
Arsenic, total	mg/L	<4.00E-04	<1.09E-03	<2.00E-03	7	
Cadmium, total	mg/L	<2.55E-05	<1.56E-04	<3.30E-04	7	
Chromium, total	mg/L	<1.55E-03	<5.17E-03	<1.00E-02	7	
Copper, total	mg/L	<4.12E-03	<7.46E-03	<1.10E-02	7	
Lead, total	mg/L	2.10E-04	<8.18E-04	<1.50E-03	7	
Mercury, total	mg/L	6.2E-06	1.5E-05	2.7E-05	7	
Nickel, total	mg/L	<6.19E-03	<3.48E-02	<7.30E-02	7	
Selenium, total	mg/L	<2.00E-03	<2.87E-03	5.22E-03	7	
Silver, total	mg/L	<1.20E-04	<2.03E-04	<2.66E-04	7	
Thallium, total	mg/L	<8.35E-06	<4.67E-05	1.87E-04	7	

Background Data for PWTC from WCK 4.1					
Parameter	Units	Minimum Concentration	Average Concentration	Maximum Concentration	Number of Data Points
Zinc, total	mg/L	1.08E-02	<2.50E-02	<4.00E-02	7
Conductivity	mS/cm	0.204	0.330	0.458	7
Dissolved Oxygen	mg/L	8.3	9.3	11	7
рН	StdUnit	7.4		8.5	7
Temperature	degC	3.5	13.7	18.8	7
Turbidity	NTU	2	4	9	7
Hardness (as CaCO3)	mg/L	166		211	7

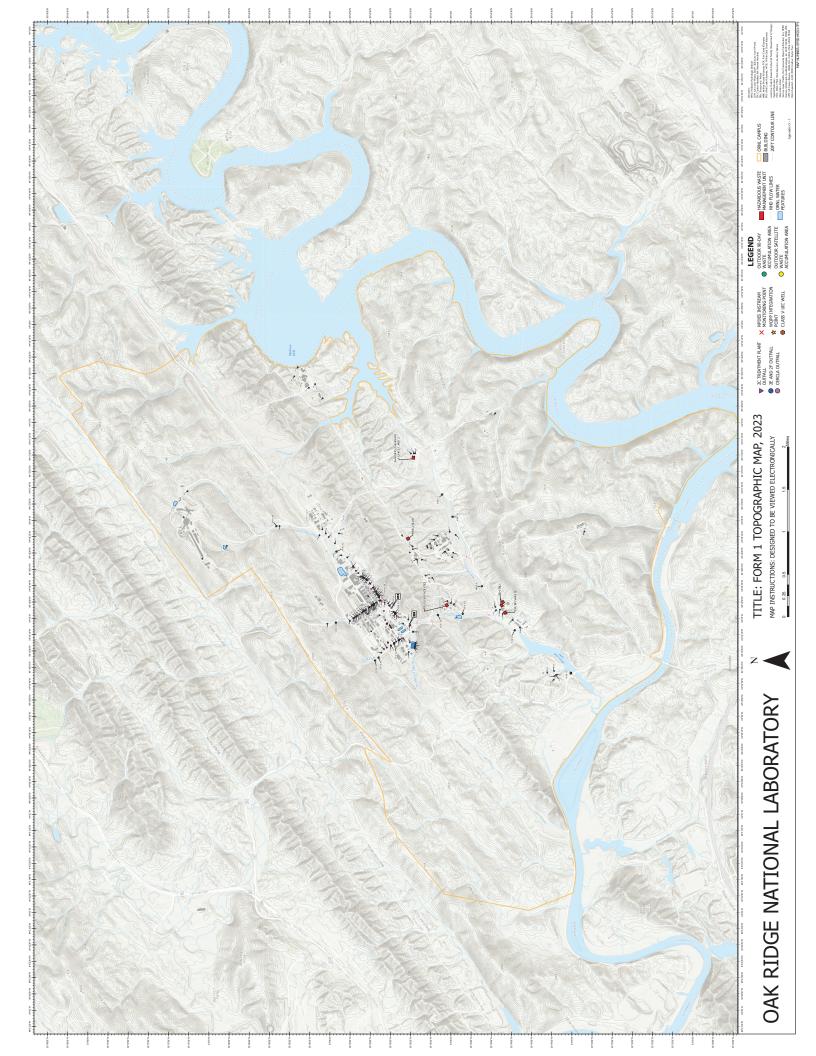
Appendix F – EPA Form 1 Table F-1 Existing Environmental Permits

Appendix F – Existing Environmental Permits/EPA Form 1 Section 6. 40 CFR 122.21(f)(6)

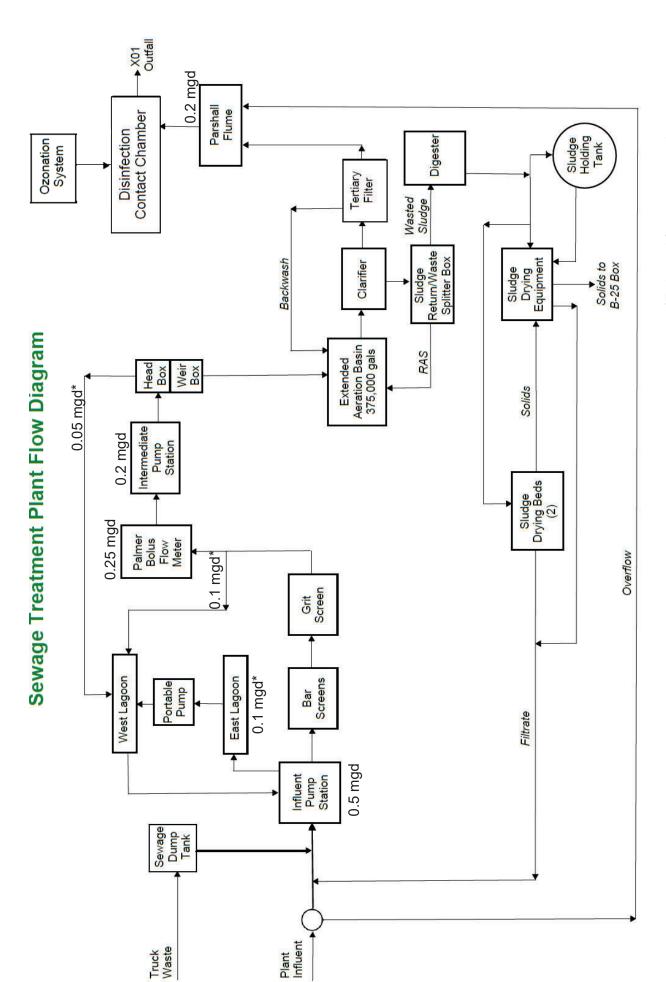
	Table F-1 – Existing Environmental Permits				
ORNL Clean Water A	ct Permits				
Permit	Permit Description				
Number					
TN0002941	ORNL Site NPDES Permit				
City of Oak Ridge Permit No. 1-12	Industrial and Commercial User Wastewater Discharge Permit (Carbon Fiber Technology Facility) with the City of Oak Ridge (04/01/2021)				
TNR136470	Notice of Coverage Under the General NPDES Permit for Stormwater for ORNL EGCR Parking Lot				
TNR136285	Notice of Coverage Under the General NPDES Permit for Stormwater for TRC Project				
TNR136355	General NPDES Permit for Storm Water Discharges Associated with Craft Resources Support Facility Construction Activities				
ARAP-NR2203.208	NR2203.208 ARAP - Construction of a New Outfall Consisting of a Headwall and Riprap Apron				
ARAP-NR2203.188	NR2203.188 ARAP - Installation of a New Effluent Flow Monitoring Station with a Parshall Flume and New Outfall Line (STP Modernization Project)				
SOP-22033	State Operating Permit (Pump and Haul Permit) for No-Discharge Wastewater Collection System (New GEARS Facility)				
ORNL Groundwater P	Protection Permits				
Permit	Permit Description				
Number					
SOP-02056	State Operating Permit (Pump and Haul Permit) for Western Advantage				
SOP-07014	State Operating Permit (Pump and Haul Permit) for UCOR (09/01/2021-08/31/2026)				
ORNL Resource Conso	ervation and Recovery Act (RCRA) Permits				
Permit	Permit Description				
Number					
TNHW-145 Class 1	Hazardous Waste Storage and Treatment Permit - NOTE: Permit remains				
Mod: 34 (A-1133)	active beyond expiration date until an operating permit has been issued				
EPA I.D. No. TN1890090003	PCB Risk Based Agreement Between UT Battelle and EPA				
TNHW-178 Class 1 Mod	Hazardous and mixed waste storage permit (11/18/20)				
TN1890090003	2023 ORNL Hazardous Waste Transporter Permit				

Table F-1 – Existing Environmental Permits	
TNHW-164 Class 1 Mod 5 (A-1123)	TNHW-164 Class 1 Mod 4 (A-1118) Mod. Date 10/18/2022
ORNL Clean Air Act (CAA) Permits	
Permit	Permit Description
Number	
071009P	Air Quality Permit UCOR (TRU Operations)
576448	Clean Air Act Title V Operating Permit for Isotek operations at ORNL Administrative Amendment #1
C-21-0941-02-01	Hardin Valley NTRC Natural Gas Generator Construction Permit
571359	(Minor Mod #6) Clean Air Act Title V Operating Permit, UT Battelle Operations Permit # 571359
474951	Carbon Fiber Technology Facility CAA Operating Permit (Conditional Major Amendment #1)
578132	Clean Air Act Title V Operating Permit for UCOR Operations at ORNL
971543P	CAA Construction Permit - 3525 Area Off Gas System Amendment #3
980167	CAA Major Construction Permit - Carbon Fiber Technology Facility Thermal Oxidizer
980182	CAA Major Construction Permit ORNL Main Site
22-0941	Permit to Operate NTRC 503hP and 1490hP Emergency Generators
ORNL Sampling Permits	
Permit	Permit Description
Number	
MB836291, Rev. 1	U.S. Fish & Wildlife Service Permit # MB836291, Rev. 1 (Canada Goose)
TWRA 1630	TWRA Scientific Collection Permit # 1630 (Sunfish and Catfish)
TWRA 1631	TWRA Scientific Collection Permit # 1631 (Canada Geese)

Appendix G – EPA Form 1 Topographic Map

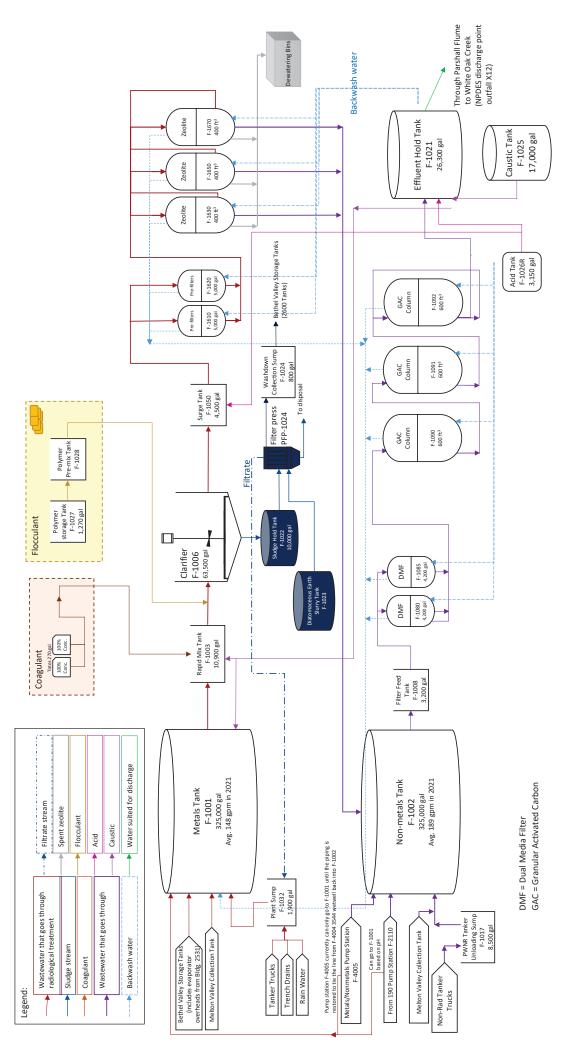


Appendix H – EPA Form 2C Line Drawing STP



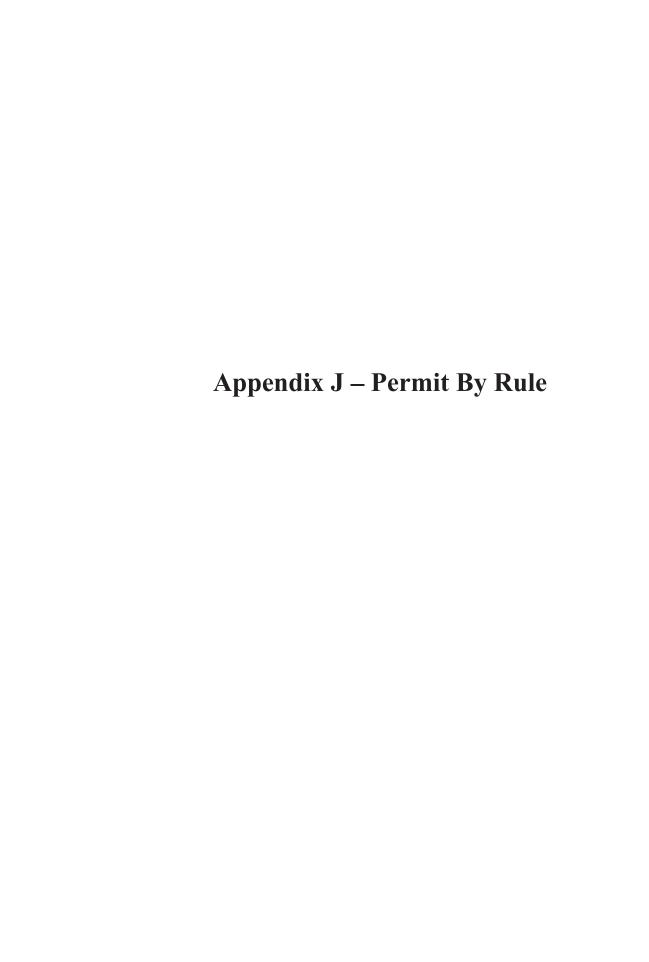
*Estimated flow, not metered

Appendix I – EPA Form 2C Line Drawing PWTC



PWTC - Flow Diagram and Water Balance

Appendix I - 1



Appendix J - Form 2C – Permit By Rule

NPDES-Related Facilities with Resource Conservation and Recovery Act (RCRA) Wastewater Treatment Unit Exemption

ORNL generates some wastewaters that can be classified as hazardous under RCRA. These hazardous wastewaters that meet the PWTC internal wastewater acceptance criteria (WAC) may be sent to the PWTC for treatment and discharged through Outfall X12 within NPDES permit limits. All PWTC wastewaters and associated waste streams are managed in compliance with RCRA and NPDES permit requirements. The PWTC comprises the following RCRA Wastewater Treatment Units (WWTUs):

- The PWTC, Building 3608, for chemical treatment of process wastewaters;
- The Low-Level Liquid Wastes (LLLW) Evaporator System in Building 2531 and LLLW tanks for storage and volume reduction of liquid low-level waste, including the Melton Valley Storage Tanks (MVSTs) and associated facilities; and
- The Transuranic Waste Processing Center (TWPC), Building 7880 and associated facilities for treating and packaging concentrated LLLW and sludges for transport to offsite waste disposal facilities.

These facilities are interconnected by permanent piping (except for some generator accumulation tanks) and ultimately discharged treated effluent through one discharge point, which is NPDES Outfall X12 at the PWTC. Both federal and state RCRA regulators have recognized the potential conflicts of dual regulations, as well as the importance of allowing these wastewaters to be treated and discharged by facilities that operate under CWA standards. RCRA regulations provide a special form of permitting called "Wastewater Treatment Unit Exemption." Formerly called permit-by-rule (PBR), the Wastewater Treatment Unit Exemption offers exemptions from some RCRA requirements for facilities operating under CWA standards.

Prior to 1992, DOE submitted PBR notifications for changes or additions to ORNL wastewater treatment facilities. In 1992, a PBR change caused the ORNL WWTUs to be classified as exempt WWTUs for receipt of on-site wastewaters. This means that DOE was exempt from RCRA permitting and no longer had to submit PBR notifications for changes or additions to the systems. The WWTU exemption applies since the ORNL systems (1) receive only on-site RCRA wastewaters or off-site wastewaters from the same corporation, (2) are part of a wastewater treatment facility that is subject to regulation under the CWA, (3) receive and treat or store an influent wastewater that is a hazardous waste or wastewater treatment sludge, and (4) meet the definition of a tank or tank system.

In 2003, a facility was constructed at ORNL called the Transuranic Waste Remediation Facility (TWRF), now known as the TWPC. The TWPC is directly connected (hard-piped) to the MVSTs, which are a group of doubly contained stainless steel underground tanks located at the Melton Valley 7830 Area for storage of LLLW. The wastes in the MVSTs, which typically consist of liquid underlain by a sludge layer, are the residual LLWs that have been treated by evaporation at Building 2531, the ORNL LLLW Evaporator, and piped to the MVSTs. Prior to 1992, the MVSTs and ancillary wastewater

treatment/storage tanks were compliant with RCRA via the Tennessee requirements for PBR. Based on the 1992 revisions to the Tennessee RCRA regulations, the MVSTs are exempted from RCRA permitting under the on-site WWTU exemption. The TWPC treats and packages the concentrated radioactive liquids and sludges contained in the MVSTs that have resulted from the treatment and evaporation of ORNL's LLW wastewaters. While there are no direct discharges of liquid effluents to the environment from the TWPC, there are infrequent pumped exchanges of wastewater and wastewater sludges between the MVSTs themselves and the TWPC's treatment units. The TWPC provides stabilization, solidification, and packaging of LLLW to facilitate shipment to out-of-state repositories.

The TWPC has been determined to be subject to regulation under CWA section 401 (see the three attached letters here in **Appendix J – Permit-By-Rule References** for details). Therefore, the TWPC wastewater treatment units are included in this ORNL NPDES permit application. An actual effluent discharge is not required under RCRA for the WWTU exemption to apply; however, regulatory oversight or permitting under CWA is required for the WWTU to be covered by the WWTU exemption.

REFERENCES

Letter from M. Apple to L. O. Wilkerson, "'Point of Generation' for the Proposed Sludge Project at the Transuranic Waste Processing Center," January 27, 2012.



STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION DIVISION OF SOLID WASTE MANAGEMENT 5th Floor, L & C Tower 401 Church Street Nashville, Tennessee 37243-1535

January 27, 2012

Ms. Laura O. Wilkerson,
Portfolio Federal Project Director
Oak Ridge National Laboratory (ORNL) Projects
Department of Energy (DOE)
Oak Ridge Office
P.O. Box 2001
Oak Ridge, Tennessee 37831

RE: Regulatory Review of "Point of Generation" for the Proposed Sludge Project at the Transuranic Waste Processing Center

Dear Ms. Wilkerson:

The Division of Solid Waste Management (DSWM or "the Division) has reviewed your July 18, 2011, request and the additional requested supporting information and documentation provided in that letter and subsequent meetings with your staff, and conditionally agrees with the DOE-ORNL decision that the point of generation for the sludge to be treated at the Transuranic Waste Processing Center is when the sludge is removed from the wastewater treatment unit. In accordance with Tennessee Rule 1200-01-11-.02 & .03, it is ultimately the responsibility of the generator to make the correct hazardous waste determination, including the point of generation. However, this letter does respond to a case-specific request for guidance and is limited to these particular facts and circumstances. As currently proposed the sludge leaves the wastewater treatment facility when it exits the in-line mixer. It should be noted that should the described sludge treatment process design change to the degree where the extent of coverage by the wastewater treatment unit (WWTU) exemption provided by Rule 1200-01-11-.07(1)(b)4 is questionable, the point of generation determination should be re-examined.

The waste that exits the wastewater treatment unit loses its WWTU exemption, and a hazardous waste determination must be made at that point. Depending upon the outcome of the hazardous waste determination – the waste may be subject to regulation under Chapter 1200-01-11. Due to the uncertainty of the identity and concentration of hazardous constituents in the sludges and the unproven treatment technology proposed, the waste must be fully characterized at the point of generation by representative sampling and established regulatory analytical methods to support a hazardous waste determination per Rule 1200-01-11-02 & .03, and the final disposal path. DOE-ORNL is cautioned not to create a waste with no disposal options.

Letter to Ms. Laura O. Wilkerson January 27, 2012 Page 2

DOE-ORNL should not in any manner interpret that our concurrence with the point of generation determination affects the status of these sludges with respect to inclusion in the Site Treatment Plan (STP) (Site MWIR number M2344, BVEST-MTRU Sludge and Site MWIR number M2345, MVST-MTRU Sludge). Our concurrence merely provides a path forward for the safe and environmentally protective treatment and disposal of these hazardous wastes such as would occur in a permitted Treatment, Storage, and Disposal facility (TSDF) per Rule 1200-01-11-.07.

Per Rule 1200-01-11-.07(1)(b)4, operations in on-site wastewater treatment units are not normally subject to regulation under Tennessee's Hazardous Waste Management Regulations. However, as noted above, the sludge and other solid wastes that exit those units are subject to full regulation, to include a waste determination. It is our present opinion that the described units and processes fall under your wastewater treatment permit, TN0002941, issued by the State of Tennessee on August 1, 2008, that expires on July 30, 2013.

It should be noted that the wastewater treatment unit exemption is clearly linked to being associated with a valid wastewater treatment unit. Units that have no routine demonstrated throughput and/or routine on-going use as an active wastewater treatment unit and/or that are storing hazardous waste for extended periods could be considered as evidence of the units not being bona fide wastewater treatment units. We do recognize that the conditions and challenges at ORNL are unique and not typical of a standard industrial operation, so the criteria for "routine" must accommodate those realities. It is the Division's position that while we concur with your point of generation finding, if the present sludges are not processed and shipped, or the project is not clearly in-process towards that goal, by February 1, 2013, it would be prudent for the Department to consider re-evaluating these issues. We request that you keep our Knoxville office updated on the status of this project.

The findings in this letter are strictly limited to the circumstances, facts, and challenges that are unique to this specific facility at this time and cannot necessarily be applied to any other facilities or future situations. Should you have any questions or comments on this letter or issue, please contact Revendra Awasthi at (865) 594-5468 or Revendra.Awasthi@tn.gov or Mr. Dave Jarrett (David.Jarrett@tn.gov, 615-532-0295), or Mr. Joe Putnam (Joe.Putnam@tn.gov, 615-532-0882) of our staff.

Sincerely,

Mike Apple Director

cc:

Steve Stout, Environmental Legal Counsel, Office of General Counsel, TDEC John Owsley, Director, TDEC DOE Oversight Division Robert Benfield, Waste Management, TDEC DOE Oversight Division Garey Mabry, Manager, DSWM Hazardous Waste Management Program Revendra Awasthi, Manager, DSWM Knoxville Field Office Robert S. Nakamoto, Manager, DSWM Regulatory Compliance Section Joe Putnam, DSWM Regulatory Compliance Section Dave Jarrett, DSWM Regulatory Compliance Section

Letter from D. L. Buhaly to L. C. Bunting, "Foster Wheeler Transuranic Waste Remediation Facility Connected to the Melton Valley Storage Tanks," November 18, 2002.

11/19/2002 10:23

615-532-8686

WATER POLLUTION

PAGE 82 P.02/03

NOV-19-2002 10:39



Department of Energy

Oak Ridge Operations Office P.O. Box 2001 Oak Ridge, Tennessee 37831—

November: 18, 2002

Mr. Larry Bunting TDEC Division of Water Pollution Control 6th Floor, L&C Annex 401 Church Street Nashville, Teanessee 37243-1534

Dear Mr. Bunting:

FOSTER WHEELER TRANSURANIC WASTE REMEDIATION FACILITY CONNECTED TO THE MILTON VALLEY STORAGE TANKS

To confirm our conversation of November 15, 2002, we agreed that the Foster Wheeler Transuranic Waste Remediation Facility (TWRF), which is connected to the Process Waste Water Treatment Facility (Outfall X12) via the Melton Valley Storage Tanka, is subject to Permit-By-Rule regulation under the Clean Water Act Section 401. There will be no direct discharges of liquid effluents to the environment from the TWRF when it becomes operational but there will be pumped exchanges of wastewater and wastewater sludges between the Melton Valley Storage Tanks and the TWRF treatment units. The TWRF will be a terminal process for the low-temperature thermal evaporation, stabilization and packaging of sludges to facilitate eventual shipment to an out-of-state repository. This was noted in the supplemental information for Outfall X-12 in the Oak Ridge National Laboratory (ORNL) National Pollutant Discharge Elimination System (NPDES) Permit Application submitted in June of 2001.

A letter from David C. Graham with the Tennessee Department of Environment and Conservation Division of Solid Waste Management to Mr. Robert C. Sleeman further states the Transuranic Waste Remediation Facility should be regulated under the provisions of the ORNL NPDES Permit.

According to our discussion, no further notification or documentation is necessary for the facility to be covered by either the Waste Water Treatment Units Exemption or Permit-by-Rule.



WATER POLLUTION

PAGE 03 P.03/03

Mr. Larry Bunting

-2-

November 18, 2002

If you are in agreement with this, please sign and fax confirmation to me at (865) 574-9275.

Laboratory Support Team ORNL Site Office

Enclosures

Larry Bunting

TOTAL P.03

Letter from D. C. Graham to R. C. Sleeman, "Re: Transuranic Waste Remediation Facility, Permit Number TNHW-100, Requested Policy Guidance," March 22, 2001.

ENVIRONMENTAL ASSISTANCE CENTER TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION 2700 MIDDLEBROOK PIKE, SUITE 220 KNOXVILLE, TENNESSEE 37921-55602 PHONE (865) 594-6035 STATEWIDE 1-888-891-8332 FAX (865) 594-6105

March 22, 2001

Mr. Robert C. Sleeman, Group Leader Environmental Services Group United States Department of Energy Oak Ridge Operations Office P.O. Box 2001 Oak Ridge, Tennessee 37831

Re: Letter to David C. Graham, Division of Solid Waste Management (DSWM), Tennessee Department of Environment and Conservation (TDEC), from Robert C. Sleeman, United States Department of Energy (DOE) dated November 16, 2000.

Transuranic (TRU) Waste Remediation Facility

Permit Number TNHW-100

Requested Policy Guidance

Dear Mr. Sleeman:

In your November 16, 2000 letter you requested policy guidance concerning the TRU Remediation Facility. The following analysis and recommendations are offered in response to your request.

The Tennessee Hazardous Waste Management Regulations state in relevant part(s):

Rule 1200-1-11-.06 STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

- (1) General [40 CFR 264 Subpart A]
 - (a) Purpose
 - The purpose of this Rule is to establish standards, which define the acceptable management of hazardous wastes in Tennessee. These standards provide a basis upon which permit applications for facilities will be evaluated.

Mr. Robert C. Sleeman, Group Leader United States Department of Energy March 22, 2001 Page 2

(b) Applicability

- The standards in this Rule apply to owners and operators of all facilities which treat, store, or dispose of hazardous wastes, except as specifically provided otherwise in this Rule of Rule 1200-1-11-.02.
- 2. The requirements of this Rule do not apply to:
 - (v) The owner or operator of an elementary neutralization unit or an on-site wastewater treatment unit as defined in Rule 1200-1-11.01(2)(a), provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in Rule 1200-1-11-.10(3)(a), Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in part (2)(h)2 of this Rule.
 - (vi) The addition of absorbent material to waste in a container (as defined in Rule 1200-1-11-.01(2)) or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container, and the owners or operators are in compliance with part (2)(h)2 of this Rule and subparagraphs (9)(b) and (c) of this Rule.

Rule 1200-1-11-.01(2)(a)

"Wastewater treatment unit" means a device which:

- Is part of a wastewater treatment facility that is subject to regulation under either section 402 or 307(b) of the Clean Water Act; and
- Receives and treats or stores an influent wastewater that is a hazardous waste as defined in Rule 1200-1-11-.02(1)(c) or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in Rule 1200-1-11-.02(1)(c), or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in Rule 1200-1-11-.02(1)(c); and
- Meets the definition of tank or tank system in this subparagraph.

Mr. Robert C. Sleeman, Group Leader United States Department of Energy March 22, 2001 Page 3

"Tank" means a stationary device, designed to contain an accumulation of hazardous waste, which is constructed, primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

"Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

Rule 1200-1-11-.06(2)(h)

- Where specifically required by other sections of this part, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste of incompatible wastes and other materials, must take precautions to prevent reactions which:
 - Generate extreme heat or pressure, fire or explosions, or violent reactions;
 - Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
 - Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
 - (iv) Damage the structural integrity of the device or facility;
 - (v) Through other like means threaten human health or the environment.

If the wastewater treatment unit of the Transuranic (TRU) Waste Remediation Facility conforms to the above Rules and Definitions (present and future), it qualifies for exemption/exclusion from Tennessee's Hazardous Waste Management Regulations (Tennessee Rule Chapter 1200-1-11) – Revision u-1.

The "wastewater treatment unit" consists of a tank system. A tank system is a hazardous waste storage or treatment tank(s), its associated ancillary equipment, and its containment system. Ancillary equipment means any device including, but not limited to, such devices as piping, fittings, flanges, valves and pumps that are used to distribute, meter, or control the flow of hazardous waste from the point of generation to a storage or treatment tank(s) between hazardous waste storage and treatment tanks to the point of shipment for disposal off-site.

Mr. Robert C. Sleeman, Group Leader United States Department of Energy March 22, 2001 Page 4

The sludge dehydration equipment that is part of a wastewater treatment system is excluded from permitting requirements provided that the equipment meets the definition of wastewater treatment unit as defined in Rule 1200-1-11-.01(2)(a), and is actually used to evaporate water from the sludge.

Further, the United States Environmental Protection Agency (EPA) made it clear in the Federal Register/Vol. 53, No. 171/Friday, September 2, 1988/Rules and Regulations that "any hazardous waste tank system that is used to store or treat the wastewater that is managed as an on-site wastewater treatment facility with a National Pollution Discharge Elimination System (NPDES) permit or that discharges to a Publicly Owned Treatment Works (POTW), is exempt from the RCRA Regulations."

In order to avoid conflicting language between permit number TNHW-100 and the wastewater treatment unit exemption, the permit should be modified to remove the tank system. Also, Foster Wheeler Environmental Corporation should insure that the necessary NPDES permit(s) are secured and in effect.

This letter in no way intends to interfere with other regulatory agencies which includes:

The Division of Air Pollution Control;

The Division of Water Pollution Control; and

The Division of Radiological Health.

If further guidance or clarification is needed, please contact the undersigned at (865) 594-5463.

David C. Graham, P.E.

Coordinator, Oak Ridge Operations Division of Solid Waste Management

DCG/bmh tru.doc

cc: Gary Riner, DOE

Mona Johnson, Foster Wheeler Environmental Corporation (FWENC)

Bryan Roy, FWENC

W.H. Childress, DOE-O

Jamie Burroughs, TDEC, DSWM-NCO

Angela Ivory, TDEC, DSWM-NCO

Bill Zulliger, BJC

Paul Schmierbach, DWPC-EAC-K

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Appendix K – Improvements EPA Form 2C Section 6 and EPA Form 2F Section 2

Appendix K – Improvements EPA Form 2C Section 6 and EPA Form 2F Section 2 (40 CFR 122.21(g)(6))

NPDES EPA Form 2C Sections 6.1 and 6.2, and EPA Form 2F Section 2.1 and 2.2 instructions say to briefly identify and describe any compliance projects that would affect your discharge described in the application. EPA Form 2C/2F Section 6.3/2.3 are Optional Sections, where one can describe any additional improvement projects that may affect your discharge. Therefore, this appendix is intended to fulfill the requirements for Sections 6.1, 6.2, and 6.3 for EPA Form 2C and Sections 2.1, 2.2, and 2.3 for EPA Form 2F.

Comprehensive Environmental Response, Compensation, and Liability Action (CERCLA) Remedial Actions

ORNL has been undertaking numerous environmental cleanup and restoration activities conducted under the CERCLA regulatory process (remedial actions) for decades to help address legacy contamination throughout the ORR. A Federal Facility Agreement was developed between EPA, TDEC, and DOE in the early 1990's to help oversee the remedial actions taking place on the ORR, including ORNL. Several records of decision (RODs) pertaining to ORNL watersheds (Bethel Valley and Melton Valley RODs) have already been implemented and there may be more on the horizon. Demolition of legacy contaminated facilities has begun and is on-going. Implementation of these watershed-scale RODs though initially completed, still require long-term stewardship and are regularly being reviewed/monitored to make sure the remedial action objectives are being met and they are protecting human health and the environment.

Court Order 1996 - Tennessee Civil Lawsuit No. 3:92-CV-0036

Initial requirements of the order have been completed within the compliance schedule, though the order has other requirements that are long-term and more permanent. The order requires that any inappropriate connection to the stormwater/storm-drain system be immediately administratively controlled and physically discontinued, or properly rerouted within 10 days of the discovery. Therefore, as ORNL encounters this type of scenario, these situations are addressed per requirements of the order.

Energy Independence and Security Act (EISA)

EISA Section 438 requires federal facilities, such as DOE's ORNL, to restore "predevelopment hydrology" where practicable. Since 2010, ORNL has incorporated compliance with EISA Section 438 as a goal within the ORNL Site Sustainability Plan. Also, to help facilitate Section 438 compliance, the applicability of Section 438 to new ORNL construction projects and other ground-disturbing activities is considered through the ORNL NEPA review, work planning, and design/construction subcontract processes.

New Sanitary Wastewater Treatment Plant (STP) Modernization Project

During the past few years, a new STP has been designed and is currently under construction at ORNL. This new STP was needed due to the age and condition of much of the existing treatment plant and will predominantly be providing new secondary treatment processes at the facility. A new outfall is being constructed as a part of this project and compliance discharge monitoring/reporting from this outfall will be closely coordinated with TDEC as the new STP comes on-line. The construction of the new STP is expected to be completed sometime in 2024. TDEC has been involved since the beginning of this project and provided review/input/approvals where required.

$\label{eq:continuous} Appendix \ L-$ EPA Form 2E Section 3.3 Cooling Water Additives

Outfall Number	Tower Location	Chemical Name & Use	Parameters of Concern (SDS listed)
014	4510	CL49 Biocide	5-10% Sodium chlorosulfamate, 7- 13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; pH 13.6at 20 C.
014	4510	CL2062 Biocide	20% 2-2-Dibromo 3 nitrilopropionamide
014	4510	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
014	4510	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition
014	4510	BL1254 Dechlorination	30-60 % Potassium Sulfite
014	4510	De Nora D- CHLOR, Dechlorination	92.3% Na2SO3
014	4521	CL49 Biocide	5-10% Sodium chlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; pH 13.6 at 20C
014	4521	CL2062 Biocide	20% 2-2-Dibromo 3- nitrilopropionamide
014	4521	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
014	4521	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition
014	4521	De Nora D- CHLOR, Dechlorination	92.3% Na2SO3
58	1505 (power failure/emergency only)	CL49 Biocide	5-10% Sodiumchlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; ph13.6 at 20 C.
58	, , , , , , , , , , , , , , , , , , , ,		
	1505 (power failure/emergency only)	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5% of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
191	7626	TBD	when cooling tower is upgraded, should be typical chemicals for cooling towers similar to those listed here
204	2535	GN-8143 Corrosion Inhibitor	<= 5%: sodium 4-chloro-5-alkylbenzotriazolide, sodium 5-chloro-4-alkylbenzotriazolide, sodium 4-chloro-7-alkylbenzotriazolide, and sodium 5-chloro-6-
20.4	2525	DI LICOL	alkylbenzoriazolog
204	2535	Bleach, biocide	12.5-15% Sodium hypochlorite, 0.67-0.95% Sodium Hydroxide
204	2535	USA BlueBook Sodium Sulfite Tablets, Dechlorination	35% Sodium sulfite, 65% Inert Ingredients
227	5600	CL49 Biocide	5-10% Sodium chlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; pH 13.6 at 20 C.
227	5600	CL2062 Biocide	20% 2-2-Dibromo-3-nitrilopropionamide
227	5600	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
227	5600	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition
227	5600	De Nora D- CHLOR, Dechlorination	92.3% №25O3
227	5511	CL49 Biocide	5-10% Sodium chlorosulfamate, 7-13%Sodium bromosulfamate, and 5-10% Sodium hydroxide; pH 13.6 at 20 C.
227	5511	CL2062 Biocide	20% 2-2-Dibromo-3-nitrilopropionamide
227	5511	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
227	5511	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition
227	5511	De Nora D- CHLOR, Dechlorination	92.3% Na2SO3
231	5800	CL49 Biocide	5-10% Sodiumchlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; pH 13.6 at 20C.
231	5800	CL2962 Biocide	20% 2-2-Dibromo-3- nitrilopropionamide
231	5800		· ·
-	****	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
231	5800	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition
231	5800	De Nora D- CHLOR, Dechlorination	92.3% Na2SO3
231	OLCF5	CL5660 Passivation	10-30% Sulfuric Acid; 1-5% 2-PHosphono-1-2-4-butane tricarboxylic acid
231	OLCF5	CL1495	10-30% Potassium phosphate, tribasic; 5-10 % Tetrapotassium pyrophosphate
231	OLCF5	CL49 Biocide	5-10% Sodiumchlorosulfamate; 7-13% Sodium bromosulfamate; 5-10% Sodium hydroxide
231	OLCF5	CL2062 Microbiocide	20% 2-2- Dibromo-3- nitrilopropionamide
231	OLCF5	BL1254 Dechlorination	30-60 % Potassium Sulfite
231	OLCF5	CL49 Biocide	5-10% Sodiumchlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; pH 13.6 at 20 C.
231	OLCF5	CL2062 Biocide	20% 2-2-Dibromo-3- nitrilopropionamide
231	OLCF5	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
231	OLCF5	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition
231	OLCF5	BL1254 Dechlorination	30-60 % Potassium Sulfite
249*	2026	CL5898 corrosion inhibitor	3-7% of 2-Phosphono-1.2.4-butane tricarboxylic acid; 7-13% of Benzotriazole
249*	2026	CL49 Microbiocide	5-10% Sodiumchlorosulfamate; 7-13%Sodium bromosulfamate; 5-10% Sodium hydroxide
249*	2026	CL2062 Microbiocide	20% 2-2-Dibromo-3- nitrilopropionamide
265	TRC	CL5660 Passivation	10-30% Sulfuric Acid; 1-5% 2-PHosphono-1-2-4-butane tricarboxylic acid
265	TRC	CL1495	10-30% Potassium phosphate, tribasic; 5-10 % Tetrapotassium pyrophosphate
265	TRC	CL49 Biocide	5-10% Sodiumchlorosulfamate; 7-13%Sodium bromosulfamate; 5-10% Sodium hydroxide
	TRC	CL2062 Microbiocide	20% 2-2- Dibromo-3- nitrilopropionamide
265			

MB = Melton Branch

FFK = Fifth Creek

Outfall Number	Tower Location	Chemical Name & Use	Parameters of Concern (SDS listed)
265	TRC	CL2062 Biocide	20% 2-2-Dibromo-3- nitrilopropionamide
265	TRC	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
265	TRC	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition
265	TRC	De Nora D- CHLOR Tablets, Dechlorination	92.3% Na2SO3
265	TRC	BL1254 Dechlorination	30-60 % Potassium Sulfite
281	HFIR 7902	NALCO 3DT461: CW treatment, corrosion, scale inhibitor	10-30% Tripotassium phosphate; 1-5% Sodium Tolytriazole; .1-1% Potassium hydroxide. pH 11.5-13. TOC 86,000 mg/L, COD 180,000 mg/L.
281	HFIR 7902	Sulfuric acid: pH adjustment	pH <1 at 25 C
281	HFIR 7902	NALCO 7346: Biocide	54.2% 1-Bromo-3-Chloro-5,5-Dimethyl-Hydantoin; 28.9% 1,3-Dichloro-5-5-Dimethylhydantoin; 15.9% 1,3-Dichloro-5-Ethyl-5-Methylhydantoin
281	HFIR 7902	NALCO 7408: dechlorination	30-60% sodium bisulfite, corrosive, pH 4.1
281	HFIR 7902	Sodium sulfite tablets dechlorination	92 % sodium sulfite
281	HFIR 7902	Nalsperse 7348.11: Bio Dispersant	decomposition to oxides of carbon
281	HFIR 7902	Nalclean Inhibited HCL 8940.11; tower walls only	30-60 % hydrochloric acid; corrosive; pH 1.5
281	HFIR 7902	Bleach: annual cleaning for algal growth, tower walls only	12.5% NaCIO, sodium hypochlorite; corrosive, very toxic
281	HFIR 7902	Biodispersant 73551; dispersant and detergent	10-30% Polyalkylene glycol
281	HFIR 7902	Anti-foam, Nalco 71D5 Plus	30-60% Straight Run Middle Distillate; 10-30% Hydrotreated Light Distillate (petroleum);10-30% Polypropylene Glycol; 1-5% Stearic Acid; 1-5% 1-Octanol; 1-5% Fatty Alkyl Polyglycol; 1-5% Aliphatic alcohol
281	HFIR 7902	Towebrom 960; microbiocide alternative to bleach for algae	60-100% Sodium Dichloroisocyanurate; 5-10% Sodium Bromide; 1-5% Inorganic salt
314	6018	CL49 Biocide	5-10% Sodiumchlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; pH 13.6 at 20C.
314	6018	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
314	6018	De Nora D- CHLOR, Dechlorination	92.3% Na2SO3
363	5300	CL49 Biocide	5-10% Sodium chlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; pH 13.6 at 20 C.
363	5300	CL2062 Biocide	20% 2-2-Dibromo-3- nitrilopropionamide
363	5300	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
363	5300	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition = acute health hazard
363	5300	De Nora D- CHLOR Dechlorination	92.3% Na2SO3
363	5309	CL49 Biocide	5-10% Sodium chlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; ph13.6 at 20 C.
363	5309	CL2062 Biocide	20% 2-2-Dibromo-3- nitrilopropionamide
363	5309	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5 % of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
363	5309	CL401 biosurfactant	no hazardous components listed; oxides of carbon upon decomposition
363	5309	De Nora D- CHLOR, Dechlorination	92.3% Na2SO3
367	3047 (Only seasonally drains to this Outfall)	CL49 Biocide	5-10% Sodiumchlorosulfamate, 7-13% Sodium bromosulfamate, and 5-10% Sodium hydroxide; ph13.6 at 20 C.
367	3047 (Only seasonally drains to this Outfall)	Quadrasperse CL5898	3-7% of 2-PHosphono-1,2,4- butane tricarboxylic acid; 1-5% of Benzotriazole; pH 3.8 at 20 C. Decomposes to oxides of phosphorus and sulfur.
435	SNS 8913 (TW)	Sulfuric acid: pH adjustment	93-98 % sulfuric acid: pH <1 at 25 C
435	SNS 8913 (TW)	NALCO 7346: biocide	54.2 % 1 Bromo-3-Chloro-5,5-Dimethyl-Hydantoin; 28.9% 1,3-Dichloro-5,5-Dimethylhydantoin; 15.9% 1,3-Dichloro-5-Ethyl-5-Methylhydantoin
435	SNS 8913 (TW)	NALCO Towerbrom 960: biocide	60-100% Sodium Dichloroisocyanurate; 5-10% Sodium Bromide; 1-5% Inorganic salt
435	SNS 8913 (TW)	NALCO 3DT231: corrosion and deposit inhibitor	1-5% Phosphoric acid; 1-5% Sulfuric Acid; 1-5 % Substituted aromatic amine. Evolves oxides of carbon.
435	SNS 8913 (TW)	NALCO 7408: dechlorination	30-60% Sodium Bisulfite, corrosive
435	SNS 8913 (TW)	NALCO 71D5 Plus: foam control	30-60% Straight Run Middle Distillate; 10-30% Hydrotreated Light Distillate (petroleum); 10-30% Polypropylene Glycol; 1-5% Stearic Acid; 1-5% 1-Octanol; 1-5% Fatty Alkyl Polyglycol; 1-5% Aliphatic alcohol
435	8913 (CNDW)	Sulfuric acid: pH adjustment	93-98 % sulfuric acid: pH <1 at 25 C
435	8913 (CNDW)	NALCO 7346: biocide	54.2 % 1 Bromo-3-Chloro-5,5-Dimethyl-Hydantoin; 28.9% 1,3-Dichloro-5,5-Dimethylhydantoin; 15.9% 1,3-Dichloro-5-Ethyl-5-Methylhydantoin
435	8913 (CNDW)	NALCO Towerbrom 960: biocide	60-100% Sodium Dichloroisocyanurate; 5-10% Sodium Bromide; 1-5% Inorganic salt
435	8913 (CNDW)	NALCO 3DT231: corrosion and deposit inhibitor	1-5% Phosphoric acid; 1-5% Sulfuric Acid; 1-5 % Substituted aromatic amine. Evolves oxides of carbon.
435	8913 (CNDW)	NALCO 7408: dechlorination	30-60% Sodium Bisulfite, corrosive
435	8913 (CNDW)	NALCO 71D5 Plus: foam control	30-60% Straight Run Middle Distillate; 10-30% Hydrotreated Light Distillate (petroleum); 10-30% Polypropylene Glycol; 1-5% Stearic Acid; 1-5% 1-Octanol; 1-5% Fatty Alkyl Polyglycol; 1-5% Aliphatic alcohol
437	SNS 8913 (TW)	Sulfuric acid: pH adjustment	93-98 % sulfuric acid: pH < 1 at 25 C

WOC = White Oak Creek, 435INT1: Integrated Sampling Point Upstream of SNS Pond

MB = Melton Branch FFK = Fifth Creek

Outfall Number	Tower Location	Chemical Name & Use	Parameters of Concern (SDS listed)
437	SNS 8913 (TW)	NALCO 7346: biocide	54.2 % 1 Bromo-3-Chloro-5,5-Dimethyl-Hydantoin; 28.9% 1,3-Dichloro-5,5-Dimethylhydantoin; 15.9% 1,3-Dichloro-5-Ethyl-5-Methylhydantoin
437	SNS 8913 (TW)	NALCO Towerbrom 960: biocide	60-100% Sodium Dichloroisocyanurate; 5-10% Sodium Bromide; 1-5% Inorganic salt
437	SNS 8913 (TW)	NALCO 3DT231: corrosion and deposit inhibitor	1-5% Phosphoric acid; 1-5% Sulfuric Acid; 1-5 % Substituted aromatic amine. Evolves oxides of carbon.
437	SNS 8913 (TW)	NALCO 7408: dechlorination	30-60% Sodium Bisulfite, corrosive
437	SNS 8913 (TW)	NALCO 71D5 Plus: foam control	30-60% Straight Run Middle Distillate; 10-30% Hydrotreated Light Distillate (petroleum);10-30% Polypropylene Glycol; 1-5% Stearic Acid; 1-5% 1-Octanol; 1-5% Fatty Alkyl Polyglycol; 1-5% Aliphatic alcohol
437	8913 (CNDW)	Sulfuric acid: pH adjustment	93-98 % sulfuric acid: pH <1 at 25 C
437	8913 (CNDW)	NALCO 7346: biocide	54.2 % 1 Bromo-3-Chloro-5,5-Dimethyl-Hydantoin; 28.9% 1,3-Dichloro-5,5-Dimethylhydantoin; 15.9% 1,3-Dichloro-5-Ethyl-5-Methylhydantoin
437	8913 (CNDW)	NALCO Towerbrom 960: biocide	60-100% Sodium Dichloroisocyanurate; 5-10% Sodium Bromide; 1-5% Inorganic salt
437	8913 (CNDW)	NALCO 3DT231: corrosion and deposit inhibitor	1-5% Phosphoric acid; 1-5% Sulfuric Acid; 1-5 % Substituted aromatic amine. Evolves oxides of carbon.
437	8913 (CNDW)	NALCO 7408: dechlorination	30-60% Sodium Bisulfite, corrosive
437	8913 (CNDW)	NALCO 71D5 Plus: foam control	30-60% Straight Run Middle Distillate; 10-30% Hydrotreated Light Distillate (petroleum);10-30% Polypropylene Glycol; 1-5% Stearic Acid; 1-5% 1-Octanol; 1-5% Fatty Alkyl Polyglycol; 1-5% Aliphatic alcohol
481*	7923	NALCO 3DTRASAR 3DT260	2-Phosphono-1,2,4-Butanetricarboxylic Acid; Phosphonic Acid Ester; aromatic amine
481*	7923	NALCO 7346: biocide	54.2 % 1 Bromo-3-Chloro-5,5-Dimethyl-Hydantoin; 28.9% 1,3-Dichloro-5,5-Dimethylhydantoin; 15.9% 1,3-Dichloro-5-Ethyl-5-Methylhydantoin
481*	7923	NALCO Towerbrom 960: supplemental oxidant	60-100% Sodium Dichloroisocyanurate; 5-10% Sodium Bromide
481*	7923	NALCO 7355: biodetergent	85,000 mg/L TOC and 250,000 mg/L COD
481*	7923	NALCO 71D5; foam control	paraffin wax, distillates, polypropylene glycol, aliphatic alcohol
NOTE	Data for the cooling towers that drain to these outfalls starred () here was taken from 2019		

FFK = Fifth Creek

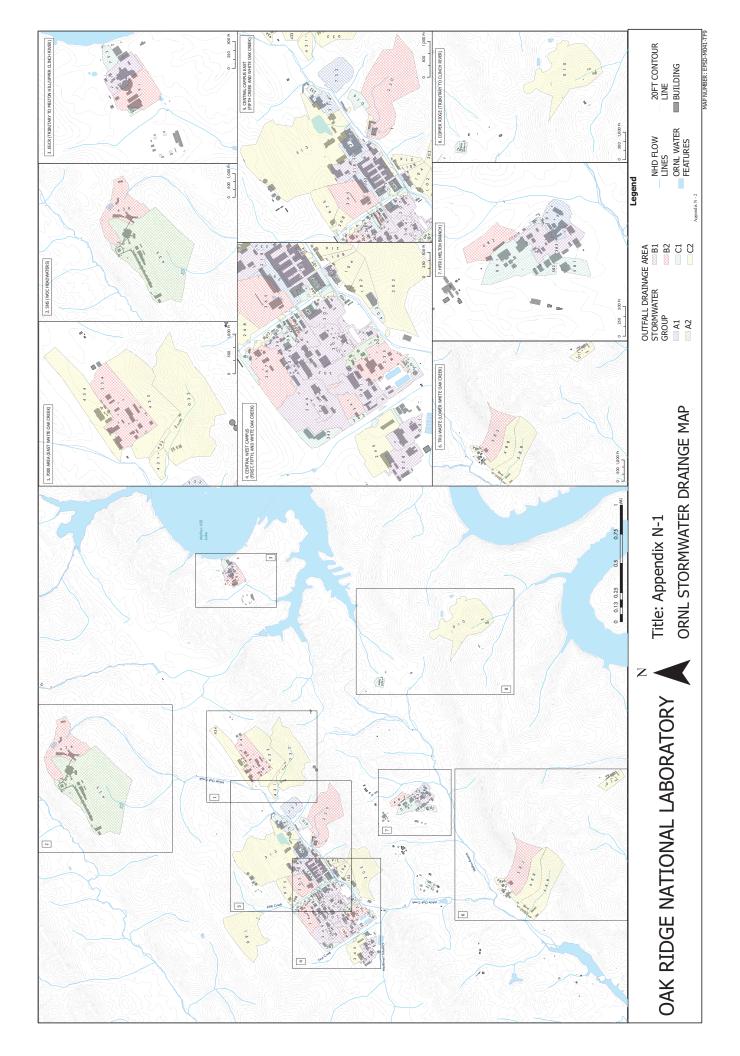
Appendix M – EPA Form 2F Stormwater Outfall Groups

Appendix M – EPA Form 2F Stormwater Outfall Groups

	Storm \	Nater Outfalls Subgrou	ped for 2023 NPDES Ap	plication	
Group A1: High impervious	Group A2: Low impervious	Group B1: High imprevious	Group B2: Low impervious	Group C1: High impervious -	Group C2: Low impervious -
w/CT Blowdown	w/CT Blowdown	w/dry-weather discharge 🔻	w/dry-weather discharge *	SW only	SW only
227	204	1	191	6	4
231	435	41	223	16	10
281	437	51	230	43	11
314		58	234	64	17
363		207	235	65	33
481		210	264	70	84
732		211	267	81	91
		217	341	113	102
		218	365	141	104
		219	436	142	107
		224	482	161	108
		249	583	162	111
		250	367	164	114
		265		165	168
		291		166	169
		302		209	170
		304		221	203
		312		226	208
		368		232	214
		383		241	216
		506		243	245
				262	247
				266	268
				269	313
				301	431
				342	432
				343	433
				361	434
				362	464
				364	468
				403	473
				460	484
				461	488
				462	588
				463	675
District MOS				466	
Black: WOC				467	
Green Font: Fifth Creek				469	
Orange Font: First Creek Blue Font: Melton Branch				470 472	
Purple Font: NWT				485	
Red Font: Clinch R				485	
Rep Outfalls/Group				486	
nep outrains/ Group				490	
				581	
				582	
				590	
				591	
				592	
				674	
				701	
				791	
				792	

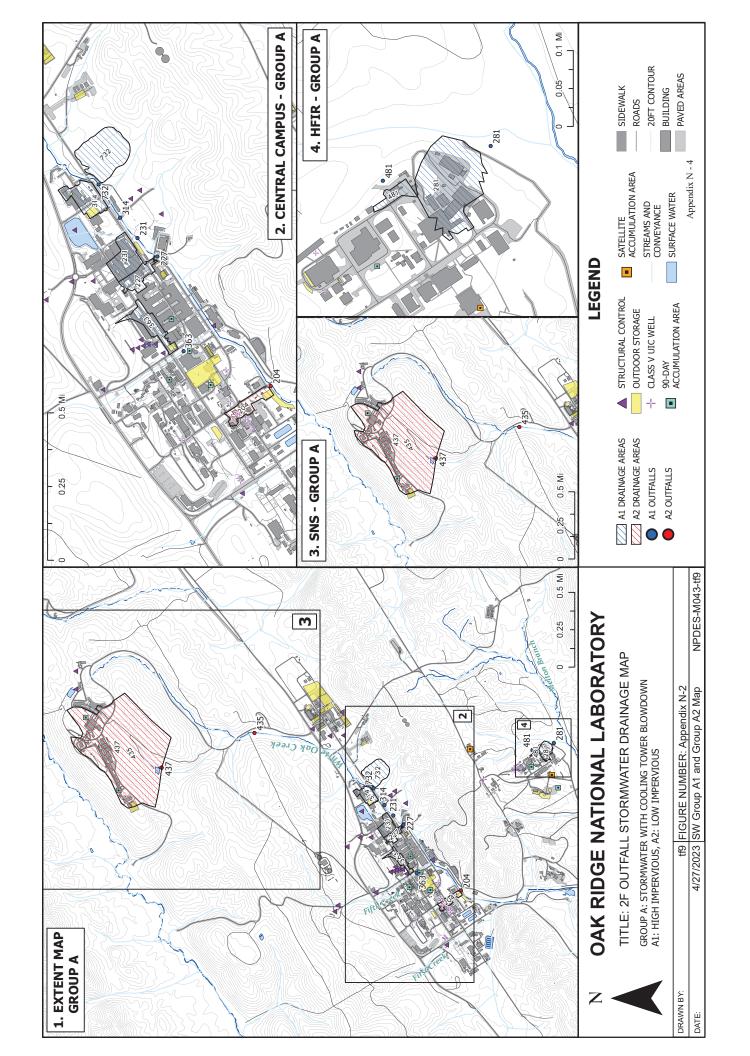
Appendix N – EPA Form 2F Section 3 Maps

Appendix N – EPA Form 2F Section 3.1 Maps General ORNL Site Stormwater Map



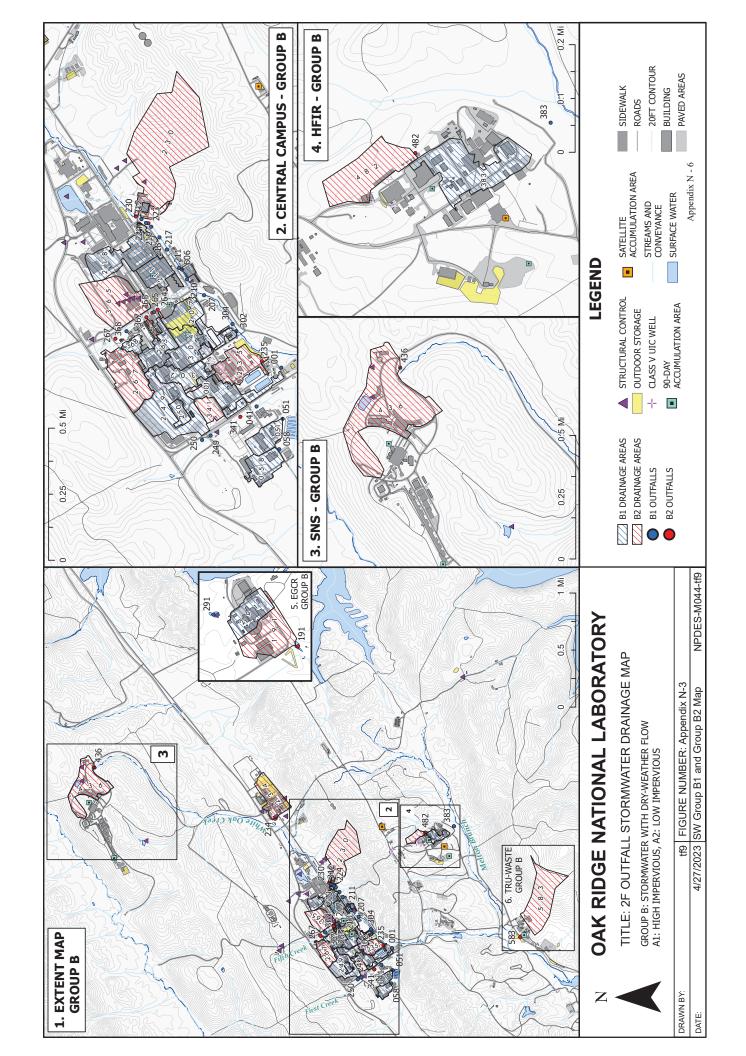
Appendix N – EPA Form 2F Section 3.1 Maps

Group A1 (high impervious with cooling tower blowdown)
and Group A2 (low impervious with cooling tower blowdown)



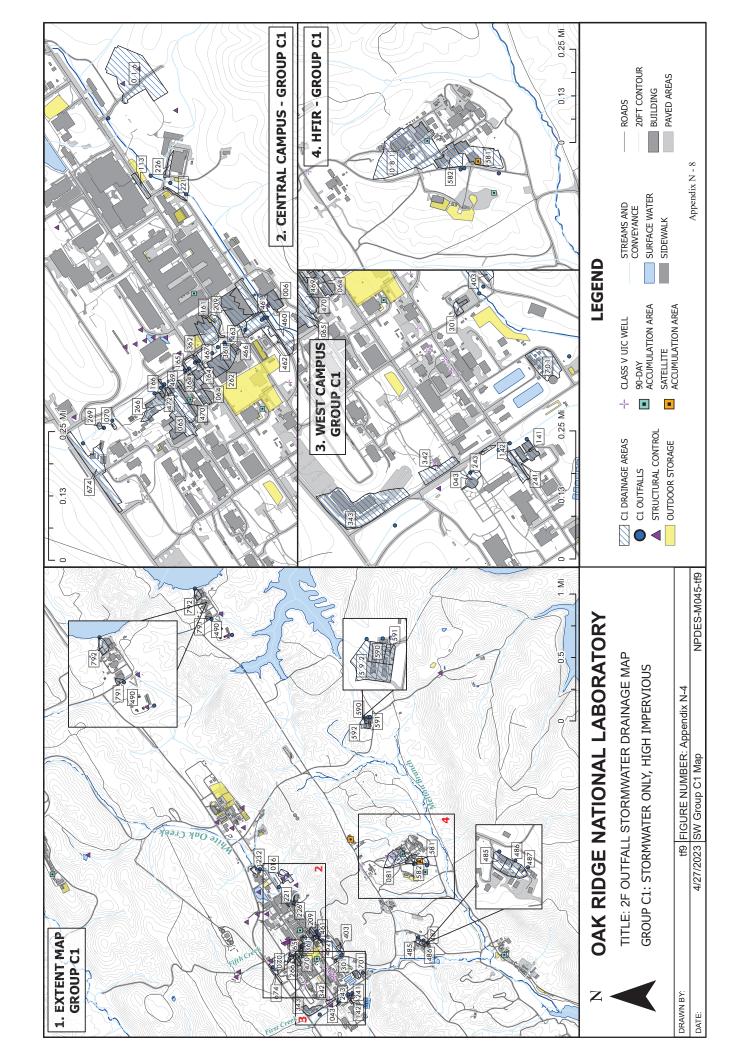
Appendix N – EPA Form 2F Section 3.1 Maps

Group B1 (high impervious with dry weather discharge) and Group B2 (low impervious with dry weather discharge)



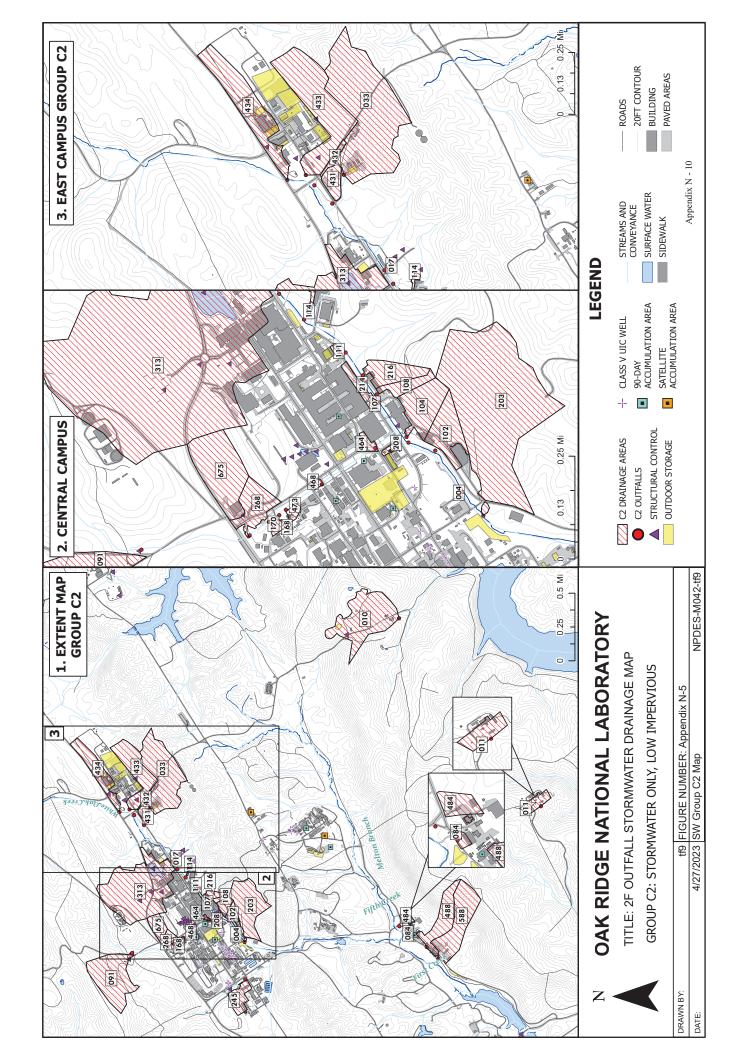
Appendix N – EPA Form 2F Section 3.1 Maps

Group C1 – High Impervious/Stormwater Only



Appendix N – EPA Form 2F Section 3.1 Maps

Group C2 – Low Impervious/Stormwater Only



Appendix O – EPA Form 2F Structural Controls

Appendix O – EPA Form 2F Section 4.3 Structural Controls

Stormwater Structural Controls			
SW Group	Representative Outfall	Outfall with Structural Control	Description of Structural Control
A1	227	363	A 5000-gallon rain harvest tank was installed at Bldg 4100 for use in landscaped areas.
A2	204	435	Stormwater detention pond retaining runoff from SNS area
B1	207, 302, 304	291	Drainage from the eastern portion of the 7600 area is directed to a retention basin prior to discharge through the outfall pipes.
		436	Stormwater detention pond fromsoil stockpile area in SNS
		230	Pervious pavement in Hillside Pkg lots west draining to SW detention basin
B2	234	365	Several drop ponds to control runoff are located around the parking garage Bldg 4015; a reconstructed wetland was installed to preserve hydrology; an oil/water separator filters runoff from the parking garage; a storm retention ditch controls velocity of runoff from this drainage area prior to discharge through the outfall pipe.
		191	Drainage from the western portion of the 7600 area is directed to a retention basin prior to discharge through the outfall pipes.
		234	Runon diversion ditch is located on the south side of this DA; two SW quality devices are in place to separate particulates and floatables in runoff prior to discharge.
		016	Pervious pavement in Hillside Pkg lots east draining to SW detention basin
C1	403	590, 591, 592	The Hazardous Waste Storage Area is located southeast of the ORNL main facilities. It is a fenced area with a gated entrance and exit. Buildings here consist of RCRA-permitted hazardous chemicals and hazardous wastes. There is an associated septic field located off the southeast corner outside the fence. The area has an epoxy coated cement pad and metal roofs. There are no discharges to any storm drains except for roof and paved asphalt sheet-flow runoff. Structural controls in this area are included in the DOE ORNL Hazardous Waste Management Permit TNHW-178 (8/15/2019), EPA ID number TN1890090003. All units, except Building 7651, are enclosed with walls and roofs that prevent precipitation from entering the epoxy coated containment area. All the units are designed and constructed such that the elevation of the curbing, door, and/or foundation is elevated above the surrounding terrain; therefore, run-on from precipitation events will not occur at these units. Building 7651 is the only unit not totally enclosed, but it does have a metal roof and a continuous concrete dike (6-in. high) around the perimeter of the containment area, which minimizes run-on and the accumulation of precipitation in the containment area. Stored waste containers are self-elevated by forklift pockets or stored on approximately 4-in. high pallets, which prevent contact with any accumulated rainwater. If no unmitigated spill/release has occurred, the water will be removed from the unit and managed as nonhazardous. If the water contains a sheen or if a spill/release has occurred with no documented decontamination, the water will be containerized, sampled, and analyzed for indicator parameters as appropriate for the contents of the storage unit and managed accordingly. In addition, waste containers with free liquids are not allowed to be stored in Building 7651.
C2	434	313 091 675	East Campus Pond (a.k.a., Swan Pond) is a wetland pond serving as a retention basin for SW runoff; a SW infiltration system is located under the parking are west of Bldg 5200; a retntion basin is located NO of the roundabout on Bethel Valley Rd. to retain runoff from Conference Center Pakg lot which was also constructed with pervious asphalt to limit sheet flow runoff. Runoff from electrical substation 0901 is partially routed through an oil/water separator prior to discharge through the outfall pipe. The rest of the runoff would pond in the gravel sink; a concrete storage pad has containment to prevent oil releases. This pad drains to the oil/water separator. A 5000-gallon rain harvest tank is located at Bldg 4020 under the parking area on the west side of the building.
		010	Two SW retention ponds are located around the Copper Ridge Spoil Pile
		433	Runon diversion dits and a retention basin collects runoff from parking areas
		434	A SW retention basin is located at BV road with special media to percolate runoff