



Sandia
National
Laboratories

Sandia National Laboratory, California

Monthly Sewer Monitoring Report

February 2023

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Sandia National Laboratories (SNL) is a multi-mission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC (NTESS), a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration (DOE/NNSA) under contract DE-NA0003525. SNL operations are overseen by the DOE/ NNSA's Sandia Field Office (SFO).

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Acronyms and Abbreviations

EPA	Environmental Protection Agency
COC	Chain of Custody
COD	Chemical Oxygen Demand
DOE	U.S. Department of Energy
LECS	Liquid Effluent Control System
LLNL	Lawrence Livermore National Laboratory
MDL	Method Detection Limit
mg/L	milligrams per liter
N/A	not applicable
NNSA	National Nuclear Security Administration
NTESS	National Technology & Engineering Solutions of Sandia, LLC
POTW	Publicly Owned Treatment Works
RL	Reportable Limit
SFO	Sandia Field Office
Sandia/CA	Sandia National Laboratories, California
Sandia/NM	Sandia National Laboratories, New Mexico
TDS	total dissolved solids
TSS	total suspended solids
TTO	total toxic organics
µg/L	microgram per liter

Certification Statement

"I certify 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."

Anetha Lue, P.E.
Manager, Environmental Management Department
Sandia National Laboratories/California

Zero Discharge Certification of Federally Regulated Categorical Industry Processes

I certify under penalty of law, that to the best of my knowledge and belief, no discharge of any wastewater to the sanitary and/or the storm sewer system has occurred from the following Federally Regulated Categorical Industry Processes: Building 943 Electroplating Laboratory, and Building 941 Room 1153 Robotic Paint Spray Booth located at this facility during this reporting period. I further certify 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.

Anetha Lue, P.E.
Manager, Environmental Management Department
Sandia National Laboratories/California

Introduction

The Sandia National Laboratories, in California (Sandia/CA) is a research and development facility, owned by the U.S. Department of Energy's National Nuclear Security Administration agency (DOE/NNSA). The laboratory is located in the City of Livermore (the City) and is comprised of approximately 410 acres. The Sandia/CA facility is operated by National Technology and Engineering Solutions of Sandia, LLC (NTESS) under a contract with the DOE/NNSA. The DOE/ NNSA's Sandia Field Office (SFO) oversees the operations of the site. North of the Sandia/CA facility is the Lawrence Livermore National Laboratory (LLNL), in which Sandia/CA's sewer system combines with before discharging to the City's Publicly Owned Treatment Works (POTW) for final treatment and processing. The City's POTW authorizes the wastewater discharge from Sandia/CA via the assigned Wastewater Discharge Permit #1251 (the Permit), which is issued to the DOE/NNSA's main office for Sandia National Laboratories, located in New Mexico (Sandia/NM). The Permit requires the submittal of this Monthly Sewer Monitoring Report to the City by the twenty-fifth day of each month.

Monitoring Program

The Sandia/CA sanitary sewer effluent samples are collected at the site sewer outfall at the northwest corner of the site. The site outfall is equipped with two refrigerated automatic samplers. One of the samplers is programmed to collect discreet, flow-proportioned samples for seven consecutive 24-hour periods (daily composite). The second sampler is programmed to collect one flow-proportioned sample for the entire seven-day period (weekly composite). The weekly composite is prepared and sent to a state-certified contract laboratory for analysis. The daily composites are preserved and archived on-site in the event that additional metal analyses are needed.

Continuous monitoring is done for pH and flow. Once a month a daily composite sample is collected for total dissolved solids (TDS), total suspended solids (TSS), biochemical oxygen demand (BOD), chemical oxygen demand (COD), and oil and grease. Once a month, a grab sample is collected for cyanide. Monthly grab samples are also collected for semi-volatile organics and volatile organics. The organics results are compared to the total toxic organics (TTO) effluent limitation. Flow-proportional weekly composites are collected for metals. A state-certified contract laboratory performs these analyses.

A detailed description of the monitoring program is contained in Sandia/CA's Annual Site Environmental Report.

Sewer Monitoring Results

The attached tables present all the sampling data collected at the Sandia/CA sanitary sewer outfall for February 2023. Table 1 presents the analytical results for metals analyses. Table 2 presents the monthly sampling results for the physical, biological, and cyanide analyses. Table 3 presents the monthly sampling results for TTO. For completeness, this table includes all organic constituents identified by EPA methods 608.3, 624.1, and 625.1. Only the positively detected constituents are reported in this table; all

other compounds were below detection limits. The sum of all organic priority pollutants was well below the TTO standard of 1 mg/L.

The sewer outfall monitoring data demonstrate that Sandia/CA was in compliance with all discharge limitations in February 2023.

Continuous Monitoring Results

The liquid effluent from the site is monitored continuously for pH, flow rate, and total flow. Copies of the pH circular charts for February 2023 are attached in Appendix A. Monitoring records are maintained on site and are available upon request.

Discharge Volume

The sanitary sewer flow for the period February 1, 2023 to February 28, 2023 was 518,033 gallons.

Tables

Table 1. Monthly Monitoring Effluent Results – Metals

EPA Analytical Method	-	200.8	200.8	200.8	200.8	200.8	245.1	200.8	200.8	200.8
Date	Laboratory ID # ^b	As ^c (mg/L)	Cd ^c (mg/L)	Cr ^c (mg/L)	Cu ^c (mg/L)	Pb ^c (mg/L)	Hg ^c (mg/L)	Ni ^c (mg/L)	Ag ^c (mg/L)	Zn ^c (mg/L)
2/7/2023	23B1074	0.0039	<0.0010	<0.0020	0.0926	<0.0050	<0.00020	<0.010	<0.010	0.18
2/14/2023	23B2095	0.0020	0.0022	<0.0020	0.0240	<0.0050	<0.00020	<0.010	<0.010	0.15
2/21/2023	23B2857	<0.0020	<0.0010	<0.0020	0.0783	<0.0050	<0.00020	<0.010	<0.010	0.14
2/28/2023	23C0087	0.0028	<0.0010	<0.0040	0.0512	<0.0050	<0.00020	<0.010	<0.010	0.089
Effluent Limits^a		0.06	0.14	0.62	1.0	0.20	0.01	0.61	0.20	3.00

^a Discharge concentration limits, City of Livermore Municipal Code 13.32^b Analyses performed by an off-site, independent laboratory.^c Samples are collected as a weekly composite.**Table 2. Monthly Monitoring Effluent Results – Physical/Biological Characteristics and Cyanide**

EPA Analytical Method	-	SM5210B	SM5220D	SM2540C	SM2540D	EPA1664A	EPA1664A	Kelada-01
Date	Laboratory ID # ^b	BOD ^c (mg/L)	COD ^c (mg/L)	TDS ^c (mg/L)	TSS ^c (mg/L)	Oil/Grease – Mineral ^d (mg/L)	Oil/Grease – Animal/Vegetable ^d (mg/L)	Cyanide ^d (mg/L)
2/7/2023	23B1086	110	360	530	210	2.0	21	<0.0050
Effluent Limits^a		N/A^e	N/A^e	N/A^e	N/A^e	100	300	0.04

^a Discharge concentration limits, City of Livermore Municipal Code 13.32^b Analyses performed by an off-site, independent laboratory.^c Daily composite sample. The sample represents a representative composite for a 24-hour period.^d Grab sample.^e N/A indicates not applicable; i.e., there is no specific discharge limit for this required parameter.

Table 3. Monthly Monitoring Effluent Results – Total Toxic Organic

EPA Analytical Method		-	624.1	625.1	608.3		
Date	Laboratory ID # ^b	Purgeable Priority Pollutants ^c (µg/L)	Extractable Priority Pollutants ^c (µg/L)	Organo-chlorine Pesticides ^c (µg/L)			
2/7/2023	23B1086	Bromodichloromethane	0.72	Not Detected	-	Not Detected	-
		Dibromochloromethane	0.71				
		Chloroform	0.78				
		Toluene	0.84				
		Trihalomethanes (total)	2.2				
Effluent Limits ^a	1000 (sum) ^d						

^a Discharge concentration limits, City of Livermore Municipal Code 13.32

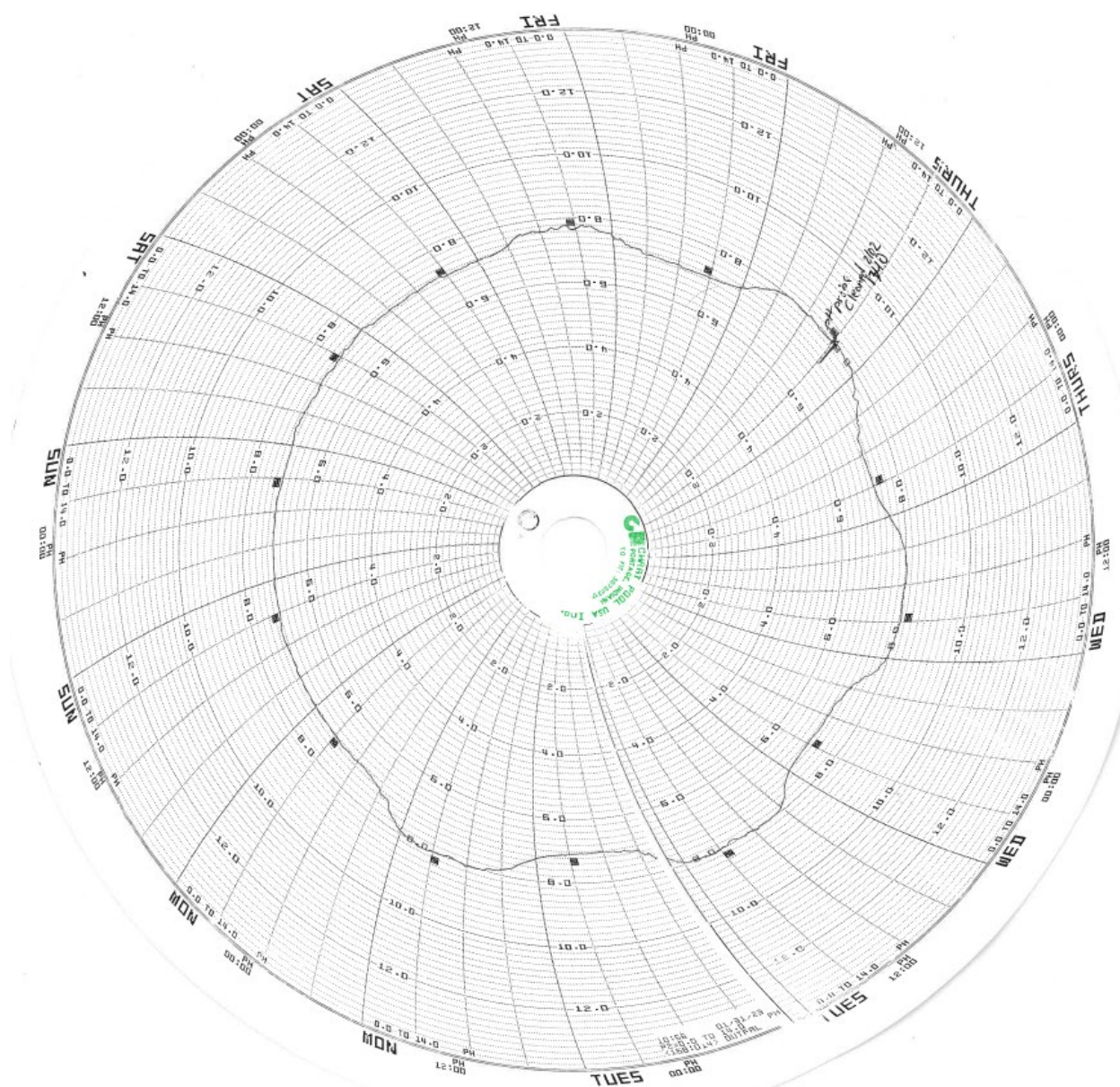
^b Analyses performed by an off-site, independent laboratory.

^c Grab sample.

^d The toxic organic discharge limit for Sandia/CA is 1000 µg/L. The total toxic organic number is arrived at by summing up all organic constituents greater than 10 µg/L. Also included in the TTO calculations are specific compounds measured at detection limits excess of 0.02 mg/L which are assumed to be one-half the detection limit. Please note that trihalomethanes are reported in this table although they are common constituents of chlorinated water.

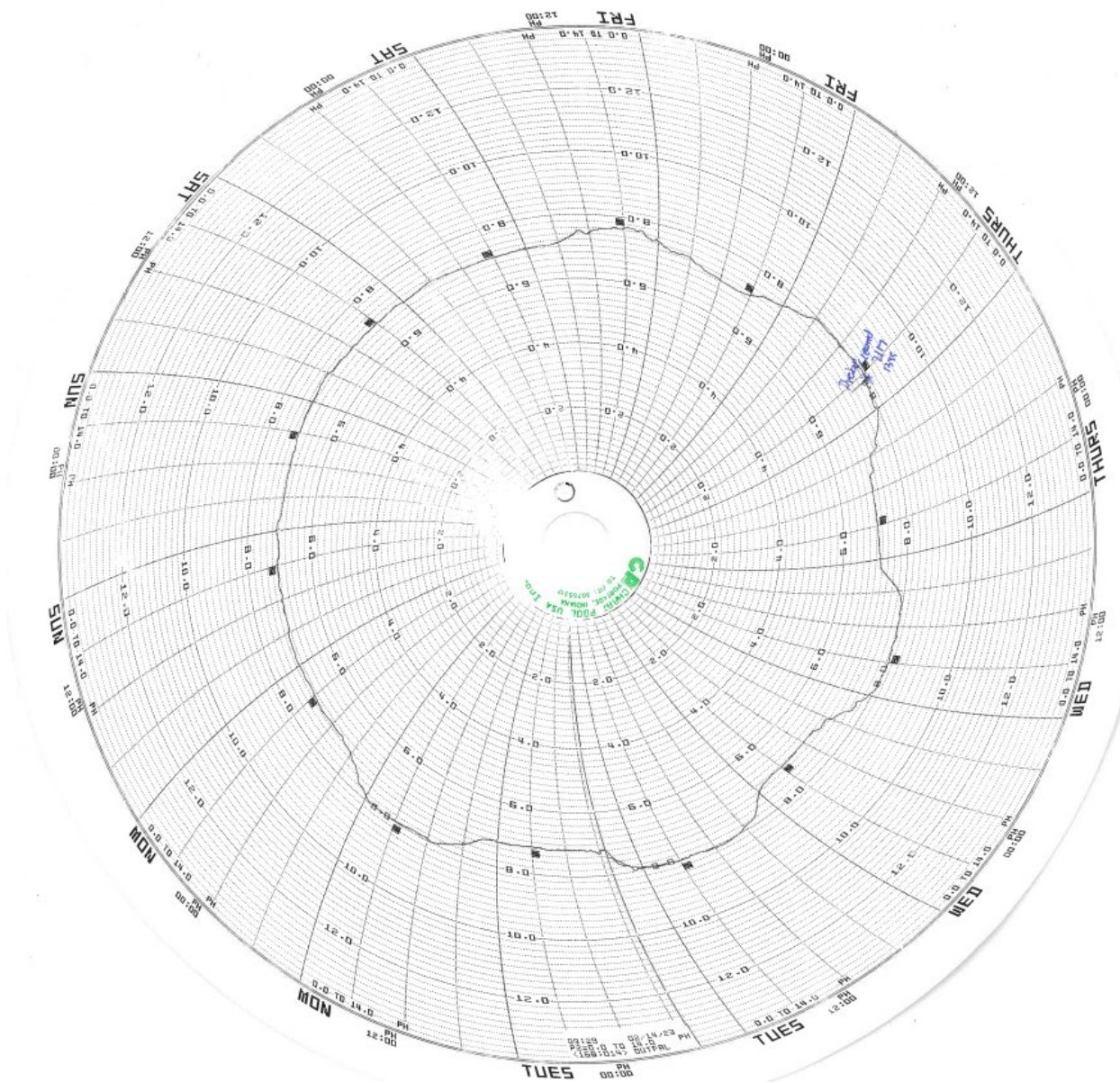
J Detected but below the Reporting Limit; therefore, result is an estimated concentration, detected but not quantified.

Appendix A: Monitoring pH Charts

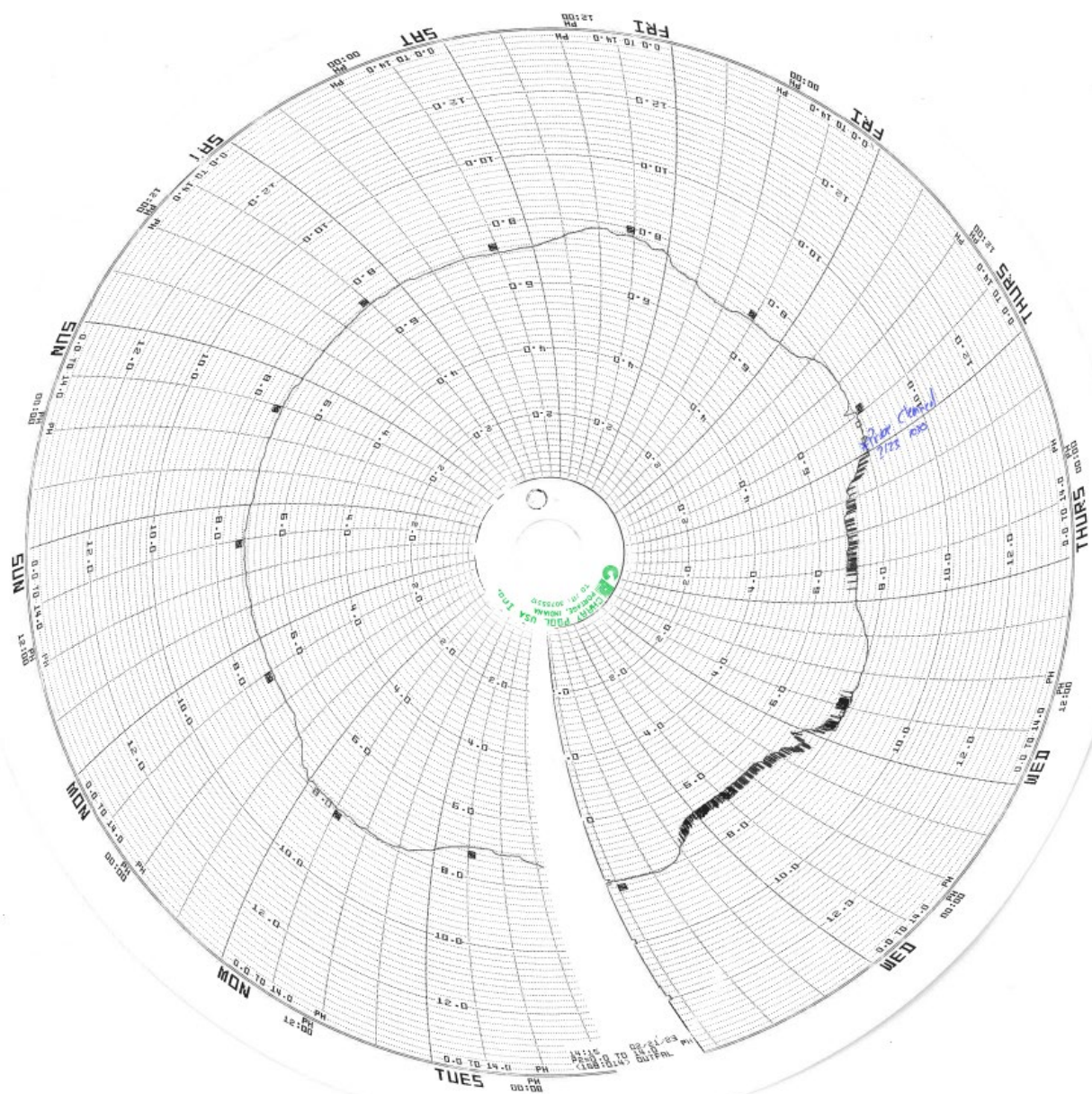


pH Chart 1: January 31, 2023 thru February 6, 2023

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pH Chart 2: February 14-20, 2023



pH Chart 3: February 21-27, 2023