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March 31, 2023

Mr. George Papadopoulos Environmental Engineer United States Environmental Protection Agency 5 P.O. Square, Suite 100 Boston, MA 02109-3912

Subject: Pilgrim Nuclear Power Station – National Pollutant Discharge Elimination System Permit #MA0003557 Modification Application

Mr. Papadopoulos,

Holtec Decommissioning International, LLC (HDI) is providing this submittal package to the United States Environmental Protection Agency (USEPA) to propose modification to National Pollutant Discharge Elimination System Permit (NPDES) permit #MA0003557 for Pilgrim Nuclear Power Station (PNPS) located in Plymouth, Massachusetts. The contents of this submittal package include:

- Statement of Facts
- USEPA Form 3510-1 and attachments
- USEPA Form 3510-2C and attachments

Please note, all existing stormwater discharges under the current permit are not subject to this modification and therefore USEPA Form 3510-2F is not required with this request.

In addition, a hard copy of the USEPA forms and relevant attachments will be sent directly for your attention to the address provided above.

HDI believes that the information presented is complete and accurate to allow for comprehensive review of the NDPES permit modification proposal. Should the USEPA have any questions, comments, or requires additional materials, please feel free to contact Mr. Ben Reynolds, HDI Director of Environmental Affairs, or myself at (856-797-0900, ext. 3578).

Sincerely

Jean Fleming Vice President, Licensing, Regulatory Affairs, & PSA Holtec International

APPLICATION FOR MODIFICATION TO NPDES PERMIT NO. MA0003557

STATEMENT OF FACTS

Holtec Decommissioning International, LLC ("Holtec") submits this application for a modification to the existing National Pollutant Discharge Elimination System ("NPDES") Permit No. MA0003557 to authorize a temporary discharge of non-radiological pollutants in an industrial wastewater at the Pilgrim Nuclear Power Station ("PNPS") into Cape Cod Bay.

A. APPLICANT

APPLICANT

Holtec Decommissioning International, LLC 1 Holtec Boulevard Camden, NJ 08104

FACILITY

Pilgrim Nuclear Power Station 600 Rocky Hill Road Plymouth, MA 02360

CONTACT

Dave Noyes Compliance Manager Pilgrim Nuclear Power Station (508) 830-7826

B. DESCRIPTION OF THE FACILITY

PNPS is a former 670 megawatt electricity-generating power plant adjacent to Cape Cod Bay. The facility occupies approximately 140 acres and is located on the western shore of Cape Cod Bay, occupying one mile of continuous shoreline frontage. Commercial operation of the station began in December 1972, when the facility was owned by Boston Edison Company. In 1999, Entergy assumed ownership of the facility. Holtec acquired PNPS from Entergy in 2019 and is in the process of decommissioning the facility under a Post Shutdown Decommissioning Activities Report (PSDAR) as revised.

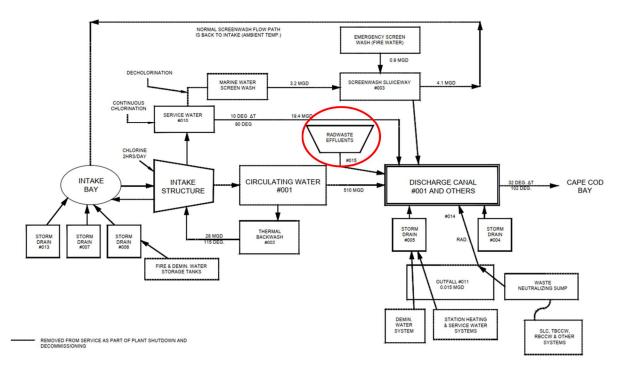
C. EXISTING PERMIT

United State Environmental Protection Agency ("EPA") issued the Final NPDES Permit No. MA0003557 on January 30, 2020 covering ongoing wastewater discharges at the Facility. While the Station permanently ceased generating electricity on May 31, 2019, certain discharges to Cape Cod Bay continue, including cooling water used to absorb waste heat from the spent fuel pool, process water, and stormwater. With the removal of the remaining spent fuel rods from the spent fuel pool, permitted Clean

Water Act ("CWA") currently discharges from the site are limited to stormwater and cooling water used for auxiliary heating systems and dilution. There remains approximately 1.1 million gallons of water stored at the facility, comprised of water from the spent fuel pool that contains varying levels of radioactivity. The term "pollutant" in the CWA excludes "radioactive materials" regulated by the Nuclear Regulatory Commission ("NRC") under the Atomic Energy Act. Consequently, the Final NPDES Permit does not include any numeric limits on such radioactive materials. Rather, the disposal of radioactive materials is overseen by the NRC¹. The existing permit does not authorize the discharge of non-radiological pollutants in the spent fuel pool water (including but not limited to, boron). See Section B, Paragraph 2 of the NPDES Permit

D. DESCRIPTION OF PROPOSED MODIFICATION

Holtec is seeking to modify Section B, Paragraph 2 of the NPDES Permit to include Outfall #015 (Radwaste Effluent) which is combined with flow in the discharge canal pursuant to the following diagram:



During plant operation, the Spent Fuel Pool ("SFP") water volume remained substantially unchanged other than minor SFP Cooling System loss into waste collection systems and routed to radiological waste collection and makeup from the Condensate Storage and Transfer System to account for minor loss and evaporation. The SFP Cooling System was essentially continuously run providing filtration and demineralization of the segregated volume. During biennial refueling outages, the volume of water was interconnected with the water in the reactor cavity and dryer separator pit. Circulating water systems commingled and mixed these two normally segregated volumes. During refueling and maintenance activities, permanently installed and temporary filtration systems were used to reduce any impurities being generated by the activities. At the end of each refueling outage, a portion of this commingled

¹ Part I, Section A, Paragraph 23: The discharge of radioactive materials shall be in accordance with and regulated by the Nuclear Regulatory Commission (NRC) requirements (10 C.F.R Part 20 and NRC Technical Specifications set forth in facility operating license, DPR-35)

volume was drained to condensate storage tanks with any remainder that exceeded onsite water volume storage capability being filtered, demineralized, verified to meet radiological and non-radiological quality standards and discharged. The last discharge of any water having resided for any period of time in the SFP, occurred in 2015. Following the permanent shutdown of Pilgrim in 2019, spent fuel assemblies stored in the pool were transferred to dry cask storage in a stand-alone Independent Spent Fuel Storage Installation ("ISFSI"). The racks that stored the fuel have been removed and disposed of and the pool is currently being used to package radiological materials such as the reactor vessel internal components for ultimate disposal. Following the completion of the packaging campaign the SFP water will be drained to the Torus for final disposition. Under the terms of this proposed NPDES Permit modification, the water will be filtered using a Solids Collection Filter Top-Loading Canister System, routed to a mixed bed resin/charcoal demineralizer for radiological and chemical (including organic) contaminant removal, radiologically characterized, and then discharged via Outfall #015 in batches of approximately 19,000 gallons and diluted into the plants discharge canal and further diluted in the Cape Cod Bay.

E. REGULATION OF SPENT FUEL POOL

The CWA prohibits the discharge of pollutants, including heat, into certain types of water bodies from facilities such as PNPS, except in conformance with a NPDES permit issued by EPA or an authorized state. The CWA also requires that the location, design, construction, and capacity of cooling water intake structures ("CWIS") at such facilities reflect the best technology available for minimizing adverse environmental impact. EPA is the NPDES permitting authority in Massachusetts and last issued a NPDES permit for PNPS in 2020. The disposal of radioactive materials is overseen by the NRC.

This application for modification of NPDES Permit No. MA0003557 to authorize discharge of a new source of industrial wastewater is submitted as required by Section 301(a) and 402 of the Clean Water Act, and 40 CFR 122.21 and 122.62.

A separate Water Discharge Permit will be obtained as required by the Massachusetts Clean Waters Act, as amended (M.G.L. Chapter 21 §§26-53).

F. EFFLUENT LIMIT GUIDELINES

The facility is subject to the Best Practicable Control Technology Currently Available ("BPT") Effluent Limitation Guidelines ("ELGs") applicable to the Steam Electric Power Generating Point Source Category specified in 40 CFR 423.12(b)(1) and (2) for pH and PCBs; 40 CFR 423.12(b)(3) for TSS and Oil and Grease in low-volume waste sources; and 40 CFR 423.12(b)(6) for free available chlorine in once-through cooling water.

The industrial wastewater proposed for discharge is a New Source, thus the discharge is also subject to the ELGs specified at 40 CFR 423.15(a)(1) and (2) for pH and PCBs; and 40 CFR 423.15(a)(3) for TSS and Oil and Grease in low-volume waste sources.

The permittee is authorized to discharge non-contact cooling water from the Salt Service Water system, classified as low volume waste, through Outfall 010 in the existing NPDES permit for the facility. The Salt Service Water system will be used during discharges from new Outfall 015 to meet NRC

requirements. Outfall 010 is monitored under the existing permit for Flow, Intake Velocity, Temperature, Temperature Rise, pH, TSS, Oil and Grease and Total Residual Oxidants.

The industrial wastewater will be treated and then discharged through an internal outfall designated Outfall 015 and will not rely on dilution from the Outfall 010 flow to meet discharge limits.

A summary of the analytical results for treated water, intake water (i.e., Cape Cod bay seawater), and the three source volumes presently contained in the Spent Fuel Pool, Reactor Cavity/Dryer Separator Pit and Torus analytical results are provided in Table 1, included as an attachment to this Statement of Fact. The quality of the water presently stored in the Torus generally represents the volume with the highest concentrations of pollutants. Water from the Torus was processed through the treatment system and discharged into a treated water tank. Sample TWT A was collected from the treated water tank and represents the performance of the treatment system in reducing the pollutant concentrations in water drawn from the volume with highest pollutant concentrations. The three water volumes will be combined in the Torus prior to commencing discharge. The blended water quality will be generally better than the water used to generate the treated water volume analytical results presented in this Statement of Facts and the NPDES modification application. Thus, the analytical results for the treated water represent a conservative characterization of the anticipated water quality prior to discharge.

A comparison of detected pollutants in the treated water with applicable ELGs is provided below.

Table 2. Comparison of Detected Pollutant Concentrations in the Treated Wastewater with Applicable
Effluent Limitation Guidelines

Parameter	Detected Value	Effluent Limit Guideline					
Parameter	Detected Value	Daily Maximum	Monthly Average				
Total Suspended Solids	1.0 mg/L	100.0 mg/L	30.0 mg/L				
рН	6.87 S.U.	6.0 – 9.	0 S.U.				
Oil & Grease	1.47 mg/L	20.0 mg/L	15.0 mg/L				

mg/I = milligrams per liter; S.U. = standard units

Other pollutants detected at trace levels in the treated water include copper at 1.39 micrograms per liter (μ g/L), zinc at 36.1 μ g/L and total residual oxidants at 0.0449 mg/L. While not directly applicable to the discharge proposed in this application, ELGs for these pollutants have been established for these pollutants in wastewater produced from other discharges common to Steam Electric Power Generating plants. For example, the ELG concentration for copper in chemical metal cleaning wastewater is 1,000 μ g/L. Similarly, the ELG concentration for zinc in cooling tower blowdown wastewater is 1,000 μ g/L. The ELG concentrations for total residual oxidants are a daily maximum of 0.5 mg/L and monthly average of 0.2 mg/L. The concentrations for these pollutants in the treated wastewater are well below these ELGs for similar discharges from Steam Electric Power Generating Category plants. Further, the water intended for treatment and discharge has not been chlorinated during power plant operations and will not be chlorinated during its management and treatment for discharge.

G. TECHNOLOGY-BASED LIMITS ("TBELS")

The industrial wastewater discharge from Outfall 015 may be subject to site-specific TBELs for pollutants present in the treated wastewater that are not subject to applicable ELGs. Site-specific TBELs

are generally determined using Best Professional Judgment in consideration of the appropriate standard (BPT, BCT, BAT or NSPS) for determination of TBELs.

The pollutants detected in the treated water that are not subject to promulgated ELGs for the industry category and discharge type associated with Outfall 015 include chemical oxygen demand (COD), boron, copper, lead, nickel and zinc. COD and boron are present in the treated water at concentrations well below concentrations detected in the intake water. The intake water quality is representative of the Cape Cod Bay receiving water quality. Both COD and boron are naturally occurring chemical characteristics of seawater.

The existing permit includes a discharge limit of 5,600 μ g/L for boron (approximately 1 mg/L above the receiving water concentration). The boron concentration in the treated and intake waters are 36.7 μ g/L and 4,290 μ g/L, respectively, consequently, there is no potential for the discharge from Outfall 015 to increase boron concentrations in the receiving water.

Copper (1.39 μ g/L) and lead (0.660 μ g/L) are present in the treated water at very low concentrations and will be further reduced in the untreated wastewater after blending with the volumes in the Spent Fuel Pool and Reactor Cavity/Dryer Separator Pit which do not contain detectable concentrations of these metals. Zinc is present at 36.1 μ g/L in the treated water and also will be reduced in the blended water. Lead and zinc will likely be diluted to non-detectable levels after mixing with the Outfall 010 flow in the discharge canal. The concentration of copper in the treated water (1.39 μ g/L) is similar to the concentration in the intake water (1.69 μ g/L) and will therefore have little to no effect on the receiving water ambient concentration.

Based on these facts, while TBELs could be developed for pollutants that do not have applicable ELGs for the Outfall 015 discharge, there is no need to establish TBELs for these pollutants given the lack of potential for adverse effect, further discussed below regarding Water Quality-Based Effluent Limits (WQBELs).

H. Water Quality-Based Effluents Limits

The water quality results, as presented in Tables A through E of USEPA Form 2C (and associated attachments for the treated wastewater to be discharged through Outfall 015 confirms that there is no reasonable potential for discharge of pollutants at concentrations or masses² sufficient to cause adverse environmental impacts in Cape Cod Bay.

The discharge will be monitored at an internal outfall directly from the treated water tank. Discharge limits will apply at the internal outfall. The discharge from Outfall 015 will combine with the Salt Service Water discharge at the head of the discharge canal and undergo mixing before reaching the end of the canal where it will enter Cape Cod Bay. The ratio of Outfall 015 plant water flow to Outfall 010 Salt Service Water flow will be a minimum of 1:20. Based on the analytical results for the Treated Water, it is likely that the concentrations of detected pollutants in the treated water will be mixed to levels below laboratory detection limits, except in cases where the receiving water (Cape Cod Bay) already contains measurable concentrations of the constituents.

² Masses calculated in USEPA Form 3510-2C based on a 19,000-gallon volume.

There will be insufficient thermal load in the Outfall 015 discharge to substantially change the ambient temperature of the discharge from Outfall 010 due to its moderate temperature and low volume (5 percent or less) of the Outfall 010 flow.

A comparison of detected pollutant concentrations above reporting limits in the treated wastewater with available water quality standards, screening criteria and other relevant criteria, including pollutants with applicable ELGs, is provided below.

Table 3. Comparison of Detected Pollutant Concentrations Above Reporting Limits in the Treated Wastewater with Water Quality Standards, Screening Criteria, NPDES Required Detection Limits, Existing NPDES Permit Limits and Cape Cod Bay Ambient Seawater Concentrations

Parameter	Treated Water Concentration	EPA Aquatic Life Criteria Salt Water CMC (Acute)	NOAA Screening Levels for Marine Surface Water (Acute)	NPDES Minimum Level of Detection	Discharge Limits in Existing NPDES Permit for Other Outfalls ^{\1}	Intake Water Concentration (Ambient Seawater)
Chemical Oxygen Demand	18.1 mg/L					531 mg/L
Total Suspended Solids	1.00 mg/L				30 mg/L	4.10 mg/L
рН	6.87 S.U.	6.5 – 9 S.U.			6.5 – 8.5 S.U.	8.07 S.U.
Boron	36.7 µg/L				5,600 µg/L	4,290 µg/L
Copper	1.39 µg/L	4.8 µg/L		3 4.8 µg/L		1.69 µg/L
Lead	0.660 µg/L	210 µg/L		0.5 µg/L		< 2.50 µg/L
Nickel	2.02 µg/L	74 µg/L		20 µg/L		< 3.0 µg/L
Zinc	36.1 µg/L	90 µg/L	90 µg/L	15 µg/L		< 66.0 µg/L
Oil & Grease	1.47 mg/L				15 mg/L	< 1.11 µg/L
Total Phenol	1.67 µg/L					4.04 µg/L

\1 Listed value is the most stringent limit listed in the existing permit for once-through cooling water and other industrial wastewater discharges.

I. ANTI-BACKSLIDING/ANTIDEGRADATION

The proposed permit modification is consistent with the requirements to meet anti-backsliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(I)(i)(A), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. The proposed permit modification contains effluent limitations at least as stringent as the current permit.

The treated water proposed for discharge through Outfall 015 will be subject to TBELs including applicable ELGs and site-specific TBELs as determined during the EPA's NPDES permitting process. Water Quality Based Effluent Limits ("WQBELs") also may be set for the new discharge to ensure preservation of existing uses in Cape Cod Bay.

Cape Cod Bay is a Class SA surface water. Discharges to the bay are allowed if authorized by an NPDES permit and a State Water Discharge Permit. No limits for Outfall 015 will be less stringent than those in the existing permit.

The industrial wastewater proposed for discharge will contain low concentrations of a small number of pollutants that would meet existing discharge limits for the facility (where a limit exists) and are either below potentially applicable water quality standards and screening criteria, or lower than or similar to the ambient concentrations of the same constituents in Cape Cod Bay seawater. The discharge will meet appropriate TBELs and WQBELs at an internal outfall, then the concentrations will be diluted by mixing with once-through cooling water in the discharge canal. The Salt Service Water is not being used to meet discharge limits for Outfall 015; however, the dilution afforded by mixing of the Outfall 015 discharge will result in generally non-detectable concentrations of pollutants from Outfall 015 at the end of discharge canal.

The low-level pollutant concentrations in the treated industrial wastewater when discharged to Cape Cod Bay, support a conclusion that the proposed discharge from Outfall 015 is not expected to adversely affect receiving water bodies or result in any degradation of water quality.

J. PROPOSED MONITORING

Proposed monitoring, reporting requirements and limits are presented below.

		Discharge	Limitation	Monitoring Requirements ^{\1}			
Effluent Characteristic	Units	Monthly Average or Total	Maximum Daily	Measurement Frequency	Sample type		
Flow	MGD	Report ^{\2}	0.019	Daily ^{∖3}	Flow Meter ^{\4}		
Days of Operation	Days	Report ^{\3}		Daily ^{∖3}	Count		
рН	S.U.			1 Month ^{\3}	Grab		
		6.5 –	8.5				
Oil and Grease	mg/L	15	20	1/Month ^{\3}	Grab		
Total Suspended Solids	mg/L	30	100	1/Month ^{\3}	Grab		
Temperature, Effluent	٩F		Report	1/Month ^{\3}	Grab		

1 Measurements to be collected at the internal outfall at the treated water tank in use for the daily discharge, and upstream of the release of the discharge to the Discharge Canal.

\2 Total discharged for the month.

\3 When discharging.

\4 Discharge volume may be measured using a flow meter or by recording the volume of treated water in the tank on the day of discharge prior to discharge of the tank volume.

K. ALL OTHER PERMIT CONDITIONS AND STANDARD CONDITIONS REMAIN IN EFFECT

All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit in accordance with 314 CMR 2.10.

L. Proposed Public Process

Date of Notice [TBD]

Date of Public Hearing [TBD]

Table 1

Analytical Results for Treated Water Tank, Source Water Volumes and Intake Water

Deremeter	CAS #	Unite	Treated Water	Reactor	Spent Fuel	Torus	Intelie
Parameter	CAS #	Units	Tank	Cavity/Dryer	Pool	Torus	Intake
		onventiona	I and Non-Conve	Separator Pit	nts		
BOD		MG/L	< 1.00	< 10.0	< 10.0	1.00	< 10.0
COD		MG/L	18.1	< 8.95	< 8.95	39.2	531
Total Organic Carbon		MG/L	< 0.330	< 165	< 165	0.528	0.509
Total Suspended Solids		MG/L	1.00	< 5.70	< 5.70	< 0.520	4.10
Nitrogen, Ammonia	7664-41-7	MG/L	< 0.0170	0.0230	0.0300	< 0.0170	0.196
pH	7004-41-7	S.U.	6.87	7.07	7.27	7.43	8.07
pri	<u> </u>		tals, Cyanide, an			7.43	0.07
Antimony	7440-36-0	UG/L	< 1.00	< 10.0	< 10.0	< 1.00	< 5.00
Arsenic	7440-38-2	UG/L	< 2.00	< 20.0	< 20.0	< 2.00	< 40.0
Beryllium	7440-30-2	UG/L	< 0.200	< 2.00	< 2.00	< 0.200	< 1.00
Boron	7440-41-7	UG/L	36.7	177	185	169	4290
Cadmium	7440-42-8	UG/L	< 0.300	< 3.00	< 3.00	< 0.300	< 1.50
Chromium	7440-43-9	UG/L UG/L	< 3.00	< 30.0	< 30.0	< 3.00	< 15.0
Copper	7440-47-3	UG/L UG/L	< 3.00	< 30.0	< 30.0	< 0.300	1.69
Lead	7440-30-8	UG/L UG/L	0.660	< 5.00	< 5.00	< 0.300	< 2.50
Mercury	7439-92-1	UG/L	< 0.0670	< 0.670	< 0.670	< 0.0670	< 0.0670
Nickel	7439-97-6	UG/L UG/L	0.600	31.1	32.9	2.93	< 3.00
Selenium	7782-49-2	UG/L UG/L	< 1.50	< 15.0	< 15.0	< 1.50	< 30.0
Silver	7440-22-4	UG/L UG/L	< 0.300	< 3.00	< 3.00	< 0.300	< 1.50
Thallium	7440-22-4	UG/L UG/L	< 0.300	< 6.00	< 6.00	< 0.600	< 3.00
Zinc	7440-28-0	UG/L UG/L	36.1	726	798	< 0.800 1400	< 3.00
Cyanide, Total	57-12-5	UG/L UG/L	< 1.67	< 8.35	< 8.35	< 1.67	< 1.67
Total Phenol	57-12-5	UG/L UG/L	< 1.67	< 8.35	< 8.35	< 1.67	4.04
	Organia Ta					< 1.07	4.04
Acrolein	107-02-8	UG/L	nts (GC/MS Frac < 1.67	< 1.67	< 1.67	< 1.67	< 1.67
Acrylonitrile	107-02-8	UG/L UG/L	< 1.67	< 1.67	< 1.67	< 1.67	< 1.67
Benzene	71-43-2	UG/L UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Bromoform	75-25-2	UG/L UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Carbon tetrachloride	56-23-5	UG/L UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Chlorobenzene	108-90-7	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Chlorodibromomethane ^{\a}							
Chloroethane	124-48-1 75-00-3	UG/L UG/L	< 0.333 < 0.333	< 0.333 < 0.333	< 0.333 < 0.333	< 0.333 < 0.333	< 0.333 < 0.333
	110-75-8					< 1.67	
2-Chloroethylvinyl ether		UG/L UG/L	< 1.67	< 1.67	< 1.67		< 1.67
Chloroform	67-66-3		< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Dichlorobromomethane ^{\b}	75-27-4	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
1,1-Dichloroethane	75-34-3	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
1,2-Dichloroethane	107-06-2	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
1,1-Dichloroethylene	75-35-4	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
1,2-Dichloropropane	78-87-5	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
1,3-Dichloropropylene	542-75-6	UG/L	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Ethylbenzene	100-41-4	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Methyl Bromide ^{\c}	74-83-9	UG/L	< 0.337	< 0.337	< 0.337	< 0.337	< 0.337
Methyl Chloride ^{\d}	74-87-3	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Methylene chloride*	75-09-2	UG/L	0.580	0.740	0.750	1.88	0.880
1,1,2,2-Tetrachloroethane	79-34-5	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Tetrachloroethylene	127-18-4	UG/L	< 0.333	< 0.333	< 0.333	3.44	< 0.333
Toluene	108-88-3	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
trans-1,2-Dichloroethylene	156-60-5	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
1,1,1-Trichloroethane	71-55-6	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333

1,1,2-Trichloroethane	79-00-5	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Trichloroethylene	79-00-5	UG/L UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Vinyl chloride	75-01-4	UG/L	< 0.333	< 0.333	< 0.333	< 0.333	< 0.333
Viriyi chionde			ants (GS/MS Fra			< 0.333	< 0.333
2-Chlorophenol	95-57-8	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
2,4-Dichlorophenol	120-83-2	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
2,4-Dimethylphenol	105-67-9	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 4.63
4,6-dinitro-o-cresol/e	534-52-1	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
2,4-Dinitrophenol	51-28-5	UG/L	< 4.78	< 50.0	< 50.0	< 4.74	< 2.78
2-Nitrophenol	88-75-5	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
4-Nitrophenol	100-02-7	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
p-chloro-m-cresol\f	59-50-7	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
Pentachlorophenol	87-86-5	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
Phenol	108-95-2	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
2,4,6-Trichlorophenol	88-06-2	UG/L	< 2.87	< 30.0	< 30.0	< 2.84	< 2.78
			tants (GC/MS Fr				1
Aroclor-1016	12674-11-2	UG/L	< 0.0317	< 0.333	< 0.333	< 0.0315	< 0.0309
Aroclor-1221	11104-28-2	UG/L	< 0.0317	< 0.333	< 0.333	< 0.0315	< 0.0309
Aroclor-1232	11141-16-5	UG/L	< 0.0317	< 0.333	< 0.333	< 0.0315	< 0.0309
Aroclor-1242	53469-21-9	UG/L	< 0.0317	< 0.333	< 0.333	< 0.0315	< 0.0309
Aroclor-1248	12672-29-6	UG/L	< 0.0317	< 0.333	< 0.333	< 0.0315	0.0455
Aroclor-1254	11097-69-1	UG/L	< 0.0317	< 0.333	< 0.333	< 0.0315	< 0.0309
Aroclor-1260	11096-82-5	UG/L	< 0.0317	< 0.333	< 0.333	< 0.0315	< 0.0309
Aroclor-Total	PCBTOT	UG/L	< 0.0317	< 0.333	< 0.333	< 0.0315	0.0455
	Certa	in Conventi	ional and Non-Co	onventional Pol	lutants		
Chlorine, Total Residual		MG/L	0.0449	0.0183	0.0220	0.0170	< 0.0170
Oil & Grease		MG/L	1.47	< 1.37	1.46	1.44	< 1.11
			PFAS/PFOA	<u> </u>	-		-
Perfluorododecanoic acid							
(PFDOA)	307-55-1	NG/L	< 0.572				< 0.530
Perfluorooctane sulfonic acid							
(PFOS)	1763-23-1	NG/L	< 0.693				< 0.642
Perfluoroheptanoic acid							
(PFHpA)	375-85-9	NG/L	< 0.572				< 0.530
Perfluorohexanoic acid							
(PFHxA)	307-24-4	NG/L	< 0.693				< 0.642
Perfluorobutane sulfonic acid	07F 70 F		0.570				0.500
(PFBS)	375-73-5	NG/L	< 0.572			-	< 0.530
Perfluorooctanoic acid			0 (0 2				0 (10
(PFOA)	335-67-1	NG/L	< 0.693				< 0.642
Heyefluerenrenvleneevide							
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	10050 10 4		. 0 570				. 0 5 2 0
Perfluorotridecanoic acid	13252-13-6	NG/L	< 0.572				< 0.530
(PFTrDA)	72629-94-8	NG/L	< 0.572				< 0.530
N-Methylperfluorooctane	/2029-94-8	NG/L	< 0.372				< 0.530
sulfonamido acetic acid							
(NMeFOSAA)	2355-31-9	NG/L	< 1.14				< 1.06
N-Ethylperfluorooctane	2300-31-9	NG/L	< 1.14				< 1.00
sulfonamido acetic acid							
(NEtFOSAA)	2991-50-6	NG/L	< 1.14				< 1.06
Perfluorotetradecanoic acid	2771-50-0	NU/L	× 1.14		1		× 1.00
(PFTDA)	376-06-7	NG/L	< 0.693				< 0.642
Perfluoroundecanoic acid	570-00-7	NO/L	× 0.073			}	\ 0.04Z
(PFUnDA)	2058-94-8	NG/L	< 0.572				< 0.530
9-Chlorohexadecafluoro-3-	2000-74-0	NU/L	× 0.072				× 0.000
oxanonane-1-sulfonic acid (9-							
CI-PF3ONS)	756426-58-1	NG/L	< 0.572				< 0.530
,			. 0.072		1		1 01000

Perfluorononanoic acid					
(PFNA)	375-95-1	NG/L	< 0.572	 	 < 0.530
11-Chloroeicosafluoro-3-					
oxaundecane-1-sulfonic acid				 	
(11-CI-PF3OUdS)	763051-92-9	NG/L	< 0.572		< 0.530
Perfluorohexane sulfonic acid					
(PFHxS)	355-46-4	NG/L	< 0.572	 	 < 0.530
4,8-Dioxa-3H-					
perfluorononanoic acid				 	
(DONA)	919005-14-4	NG/L	< 0.572		< 0.530
Perfluorodecanoic acid					
(PFDA)	335-76-2	NG/L	< 0.676	 	 < 0.626

UG/L = micrograms per liter

MG/L - milligrams per liter

NG/L = nanograms per liter

-- = Not Analyzed

\a = Dibromochloromethane

\b = Bromodichloromethane

c = Bromomethane

d = Chloromethane

\e = 2-Methyl-4,6-dinitrophenol

f = 4-Chloro-3-methylphenol

* Methylene chloride is a common laboratory contaminant and is likely not present in the water volumes tested. It was detected in the lab blank for the Torus sample, and detected in all of the analyzed samples at similar trace levels, including in the Intake (seawater) sample. These facts, comsidered collectively, indicate that the methylene Application to Modify NPDES Permit No. MA0003557

for

Authorization to Discharge Plant Water

Pilgrim Nuclear Power Station

Plymouth, MA

Holtec Decommissioning International, LLC

Contents of Application

USEPA Form 3510-1

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USEPA Form 3510-2C

Figure 2.1 - NPDES Permitted Outfalls Flow Diagram, Current Status, and Proposed Outfall 015

Attachment 3.2A – Operations Contributing to Flow for Outfall 015

Attachment 3.1B - Treatment Units for Outfall 015

Attachment 3.1C – Laboratory Reports

- 3.1C-1 Source Volume Laboratory Reports
- 3.1C-2 Treated Water Tank and Intake Laboratory Reports

FORM 3510-1

EP/	EPA Identification Number		ES Permit Number	Fa	cility Name	Form Approved 03/05/19 OMB No. 2040-0004			
Form 1	9	, EPA			ntal Protection Agentation Agentation Agentation Agentation Agentation Agentation Agentation Agentation Agentat				
NPDES				GENERAL	INFORMATIO	N			
SECTIO		IVITIES REQUIRING AN NI		R 122.21(f) an	d (f)(1))				
	1.1		Required to Submit Form 1						
	1.1.1	Is the facility a new or exist treatment works? If yes, STOP. Do NOT com Form 1. Complete Form 24	nplete 🗌 No	1.1.2	Is the facility a r treating domes If yes, STOP. D complete Form Form 2S.	o NOT 🛛 No			
	1.2	Applicants Required to S	Submit Form 1						
Activities Requiring an NPDES Permit	1.2.1	Is the facility a concentrat operation or a concentrat production facility? ☐ Yes → Complete F and Form 2	ted aquatic animal	1.2.2	 1.2.2 Is the facility an existing manufacturing, commercial, mining, or silvicultural facility that is currently discharging process wastewater? 				
	1.2.3	Is the facility a new manufa mining, or silvicultural facil commenced to discharge ☐ Yes → Complete F and Form 2	ity that has not yet e? orm 1 No	1.2.4	commercial, min discharges onl ☐ Yes → C	ew or existing manufacturing, ing, or silvicultural facility that y nonprocess wastewater? complete Form D No and Form 2E.			
	1.2.5	Is the facility a new or exis discharge is composed ent associated with industria discharge is composed of I non-stormwater ? Yes → Complete For and Form 2 unless exen 40 CFR 122.26(b)(1 (b)(15).	tirely of stormwater a activity or whose both stormwater and prm 1 No F npted by 4)(x) or						
SECTIO		IE, MAILING ADDRESS, AI	ND LOCATION (40 CI	FR 122.21(f)(2)	1				
	2.1	Facility Name							
u	2.2	EPA Identification Numb	er						
Name, Mailing Address, and Location	2.2								
i, an	2.3	Facility Contact							
Address		Name (first and last)	Title			Phone number			
Aailing /		Email address							
le, N	2.4	Facility Mailing Address							
Nan		Street or P.O. box							
		City or town	State			ZIP code			

EP/	EPA Identification Number		NPDES Perr	mit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004					
s, ed	2.5	Facility Location	on								
Addres Continue			ımber, or other sp	ecific identifier							
Name, Mailing Address, and Location Continued		County name		County code (if	County code (if known)						
		City or town		State		ZIP code					
SECTIO	N 3. SIC	AND NAICS CO	DES (40 CFR 122	2.21(f)(3))							
	3.1	SIC C	ode(s)	Description (o	ptional)						
codes											
SIC and NAICS Codes											
∕N p	3.2	NAICS	Code(s)	Description (o	ptional)						
C an											
S											
SECTIO		ERATOR INFORM		122.21(f)(4))							
	4.1	Name of Opera	ator								
ç	4.0										
natio	4.2		Is the name you listed in Item 4.1 also the owner?								
Information											
	4.3	Operator Statu		1							
Operator			leral L	Public—state		r public (specify)					
ō	4.4	Private Phone Number	r of Operator	Other (specify)							
	4.5	Operator Addr	ess								
atior		Street or P.O. B	3ox								
form		011									
tor In Contir		City or town		State		ZIP code					
Operator Information Continued		Email address o	of operator	1							
SECTIO	N 5. IND	IAN LAND (40 CI	FR 122.21(f)(5))								
	5.1		cated on Indian La	and?							
Indian Land		□ Yes □	No								

EPA	EPA Identification Number		NPDES Permit N	nit Number		Facility Name	Form Approved 03/05/19 OMB No. 2040-0004				
SECTIO	N 6 EXIS		MENTAL PERMITS	(40 CER 122	21(f)(6	3)					
	6.1			•		••	responding permit number for each)				
Existing Environmental Permits	0.1	_	ischarges to surface			lous wastes)	UIC (underground injection of fluids)				
ing Enviro Permits		PSD (air ei	missions)	Nonattainment program (CAA)			NESHAPs (CAA)				
_		Ocean dun		e or fill (CWA Section 404)	Other (specify)					
SECTIO	N 7. MA	P (40 CFR 122.2	1(f)(7))								
Map	7.1		Have you attached a topographic map containing all required information to this application? (See instructions for pecific requirements.)								
		□ Yes □	No 🛛 CAFO—No	t Applicable	(See re	quirements in Form 2B	.)				
SECTIO	N 8. NAT	URE OF BUSIN	ESS (40 CFR 122.21)	(f)(8))							
	8.1	Describe the na	ature of your business								
ess											
Isine											
Nature of Business											
nre c											
Natı											
SECTIO	N 9. COO	DLING WATER I	NTAKE STRUCTURE	ES (40 CFR 1	122.21(f)(9))					
	9.1	Does your facil	ity use cooling water?								
r es		🗆 Yes 🛛	No -> SKIP to Item	10.1.							
Water uctures	9.2						intake structure as described at				
ng V Stru							40 CFR 122.21(r). Consult with your				
Cooling Intake Stru		NPDES permit	ling authority to deterr	nine what sp	ecilic in	formation needs to be	submitted and when.)				
Inta C											
SECTIO	N 10. VA	RIANCE REQU	ESTS (40 CFR 122.21	(f)(10))							
	10.1						0 CFR 122.21(m)? (Check all that				
lests		apply. Consult when.)	with your NPDES peri	mitting autho	rity to d	etermine what informa	tion needs to be submitted and				
e Requ		Fundam Section	entally different factor 301(n))	s (CWA		Water quality related 302(b)(2))	effluent limitations (CWA Section				
Variance Requests			ventional pollutants (0 301(c) and (g))	CWA		Thermal discharges (CWA Section 316(a))				
		Not appl	licable								

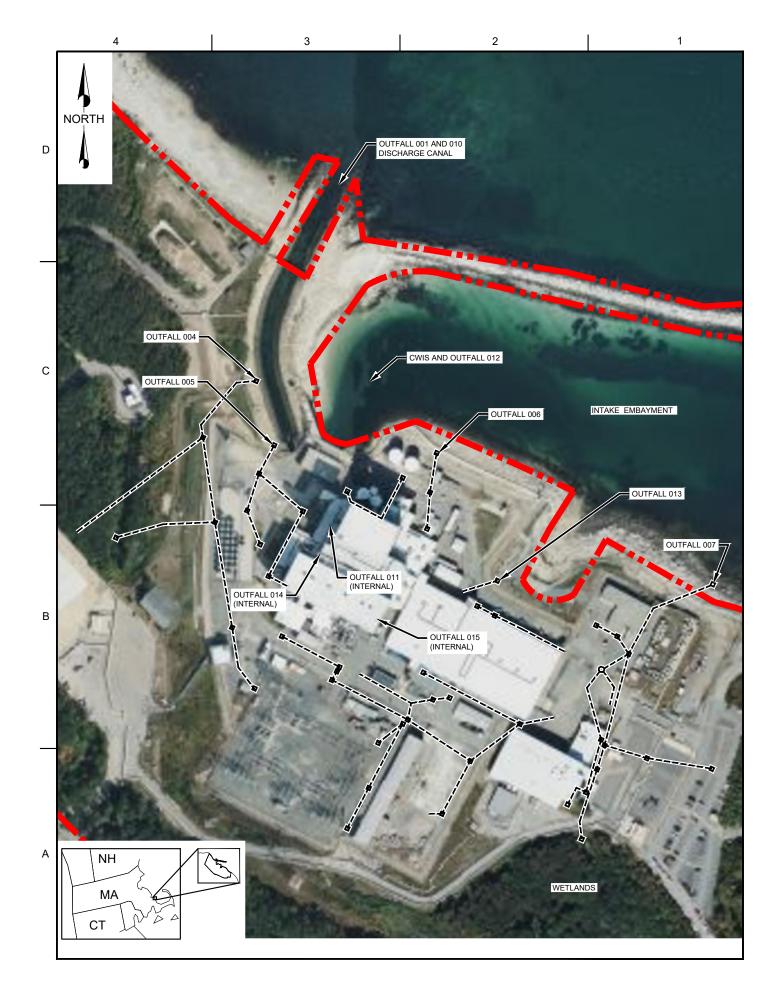
EP/	A Identificat	tion Numbe	er	NPDES Permit Number		Facil	ity Name	Form Approved 03/05/19 OMB No. 2040-0004		
SECTIO	N 11. CH	ECKLIS	t and (CERTIFICATION STATEMENT (40	0 CFR 122	2.22(a) and (d))			
	11.1	In Colu For eac	mn 1 be ch sectio	low, mark the sections of Form 1 th	hat you ha nents that	ave completed and are submitting with your application. t you are enclosing to alert the permitting authority. Note				
				Column 1		Column 2				
		Section 1: Activities Requiring an NPDES Permit					w/ attachments			
			Sectior	2: Name, Mailing Address, and Lo	ocation		w/ attachments			
			Section 3: SIC Codes				w/ attachments			
		Section 4: Operator Information					w/ attachments			
		Section 5: Indian Land				w/ attachments				
ent			Sectior	6: Existing Environmental Permits	S		w/ attachments			
Checklist and Certification Statement			Section 7: Map				w/ topographic map	□ w/ additional attachments		
ion St			Sectior	8: Nature of Business			w/ attachments			
tificat			Sectior	9: Cooling Water Intake Structure	s		w/ attachments			
nd Cer			Sectior	10: Variance Requests			w/ attachments			
dist ar			Sectior	11: Checklist and Certification Sta	atement		w/ attachments			
heck	11.2	Certification Statement								
Ċ		in acco informa directly belief, t	rdance v ation sub respons true, acc	with a system designed to assure to mitted. Based on my inquiry of the sible for gathering the information,	hat qualifie person of the inform hat there a	achments were prepared under my direction or supervision fied personnel properly gather and evaluate the or persons who manage the system, or those persons mation submitted is, to the best of my knowledge and are significant penalties for submitting false information, ng violations.				
		Name ((print or	type first and last name)		Offici	al title			
		Signatu	ure			Date signed				

Form 3510-1 Figure 7-A. Site Location



Figure 7-A. Site Location

NSN. 7643016369562 NGA REF NO. USGSX24K27520 Form 3510-1 Figure 7-B. Outfall Locations



FORM 3510-2C

EPA	EPA Identification Number		NPDES Permit Number		Facil	lity Name		Form Approved 03/05/19 OMB No. 2040-0004				
Form 2C	9	EPA	Appli			I Protection Ag		ater				
NPDES			EXISTING MANUFACT	URING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS								
SECTIO			ION (40 CFR 122.21(g)(1))									
	1.1	Provide infor Outfall	mation on each of the facility's									
ation		Number	Receiving Water Name		Latitude	9		Longitud	le			
I Loc				٥	,	"	٥	,	"			
Outfall Location				o	,	"	٥	,	"			
				٥	,	"	٥	,	"			
SECTIO	N 2. LINE	DRAWING (4	40 CFR 122.21(g)(2))									
e Dg	2.1		ached a line drawing to this ap									
Line Drawing		Dalance? (Se	balance? (See instructions for drawing requirements. See Exhibit 2C-1 at end of instructions for example.)									
				400.04()(2))								
SECTIO	3.1		S AND TREATMENT (40 CFR		flow on	d troatmont info	mation A	d additional	choote if			
	5.1	For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.										
				**Outfall Num								
		Operations Contributing to Flow Operation Average Flow										
			opolation				<u>, nonago</u>		m	gd		
ent										-		
eatm					_				m	gd		
Flows and Treatment					_				m	gd		
ws al		mgd										
			Description	Treatn	nent Uni	its	E	nal Dianaaa	l of Solid o	v		
Average		(include s	Description size, flow rate through each tre retention time, etc.)	atment unit,		Code from Table 2C-1		nal Disposa quid Wastes by Disc	Other Tha			

EPA	EPA Identification Nu		NPDES Permit Number	F	acility Name	Form Approved 03/05/19 OMB No. 2040-0004							
	3.1		**Out	fall Number**									
	cont.		Operations Contributing to Flow										
			Operation		Av	erage Flow							
						mgd							
						mgd							
						mgd							
						mgd							
				Treatment l	Jnits								
		(include s	Description ize, flow rate through each treatmer retention time, etc.)	nt unit,	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge							
per													
ontinu													
ent Co													
Average Flows and Treatment Continued													
T PL		**Outfall Number**											
vs ar		Operations Contributing to Flow											
Flov			Operation		Av	erage Flow							
rage						mgd							
Ave						mgd							
						mgd							
						mgd							
				Treatment l	Jnits								
		(include s	Description ize, flow rate through each treatmer retention time, etc.)	nt unit,	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge							
_	3.2		ring for an NPDES permit to operate	e a privately ow	_								
System Users		Yes			No → SKIP to Se	ction 4.							
S∕ ⊓	3.3	Have you atta	ached a list that identifies each user	of the treatme	nt works?								

EPA Identification Number		NPDES Permit	Number	Facility Name		Form Approved 03/05/19 OMB No. 2040-0004			
SECTIO	N 4. INTE	RMITTENT	FLOWS (40 CFR 122.2	21(a)(4))					
	4.1		storm runoff, leaks, or s		rges described in Sec	tions 1 and 3 inte	ermittent or sea	sonal?	
		🗌 Yes				SKIP to Section 5			
	4.2	Provide in	formation on intermitten					ecessary.	
		Outfall	Operation	Average	uency Average	Flow Long-Term	Maximum	Duration	
		Number	(list)	Days/Week	Months/Year	Average	Daily		
				days/week	months/year	mgd	mgd	days	
Flows				days/week	months/year	mgd	mgd	days	
ttent I				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	
SECTIO	N 5. PRO		40 CFR 122.21(g)(5))						
	5.1		luent limitation guideline	es (ELGs) promulgat	•			ir facility?	
		🗌 Yes			$\square No \rightarrow S$	SKIP to Section 6) .		
S	5.2		e following information of				0.4		
EL			LG Category		ELG Subcategory		Regulatory	Citation	
Applicable ELGs			ectric Power ng Industry						
Appl									
	F ^	A			and the first of the		(i)0		
S	5.3	Are any of	the applicable ELGs ex	pressed in terms of		easure of opera SKIP to Section 6	,		
tion	5.4								
imita	J.4	Outfall	n actual measure of daily					Unit of	
ed Li		Number	Opera	tion, Product, or N	laterial	Quantity p	orligv	leasure	
1-Base									
Production-Based Limitations									
Proc									

EPA Identificatio		on Number	NPDES Permit Number	Facility Nam	е	Form Approved 03/05/19 OMB No. 2040-0004								
SECTIO			(40 CFR 122.21(g)(6))											
ocorrio	6.1	Are you pres upgrading, or	ently required by any federal, s r operating wastewater treatme charges described in this appli	ent equipment o										
		🗌 Yes		No \rightarrow SKIP to Item 6.3.										
ţs	6.2	Briefly identif	y each applicable project in the	1										
men		Brief Identi	fication and Description of	Affected Outfalls	So	urce(s) of	Final Comp	liance Dates						
Upgrades and Improvements			Project	(list outfall number)	Di	scharge	Required	Projected						
ml br														
es ar														
ograd														
Ŋ														
	6.3		ached sheets describing any a ct your discharges) that you no					ntal projects						
] No			Not applicable							
SECTIO	N 7. EFF		NTAKE CHARACTERISTICS ((a)(7))									
		e instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must												
	•	nplete. Not all applicants need to complete each table. De A. Conventional and Non-Conventional Pollutants												
	7.1		al and Non-Conventional Pol esting a waiver from your NPD		authority for or	ne or more o	f the Table A polluta	nts for any of						
	/.1	your outfalls?		20 pormiting t	_									
	7.0			A111	No \rightarrow SKIP to Item 7.3.									
	7.2	-	te the applicable outrails below all Number		ver request and other required information to the applic									
s	7.3				Number Outfall Number at each of your outfalls for which a waiver has not been									
eristic	7.5		id attached the results to this a	application package?										
racte		Yes No; a waiver has been requested from my NF permitting authority for all pollutants at all out												
Cha	Table E	B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants												
Effluent and Intake Characteristics	7.4		e facility's processes that contri bit 2C-3? (See end of instruction		er fall into one	or more of t	he primary industry o	ategories						
t and		Yes				 SKIP to Ite 								
fluen	7.5		ecked "Testing Required" for al	Il toxic metals, o	•	otal phenols	in Section 1 of Table	e B?						
Ef					No No									
	7.6	List the appli in Exhibit 2C	cable primary industry categori -3.	es and check t	he boxes indic	ating the red	quired GC/MS fractio	n(s) identified						
			Primary Industry Category				GC/MS Fraction(s) applicable boxes.)							
					□ Volatile	□ Acid	□ Base/Neutral	□ Pesticide						
					□ Volatile	□ Acid	□ Base/Neutral	□ Pesticide						
					□ Volatile	□ Acid	□ Base/Neutral	□ Pesticide						

EPA Identification Number			NPDES Permit Number	Fa	cility Name	Form Approved 03/05/19 OMB No. 2040-0004						
	7.7		ecked "Testing Required" for all requi ions checked in Item 7.6?	ired pollutants i	n Sections 2 through No	5 of Table B for each of the						
	7.8		ecked "Believed Present" or "Believed	L d Absent" for al		Sections 1 through 5 of Table B						
	7.0		g is not required?		r polititarits listeti ili c	bections I through 5 of Table B						
		Yes	5		No							
	7.9	Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testin required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believed Present" in your discharge?										
	7.40				No							
	7.10											
ped		Yes → Note that you qualify at the top of Table B, then SKIP to Item 7.12. No										
Effluent and Intake Characteristics Continued	7.11	determined t	ovided (1) quantitative data for those esting is required or (2) quantitative of u have indicated are "Believed Prese	lata or an expla	nation for those Sec							
eris	Table C		ventional and Non-Conventional P	ollutants								
haract	7.12		dicated whether pollutants are "Believ		"Believed Absent" for	r all pollutants listed on Table C						
ke C		Yes			No							
it and Inta	7.13	Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an ELG and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"?										
luer		Yes										
Eff			ardous Substances and Asbestos									
	7.14	all outfalls?	dicated whether pollutants are "Believ	ed Present" or		r all pollutants listed in Table D for						
		Yes			No							
	7.15	and (2) by pr	are expected to be discharged									
		Yes			No							
			achlorodibenzo-p-Dioxin (2,3,7,8-T)			The floor factor of the second second						
	7.16		ility use or manufacture one or more e reason to believe that TCDD is or m			d in the instructions, or do you						
			Complete Table E.		No ➔ SKIP to Se	ction 8.						
	7.17	Have vou co	mpleted Table E by reporting qualitat	<i>iv</i> e data for TC	DD?							
		Yes			No							
SECTIO	N 8. USE	D OR MANUF	ACTURED TOXICS (40 CFR 122.21	(g)(9))								
	8.1		ant listed in Table B a substance or a	component of a	a substance used or	manufactured at your facility as						
tured		an intermedi	ate or final product or byproduct?		No ➔ SKIP to S	ection 9.						
ufac	8.2	List the pollu	tants below.									
Manufá Toxics		1.	4.		7.							
Used or Manufactured Toxics		2.	5.		8.							
ŝ		3.	6.		9.							

EPA	Identificatio	n Number NPDES Permit Number				Facility Nam	e	Form Approved 03/05/19 OMB No. 2040-0004					
SECTIO	N 9. BIO		CITY TESTS	6 (40 CFR 122.21(g)(11))								
	9.1	Do you have a	ny knowled										
Fest	9.2	Identify the tes	ts and their	purposes below.									
Biological Toxicity Tests		Test(Purpose of Test(s	5)	Submitted Permitting		Date Submitted					
gical To						☐ Yes	□ No						
Biolo						□ Yes	□ No						
						□ Yes	□ No						
SECTIO	N 10. CO			CFR 122.21(g)(12))									
	10.1	Were any of th	e analyses	reported in Section 7 pe	erformed	by a contract	laboratory or cons	sulting firm?					
		□ Yes □ No → SKIP to Section 11.											
	10.2	.2 Provide information for each contract laboratory or consulting firm below.											
				Laboratory Numbe	er 1	Laborato	ry Number 2	Laboratory Number 3					
		Name of laboration	atory/firm										
S													
Contract Analyses		Laboratory add	dress										
Ana													
ract													
Cont		Phone number	r										
Ū													
		Pollutant(s) an	alvzed										
			,										
SECTIO	N 11. AD	DITIONAL INFO	RMATION	(40 CFR 122.21(g)(13))								
	11.1	Has the NPDE	S permitting	authority requested ac	dditional ir	al information?							
L.		🔲 Yes				No ·	➔ SKIP to Sectio	n 12.					
matic	11.2	List the inform	ation reques	sted and attach it to this	application	on.							
I Infor		1.				4.							
Additional Information		2.				5.							
Å		3.				6.							

EPA Identification Number			NPDES Permit Number		Facility Name	Form Approved 03/05/19 OMB No. 2040-0004					
SECTIO	N 12 CH	FCKI	IST AND	CERTIFICATION STATEM	ENT (40 CFR 122 22(a) and (d))					
	12.1	In Co For e	olumn 1 each seo	below, mark the sections of I tion, specify in Column 2 any oplicants are required to com	Form 2 y attac	Form 2C that you have completed and are submitting with your application. attachments that you are enclosing to alert the permitting authority. Note plete all sections or provide attachments.					
				Column 1		Column 2					
		Section 1: Outfall Location				w/ attachments					
			Section	2: Line Drawing		w/ line drawing		w/ additional attachments			
			Section Treatm	3: Average Flows and ent		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			
						w/ request for a waiver and supporting information		w/ explanation for identical outfalls			
ement				n 7: Effluent and Intake cteristics		w/ small business exemption request	n 🗆	w/ other attachments			
n Stat						w/ Table A		w/ Table B			
icatio						w/ Table C		w/ Table D			
Certif						w/ Table E		w/ analytical results as an attachment			
st and			Section Toxics	8: Used or Manufactured		w/ attachments					
Checklist and Certification Statement			Section Tests	9: Biological Toxicity		w/ attachments					
U U			Section	10: Contract Analyses		w/ attachments					
				11: Additional Information	w/ attachments						
				12: Checklist and ation Statement		w/ attachments					
	12.2	Cert	ification	Statement							
		acco subr resp accu poss	ordance v nitted. B onsible f irate, and sibility of	with a system designed to as ased on my inquiry of the per or gathering the information, d complete. I am aware that fine and imprisonment for kn	sure th rson oi the ini there a	nat qualified personnel proper persons who manage the sy formation submitted is, to the are significant penalties for sul	epared under my direction or supervision in rly gather and evaluate the information vstem, or those persons directly best of my knowledge and belief, true, bmitting false information, including the				
		Nam	e (print o	or type first and last name)			Official title	Official title			
		Sign	ature				Date signed	3			

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EPA Identification Number		NPDES Permit Number			Facility Name		Outfall Number		Form Approved 03/05/19 OMB No. 2040-0004	
TAI	BLE A. CONVENTIONAL AND N		TIONAL POLLUTA	NTS (40 CH	R 122.21(g)(7)(ii	<u>fi))1</u> 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	to your NPD	ES permitting author	ity for a wa	iver for <i>all</i> of the p	ollutants listed on	this table for the no	ted outfall.		
1	Biochemical oxygen demand		Concentration							
1.	(BOD₅)		Mass							
2.	Chemical oxygen demand		Concentration							
Ζ.	(COD)		Mass							
3.	Total organic carbon (TOC)		Concentration							
э.	Total organic carbon (TOC)		Mass							
4.	Total suspended solids (TSS)		Concentration							
4.	Total suspended solids (133)		Mass							
5.	Ammonia (as N)		Concentration							
5.			Mass							
6.	Flow		Rate							
7	Temperature (winter)		°C	°C						
7.	Temperature (summer)		°C	°C						
Q	pH (minimum)		Standard units	s.u.						
8.	pH (maximum)		Standard units	s.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).

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EPA Identification Number		NPDES F			Facility Name		Outfall Number			Form Approved 03/05/19 OMB No. 2040-0004				
TABL	E B. TOXIC METALS, CYANIDE	, TOTAL PHE	Presence	ORGANIC T or Absence ck one)		DXIC POLLUTANTS (40 CFR			uent			Intake (optional)		
	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Believed Believed Present Absent		Units (specify)		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)		rage iily narge	Number of Analyses	Long- Term Average Value	Number of Analyses	
Section	on 1. Toxic Metals, Cyanide, an	d Total Phene	ols											
1.1	Antimony, total (7440-36-0)				Concentration Mass									
1.2	Arsenic, total (7440-38-2)				Concentration Mass									
1.3	Beryllium, total				Concentration									
1.4	(7440-41-7) Cadmium, total				Mass Concentration									
1.4	(7440-43-9)				Mass									
1.5	Chromium, total (7440-47-3)				Concentration Mass									
1.6	Copper, total (7440-50-8)				Concentration									
	Lead, total				Mass Concentration									
1.7	(7439-92-1)				Mass									
1.8	Mercury, total (7439-97-6)				Concentration									
	· · · · ·				Mass Concentration									
1.9	Nickel, total (7440-02-0)				Mass									
1.10	Selenium, total				Concentration									
	(7782-49-2)				Mass									
1.11	Silver, total (7440-22-4)				Concentration Mass									

	EPA Identification Number	NPDES F	Permit Number		Facility Name		C	utfall Number				Form Appro OMB N	ved 03/05/19 o. 2040-0004
TABL	E B. TOXIC METALS, CYANIDE	, TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTANT	TS (40 CF	R 122.21(g)(7)	(v)) ¹ Efflu	uent				t ake tional)
	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- Aver Da Disch (if avai	rage ily narge	Number of Analyses	Long- Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)				Concentration Mass								
1.13	Zinc, total				Concentration								
1.13	(7440-66-6)				Mass								
1.14	Cyanide, total				Concentration								
	(57-12-5)				Mass								
1.15	Phenols, total				Concentration Mass								
Sectio	on 2. Organic Toxic Pollutants (GC/MS Fract	ion—Volatil	e Compound								<u> </u>	
	Acrolein				Concentration								
2.1	(107-02-8)				Mass								
2.2	Acrylonitrile				Concentration								
2.2	(107-13-1)				Mass								
2.3	Benzene				Concentration								
	(71-43-2)				Mass								
2.4	Bromoform (75-25-2)				Concentration								
	· ,				Mass Concentration								
2.5	Carbon tetrachloride (56-23-5)				Mass								
	Chlorobenzene				Concentration								
2.6	(108-90-7)				Mass								
2.7	Chlorodibromomethane				Concentration								
2.1	(124-48-1)				Mass								
2.8	Chloroethane				Concentration								
	(75-00-3)				Mass								

	EPA Identification Number		ermit Number		Facility Name			Outfall Number					ved 03/05/19 o. 2040-0004
TABL	E B. TOXIC METALS, CYANIDE	, TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTANT	rs (40 CF	R 122.21(g)(7)	(v)) ¹ Efflu	uent				t ake tional)
	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- Aver Da Disch (if avai	rage ily narge	Number of Analyses	Long- Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)				Concentration Mass								
2.10	Chloroform (67-66-3)				Concentration Mass								
2.11	Dichlorobromomethane (75-27-4)				Concentration Mass								
2.12	1,1-dichloroethane (75-34-3)				Concentration Mass								
2.13	1,2-dichloroethane (107-06-2)				Concentration Mass								
2.14	1,1-dichloroethylene (75-35-4)				Concentration Mass								
2.15	1,2-dichloropropane (78-87-5)				Concentration Mass								
2.16	1,3-dichloropropylene (542-75-6)				Concentration Mass								
2.17	Ethylbenzene (100-41-4)				Concentration Mass								
2.18	Methyl bromide (74-83-9)				Concentration Mass								
2.19	Methyl chloride (74-87-3)				Concentration Mass								
2.20	Methylene chloride (75-09-2)				Concentration Mass								
2.21	1,1,2,2- tetrachloroethane (79-34-5)			₽	Concentration Mass								

	EPA Identification Number	NPDES F	Permit Number		Facility Name		C	outfall Number					ved 03/05/19 5. 2040-0004
TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTANT	TS (40 CF	R 122.21(g)(7)		uent				a ke 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- Aver Da Disch (if avai	rage ily narge	Number of Analyses	Long- Term Average Value	Number of Analyses
2.22	Tetrachloroethylene				Concentration								
	(127-18-4)				Mass								
2.23	Toluene (108-88-3)				Concentration Mass								
	1,2-trans-dichloroethylene	1_			Concentration								
2.24	(156-60-5)				Mass								
2.25	1,1,1-trichloroethane				Concentration								
2.25	(71-55-6)				Mass								
2.26	1,1,2-trichloroethane				Concentration								
	(79-00-5)				Mass								
2.27	Trichloroethylene (79-01-6)				Concentration Mass								
	Vinyl chloride				Concentration								
2.28	(75-01-4)				Mass								
Section	on 3. Organic Toxic Pollutants (GC/MS Fract	ion—Acid C	ompounds)			1				<u> </u>		
3.1	2-chlorophenol				Concentration								
0.1	(95-57-8)				Mass								
3.2	2,4-dichlorophenol				Concentration								
	(120-83-2)				Mass								
3.3	2,4-dimethylphenol (105-67-9)				Concentration Mass								
	· · · · ·				Concentration								
3.4	4,6-dinitro-o-cresol (534-52-1)				Mass								
	2,4-dinitrophenol				Concentration								
3.5	(51-28-5)				Mass								1

	EPA Identification Number ABLE B. TOXIC METALS, CYANIDE		ermit Number		Facility Name		C	outfall Number					ved 03/05/19 5. 2040-0004
TABLE B. TOX	XIC METALS, CYANIDE	, TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTAN	TS (40 CF	R 122.21(g)(7)		uent				a ke ional)
	ollutant/Parameter CAS Number, if available)	Testing Required	Believed Present	Believed Absent	Units (specify)		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long- Aver Dai Disch (if avail	age ily arge	Number of Analyses	Long- Term Average Value	Number of Analyses
3.6 2-nitroph (88-75-5					Concentration								
3.7 4-nitroph					Mass Concentration								
3.7 (100-02-	2-7)				Mass								
3.8 p-chloro	o-m-cresol				Concentration								
(59-50-7					Mass								
3.9 Pentach (87-86-5	hlorophenol 5)				Concentration Mass								
Phonol	- /	_			Concentration								
3.10 (108-95-	5-2)				Mass								
	ichlorophenol				Concentration								
(88-05-2	,				Mass								
	ganic Toxic Pollutants (GC/MS Fract	ion—Base /	Neutral Com	,								
4.1 Acenaph (83-32-9					Concentration Mass								
`	hthylene				Concentration								
4.2 Acenapi (208-96-					Mass								
Anthrace	cene				Concentration								
4.3 (120-12-	2-7)				Mass								
4.4 Benzidir					Concentration								
4.4 (92-87-5	5)				Mass								
	(a) anthracene				Concentration								
(56-55-3	,				Mass								
4.6 Benzo (a (50-32-8	(a) pyrene 8)				Concentration Mass								

	EPA Identification Number		ermit Number		Facility Name			outfall Number					ved 03/05/19 5. 2040-0004
TABL	E B. TOXIC METALS, CYANIDI	, TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTANTS	6 (40 CFF	R 122.21(g)(7)	(v)) ¹ Efflu	uent			Int (opt	a ke 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- Aver Da Disch (if avai	rage ily narge	Number of Analyses	Long- Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)				Concentration Mass								
4.8	Benzo (ghi) perylene (191-24-2)				Concentration Mass								
4.9	Benzo (k) fluoranthene (207-08-9)				Concentration Mass								
4.10	Bis (2-chloroethoxy) methane (111-91-1)				Concentration Mass								
4.11	Bis (2-chloroethyl) ether (111-44-4)				Concentration Mass								
4.12	Bis (2-chloroisopropyl) ether (102-80-1)				Concentration Mass								
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)				Concentration Mass								
4.14	4-bromophenyl phenyl ether (101-55-3)				Concentration Mass								
4.15	Butyl benzyl phthalate (85-68-7)				Concentration Mass								
4.16	2-chloronaphthalene (91-58-7)				Concentration Mass								
4.17	4-chlorophenyl phenyl ether (7005-72-3)				Concentration Mass								
4.18	Chrysene (218-01-9)				Concentration Mass								
4.19	Dibenzo (a,h) anthracene (53-70-3)				Concentration Mass								

	EPA Identification Number	NPDES F	Permit Number		Facility Name		C	Outfall Number					ved 03/05/19 o. 2040-0004
TABL	E B. TOXIC METALS, CYANIDE	, TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTANT	rs (40 CF	R 122.21(g)(7)	(v)) ¹ Efflu	uent				t ake tional)
	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- Aver Da Disch (if avai	age ily iarge	Number of Analyses	Long- Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)				Concentration Mass								
4.21	1,3-dichlorobenzene (541-73-1)				Concentration Mass								
4.22	1,4-dichlorobenzene (106-46-7)				Concentration Mass								
4.23	3,3-dichlorobenzidine (91-94-1)				Concentration Mass								
4.24	Diethyl phthalate (84-66-2)				Concentration Mass								
4.25	Dimethyl phthalate (131-11-3)				Concentration Mass								
4.26	Di-n-butyl phthalate (84-74-2)				Concentration Mass								
4.27	2,4-dinitrotoluene (121-14-2)				Concentration Mass								
4.28	2,6-dinitrotoluene (606-20-2)				Concentration Mass								
4.29	Di-n-octyl phthalate (117-84-0)				Concentration Mass								
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)				Concentration Mass								
4.31	Fluoranthene (206-44-0)				Concentration Mass								
4.32	Fluorene (86-73-7)				Concentration Mass								

	EPA Identification Number ABLE B. TOXIC METALS, CYANIDE, TOT		ermit Number		Facility Name		C	Outfall Number					ved 03/05/19 5. 2040-0004
TABL	E B. TOXIC METALS, CYANIDI	, TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTANT	rs (40 CF	R 122.21(g)(7)	(v)) ¹ Efflu	uent				a ke 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- Aver Da Disch (if avai	rage ily narge	Number of Analyses	Long- Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)				Concentration Mass								
4.34	Hexachlorobutadiene (87-68-3)				Concentration Mass								
4.35	Hexachlorocyclopentadiene (77-47-4)				Concentration Mass								
4.36	Hexachloroethane (67-72-1)				Concentration Mass								
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)				Concentration Mass								
4.38	Isophorone (78-59-1)				Concentration Mass								
4.39	Naphthalene (91-20-3)				Concentration Mass								
4.40	Nitrobenzene (98-95-3)				Concentration Mass								
4.41	N-nitrosodimethylamine (62-75-9)				Concentration Mass								
4.42	N-nitrosodi-n-propylamine (621-64-7)				Concentration Mass								
4.43	N-nitrosodiphenylamine (86-30-6)				Concentration Mass								
4.44	Phenanthrene (85-01-8)				Concentration Mass								
4.45	Pyrene (129-00-0)				Concentration Mass								

	EPA Identification Number	NPDES F	ermit Number		Facility Name		C	utfall Number					ved 03/05/19 o. 2040-0004
TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE	Presence	ORGANIC T or Absence ck one)	OXIC POLLUTAN	TS (40 CFI	R 122.21(g)(7)		uent				t ake tional)
	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- Aver Da Disch (if avai	rage ily narge	Number of Analyses	Long- Term Average Value	Number of Analyses
4.46	1,2,4-trichlorobenzene (120-82-1)				Concentration								
Section	on 5. Organic Toxic Pollutants (GC/MS Fract	ion—Pestic	ides)	Mass				<u> </u>			l	l
5.1	Aldrin (309-00-2)				Concentration Mass								
5.2	α-BHC (319-84-6)				Concentration Mass								
5.3	β-BHC (319-85-7)				Concentration Mass								
5.4	γ-BHC (58-89-9)				Concentration Mass								
5.5	δ-BHC (319-86-8)				Concentration Mass								
5.6	Chlordane (57-74-9)				Concentration Mass								
5.7	4,4'-DDT (50-29-3)				Concentration Mass								
5.8	4,4'-DDE (72-55-9)				Concentration Mass								
5.9	4,4'-DDD (72-54-8)				Concentration Mass								
5.10	Dieldrin (60-57-1)				Concentration Mass								
5.11	α-endosulfan (115-29-7)				Concentration Mass								

	EPA Identification Number	-	Permit Number		Facility Name			utfall Number					ved 03/05/19 o. 2040-0004
TABL	E B. TOXIC METALS, CYANIDE	, TOTAL PHE	Presence	ORGANIC T or Absence ck one)		S (40 CF	R 122.21(g)(7)	(∨))¹ Efflu	uent				t ake tional)
	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- Aver Da Disch (if avai	rage ily narge	Number of Analyses	Long- Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)				Concentration Mass								
5.13	Endosulfan sulfate (1031-07-8)				Concentration Mass								
5.14	Endrin (72-20-8)				Concentration Mass								
5.15	Endrin aldehyde (7421-93-4)				Concentration Mass								
5.16	Heptachlor (76-44-8)				Concentration Mass								
5.17	Heptachlor epoxide (1024-57-3)				Concentration Mass								
5.18	PCB-1242 (53469-21-9)				Concentration Mass								
5.19	PCB-1254 (11097-69-1)				Concentration Mass								
5.20	PCB-1221 (11104-28-2)				Concentration Mass								
5.21	PCB-1232 (11141-16-5)				Concentration Mass								
5.22	PCB-1248 (12672-29-6)				Concentration Mass								
5.23	PCB-1260 (11096-82-5)				Concentration Mass								
5.24	PCB-1016 (12674-11-2)				Concentration Mass								

	EPA Identification Number	NPDES P	ermit Number		Facility Name		0	utfall Number				ved 03/05/19 5. 2040-0004
TABL	E B. TOXIC METALS, CYANIDE,	TOTAL PHE	NOLS, AND	ORGANIC T	OXIC POLLUTAN	TS (40 CFI	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
5 25	Toxaphene 25 (8001-35-2)				Concentration							
5.25					Mass							

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

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	EPA Identification Num	ber	NPDES Per	mit Number		Facility Name		Outfall Number			pproved 03/05/19 IB No. 2040-0004
TAE	BLE C. CERTAIN CO	Presence of	AND NON CC or Absence k one)	INVENTIONAL PO	LLUTANTS	5 (40 CFR 122.21(g))(7)(vi))¹ Efflu	ent		Intal (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 b <i>each</i> pollutant.	elieve all pollut	ants on Table (C to be present in	your discha	rge from the noted	outfall. You need	not complete the "Pi	resence or Abso	ence" column of T	able C for
	Check here if you b <i>each</i> pollutant.	elieve all pollut	ants on Table (C to be absent in y	our dischar	ge from the noted o	utfall. You need <i>n</i>	ot complete the "Pre	esence or Abse	nce" column of Ta	able C for
1.	Bromide (24959-67-9)			Concentration Mass							
2.	Chlorine, total residual			Concentration Mass							
3.	Color			Concentration Mass							
4.	Fecal coliform			Concentration Mass							
5.	Fluoride (16984-48-8)			Concentration Mass							
6	Nitrate-nitrite			Concentration Mass							
7.	Nitrogen, total organic (as N)			Concentration Mass							
8.	Oil and grease			Concentration							
9.	Phosphorus (as			Mass Concentration							
<u> </u>	P), total (7723-14-0)			Mass							ļ
10.	Sulfate (as SO ₄) (14808-79-8)			Concentration Mass							
14				Concentration							
11.	Sulfide (as S)			Mass							

	EPA Identification Num	nber	NPDES Per	mit Number		Facility Name		Outfall Number		Form A ON	pproved 03/05/19 IB No. 2040-0004
TAE	BLE C. CERTAIN CO	Presen	IAL AND NON CO ce or Absence check one)	DNVENTIONAL PO	LLUTANTS	5 (40 CFR 122.21(g		uent		Inta (Optic	
	Pollutant	Believe Presen		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							
	(14205-45-5)			Mass							
13.	Surfactants			Concentration							
				Mass							
14.	Aluminum, total (7429-90-5)			Concentration Mass							
<u> </u>	, ,			Concentration							
15.	Barium, total (7440-39-3)			Mass							
<u> </u>	Boron, total			Concentration							
16.	(7440-42-8)			Mass							
4-	Cobalt, total			Concentration							
17.	(7440-48-4)			Mass							
18.	Iron, total			Concentration							
10.	(7439-89-6)			Mass							
19.	Magnesium, total			Concentration							
19.	(7439-95-4)			Mass							
20	Molybdenum,			Concentration							
20.	total (7439-98-7)			Mass							
21.	Manganese, total			Concentration							
Z1.	(7439-96-5)			Mass							
22.	Tin, total			Concentration							
22.	(7440-31-5)			Mass							
23.	Titanium, total			Concentration							
20.	(7440-32-6)			Mass							

	EPA Identification Number NPDES Per		mit Number Facility Name			Outfall Number		Form Approved 03/05/19 OMB No. 2040-0004			
TAE	LE C. CERTAIN CO	NVENTIONA	L AND NON CO	NVENTIONAL PO	OLLUTANT	S (40 CFR 122.21(g)(7)(vi))¹				
			e or Absence eck one)	-			Efflu		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							
	Alpha, total			Mass							
	Beta, total			Concentration							
	Dela, IUlai			Mass							
	Radium, total			Concentration							
	Raulum, lotai			Mass							
	Radium 226, total			Concentration							
				Mass							

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

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			DES Permit Number		Facility Name	Outfall Number	Form Approved 03/05/19 OMB No. 2040-0004		
TAB	LE D. CERTAIN HAZARDOUS Pollutant	SUBSTANC	ES AND ASBEST Presence or (check) Believed	Absence		ant Believed Present in Discharge	Available Quantitative Data		
			Present	Absent			(specify units)		
1.	Asbestos								
2.	Acetaldehyde								
3.	Allyl alcohol								
4.	Allyl chloride								
5.	Amyl acetate								
6.	Aniline								
7.	Benzonitrile								
8.	Benzyl chloride								
9.	Butyl acetate								
10.	Butylamine								
11.	Captan								
12.	Carbaryl								
13.	Carbofuran								
14.	Carbon disulfide								
15.	Chlorpyrifos								
16.	Coumaphos								
17.	Cresol								
18.	Crotonaldehyde								
19.	Cyclohexane								

	EPA Identification Number	NPDE	S Permit Number		Facility Name	Outfall Number	Form Approved 03/05/19 OMB No. 2040-0004		
TAB	LE D. CERTAIN HAZARDOUS Pollutant	S SUBSTANC	CES AND ASBEST Presence or (check) Believed	Absence		tant Believed Present in Discharge	Available Quantitative Data		
		- onatant		Believed Absent	Reason Pollu	ant Believed Present in Discharge	(specify units)		
20.	2,4-D (2,4-dichlorophenoxyac	etic acid)							
21.	Diazinon								
22.	Dicamba								
23.	Dichlobenil								
24.	Dichlone								
25.	2,2-dichloropropionic acid								
26.	Dichlorvos								
27.	Diethyl amine								
28.	Dimethyl amine								
29.	Dintrobenzene								
30.	Diquat								
31.	Disulfoton								
32.	Diuron								
33.	Epichlorohydrin								
34.	Ethion								
35.	Ethylene diamine								
36.	Ethylene dibromide								
37.	Formaldehyde								
38.	Furfural								

			DES Permit Number		Facility Name	Outfall Number	Form Approved 03/05/19 OMB No. 2040-0004		
TAB	LE D. CERTAIN HAZARDOUS Pollutant	SUBSTANC	Presence or (check	Absence	.21(g)(7)(vii)) ¹ Reason Pollutant Believed Present in Discharge		Available Quantitative Data		
			Believed Present	Believed Absent			(specify units)		
39.	Guthion								
40.	Isoprene								
41.	Isopropanolamine								
42.	Kelthane								
43.	Kepone								
44.	Malathion								
45.	Mercaptodimethur								
46.	Methoxychlor								
47.	Methyl mercaptan								
48.	Methyl methacrylate								
49.	Methyl parathion								
50.	Mevinphos								
51.	Mexacarbate								
52.	Monoethyl amine								
53.	Monomethyl amine								
54.	Naled								
55.	Naphthenic acid								
56.	Nitrotoluene								
57.	Parathion								

	EPA Identification Number	NPD	ES Permit Number		Facility Name	Outfall Number	Form Approved 03/05/19 OMB No. 2040-0004		
TAB	LE D. CERTAIN HAZARDOUS SL Pollutant	JBSTAN	Presence or (check	Absence		tant Believed Present in Discharge	Available Quantitative Data		
			Believed Present	Believed Absent	Treason rolla	ant Deneveu i resent în Discharge	(specify units)		
58.	Phenolsulfonate								
59.	Phosgene								
60.	Propargite								
61.	Propylene oxide								
62.	Pyrethrins								
63.	Quinoline								
64.	Resorcinol								
65.	Strontium								
66.	Strychnine								
67.	Styrene								
68.	2,4,5-T (2,4,5-trichlorophenoxyact acid)	etic							
69.	TDE (tetrachlorodiphenyl ethane)								
70.	2,4,5-TP [2-(2,4,5-trichlorophenox propanoic acid]	(y)							
71.	Trichlorofon								
72.	Triethanolamine								
73.	Triethylamine								
74.	Trimethylamine								
75.	Uranium								
76.	Vanadium								

	EPA Identification Number NPE		DES Permit Number F		Facility Name	Outfall Number		Form Approved 03/05/19 OMB No. 2040-0004					
TAE	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 Pollut	ant Believed Present in Discharge		(specify units)					
77.	Vinyl acetate												
78.	Xylene												
79.	Xylenol												
80.	Zirconium												

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

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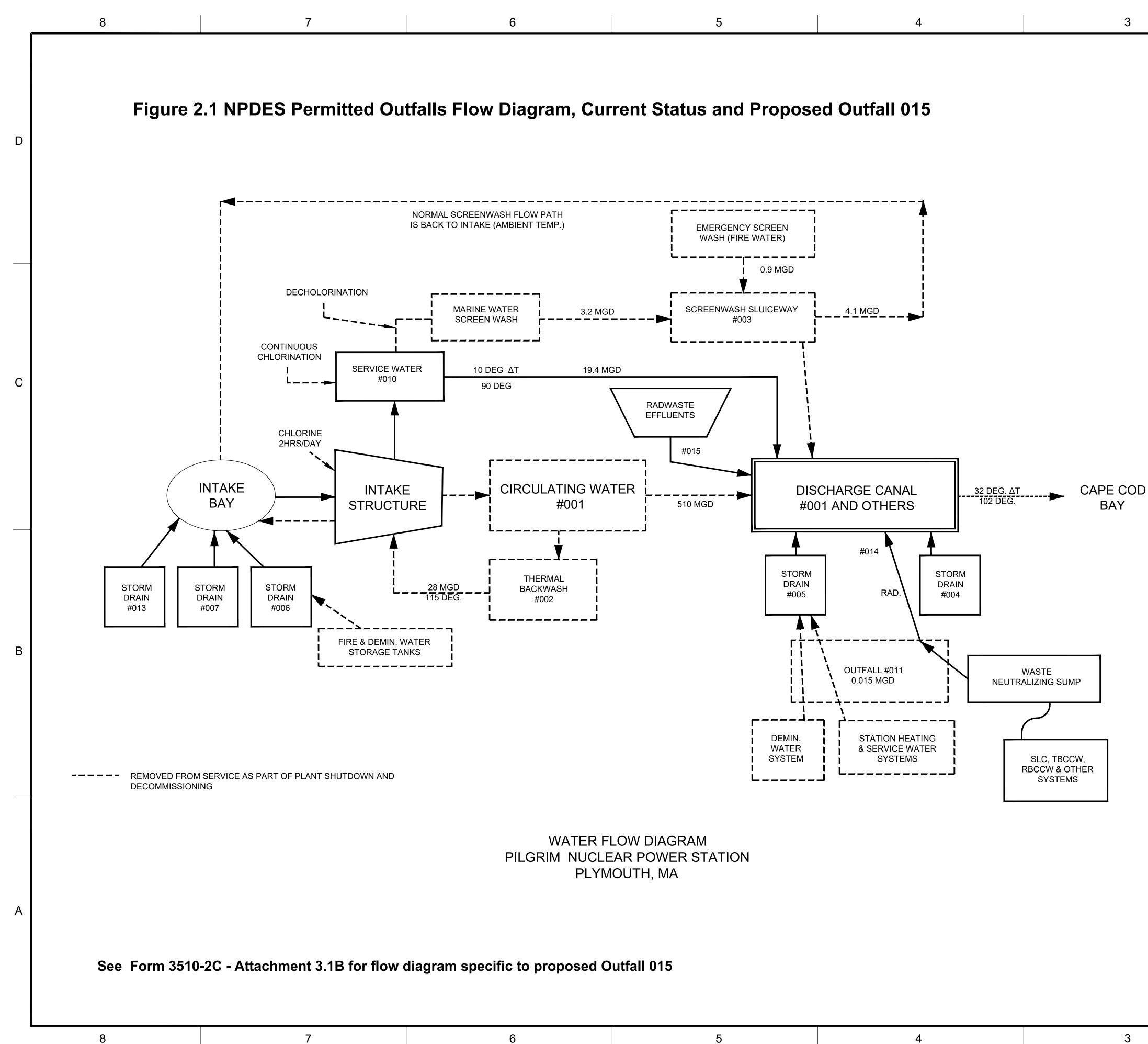
	EPA Identification Number	NPDES Per			Facility Name	Outfall Number	Form Approved 03/05/19 OMB No. 2040-0004				
TA	BLE E. 2,3,7,8 TETRACHLORO	Dibenzo P Diox	(IN (2,3,7,8 T	CDD) (40 CF	R 122.21(g)(7)(viii))						
	Pollutant	TCDD Congeners Used or	Presence or Absence (check one)		Results of Screening Procedure						
		Manufactured	Believed Present	Believed Absent							
	2,3,7,8-TCDD										

FORM 3510-2C

Figure 2.1

NPDES Permitted Outfalls Flow Diagram, Current Status,

and Proposed Outfall 015



5 4 3			
	5	4	3

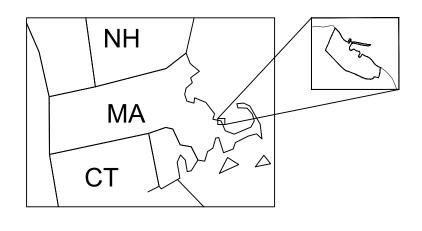
5	4	3

	2	1	_
N(1. 2. 3. 4. 5. 6. 7. 8.	DTES: THIS DIAGRAM SHOWS THE BASIC ELEMENTS R OUTFALLS FOR PILGRIM STATION. PILGRIM DRAWS SEAWATER FROM CAPE COD B EMBAYMENT INTO THE INTAKE STRUCTURE. THIS SEAWATER SUPPLIES ONCE-THROUGH CC CIRCULATION WATER AND (SALT) SERVICE WAT MAXIMUM DAILY FLOWS PERMITTED ARE SHOW GALLONS PER DAY). DASHED LINES REPRESENT FORMER FLOW. THERMAL LIMITS ARE SHOWN, WHERE APPLICA STORMWATER IN CABLE VAULTS DISCHARGED OUTFALLS 004, 005 AND 007 IN ACCORDANCE W PERMIT. OUTFALL #015 IS THE PROPOSED NEW OUTFALL	BAY THROUGH THE INTAKE POLING WATER TO THE TER SYSTEM IN IN MGD (MILLION BLE. THROUGH STORMWATER THROUGH STORMWATER ITH PART 1.A.7 OF NPDES	D

С

В

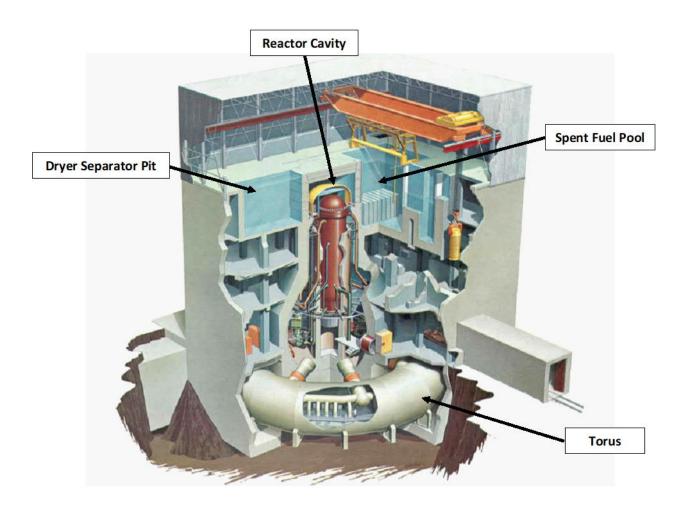
Α



FORM 3510-2C - ATTACHMENT 3.1A Operations Contributing to Flow for Outfall 015

Form 2c Attachment 3.1A

The water volumes proposed for discharge through Outfall #015 after their treatment include inventories currently stored in the Reactor Cavity / Dryer Separator Pit (approximately volume 400,000 gallons), Spent Fuel Pool (approximate volume 280,000 gallons) and Torus (approximate volume 285,000 gallons). These volumes were originally filled using a demineralized Plymouth town water source prior to the initial plant operation in 1972. The same demineralized town water source was also used for periodic makeup to account for any leakage and evaporation. During operation, these volumes functionally supported power generation and periodic refueling as depicted in the graphic below and as described in the following sections:



1. Water in the Reactor Cavity / Dryer Separator Pit was stored in the facility's Condensate Storage Tanks while the plant was generating electricity. On an interval not to exceed 2 years, the reactor was shutdown to exchange roughly 200 of the spent nuclear fuel assemblies with new equivalents. During these outage periods and following reactor shutdown, the water in the Condensate Storage Tanks was transferred to the Reactor Cavity and Dryer Separator Pit to provide a medium for safe transfer of the fuel assemblies underwater between the reactor and the spent fuel pool. Stringent programs for foreign material exclusion prevented the introduction of chemicals and materials that could damage the nuclear fuel. During

decommissioning, water in the Reactor Cavity / Dryer Separator Pit provides for radiological shielding of irradiated component removal including underwater waste generation, consolidation, and packaging activities. During these activities, local filtration provides for removal of any fine solid debris that is generated.

- 2. Water in the Spent Fuel Pool was used to remove decay heat from the spent nuclear fuel assemblies stored in the facility until the fuel was moved to onsite storage in an Independent Spent Fuel Storage Installation (ISFSI) that utilize a dry cask system for containment, security, and cooling. Heat generated in the Spent Fuel Pool was removed by operation of the Fuel Cooling and Demineralization System with heat ultimately rejected through a closed cooling water system to the once-through Salt Service Water System. The Fuel Pool Cooling and Demineralization system utilizes filtration and demineralization to maintain a high degree of water quality to prevent chemical interactions with the spent fuel assemblies. During decommissioning, water in the Spent Fuel Pool provides for radiological shielding of irradiated component packaging and removal activities. During these activities, local filtration provides for removal of any fine solid debris that is generated.
- 3. Water in the Torus was required to provide a quenching function for steam from the reactor's safety relief valves during abnormal and transient conditions. The water also provided a surge volume to limit the pressurization of the plant's primary containment and was a credited source of makeup to the reactor under emergency conditions. Although requirements for water quality were not as stringent as those established for the operating reactor, Reactor Cavity / Dryer Separator Pit, or Spent Fuel Pool, the water was maintained with a high degree of quality to satisfy fuel warranty standards. During decommissioning, the torus is solely utilized as a repository for excess water not needed for waste generation, handling, and disposal activities. Following the completion of these activities, it is expected that the water from the Reactor Cavity / Dryer Separator Pit and Spent Fuel Pool will be transferred to the Torus to await final disposition and subsequent reactor building dismantlement.

Source Water Volumes Chemical Characterization Summary

Analytical sampling was performed in accordance with Form 2C instructions and at direction from the permitting agencies for water contained in the Spent Fuel Pool, Reactor Cavity/Dryer Separator Pit and Torus. A summary of the analytical results for the source volumes (Spent Fuel Pool, Reactor Cavity/Dryer Separator Pit and Torus) are provided in Table 3.1A below. Laboratory reports are provided in Attachment 3.1C.

Table 3.1A
Analytical Results for Source Water Volumes

Parameter	CAS #	Units	React	tor Ca	vity/Dryer Separa	ator Pit		S	Spent Fuel Pool				Torus	
			Resul	t	DL	RL	Resul	t	DL	RL	Resul	t	DL	RL
POD		MC/I			itional and Non-C		1		, ,	20.0	ND	الله	1.00	2.00
BOD COD		MG/L MG/L	ND ND	dU U	10.0 8.95	20.0 20.0	ND ND	dU U	10.0 8.95	20.0 20.0	ND 39.2	dU	1.00 8.95	2.00
Total Organic Carbon		MG/L MG/L	ND	U	165	500	ND	U	165	500	0.528	1	0.330	1.00
Total Suspended Solids		MG/L	ND	U	5.70	25.0	ND	U	5.70	25.0	ND	U	0.570	2.50
Nitrogen, Ammonia	7664-41-7	MG/L	0.0230	J	0.0170	0.0500	0.0300	J	0.0170	0.0500	ND	U	0.0170	0.0500
рН		S.U.	7.07	Η	0.0100	0.100	7.27	Η	0.0100	0.100	7.43	Н	0.0100	0.100
			T		tals, Cyanide, and		1							
Antimony	7440-36-0 7440-38-2	UG/L UG/L	ND ND	U U	10.0 20.0	30.0 50.0	ND ND	U U	10.0 20.0	30.0 50.0	ND ND	U U	1.00 2.00	3.00 5.00
Arsenic Beryllium	7440-38-2	UG/L	ND	U	20.0	5.00	ND	U	20.0	5.00	ND	U	0.200	0.500
Boron	7440-42-8	UG/L	177	0	52.0	150	185	0	52.0	150	169	0	5.20	15.0
Cadmium	7440-43-9	UG/L	ND	U	3.00	10.0	ND	U	3.00	10.0	ND	U	0.300	1.00
Chromium	7440-47-3	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	3.00	10.0
Copper	7440-50-8	UG/L	ND	U	3.00	20.0	ND	U	3.00	20.0	ND	U	0.300	2.00
Lead	7439-92-1	UG/L	ND	U	5.00	20.0	ND	U	5.00	20.0	ND	U	0.500	2.00
Mercury	7439-97-6	UG/L	ND 31.1	U	0.670	2.00	ND 32.9	U	0.670	2.00 20.0	ND	U	0.0670	0.200
Nickel Selenium	7440-02-0 7782-49-2	UG/L UG/L	31.1 ND	U	6.00 15.0	20.0 50.0	32.9 ND	U	6.00 15.0	50.0	2.93 ND	U	0.600	2.00 5.00
Silver	7440-22-4	UG/L	ND	U	3.00	10.0	ND	U	3.00	10.0	ND	U	0.300	1.00
Thallium	7440-28-0	UG/L	ND	U	6.00	20.0	ND	U	6.00	20.0	ND	U	0.600	2.00
Zinc	7440-66-6	UG/L	726		33.0	200	798		33.0	200	1400		3.30	20.0
Cyanide, Total	57-12-5	UG/L	ND	U	8.35	25.0	ND	U	8.35	25.0	ND	U	1.67	5.00
Total Phenol		UG/L	10.5	J	8.34	50.0	ND	U	8.34	50.0	ND	U	1.67	10.0
Acroloin	107.03.0		1		0		1		atile Compounds)	E 00		U	1 / 7	E 00
Acrolein Acrylonitrile	107-02-8 107-13-1	UG/L UG/L	ND ND	U U	1.67 1.67	5.00 5.00	ND ND	U U	1.67 1.67	5.00 5.00	ND ND	UU	1.67 1.67	5.00 5.00
Benzene	71-43-2	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
Bromoform	75-25-2	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
Carbon tetrachloride	56-23-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
Chlorobenzene	108-90-7	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
Chlorodibromomethane ^{\a}	124-48-1	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
Chloroethane	75-00-3	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
2-Chloroethylvinyl ether	110-75-8	UG/L UG/L	ND ND	U U	1.67 0.333	5.00 1.00	ND	UU	1.67 0.333	5.00	ND ND	U U	1.67	5.00
Chloroform Dichlorobromomethane ^{\b}	67-66-3 75-27-4	UG/L UG/L	ND	U	0.333	1.00	ND ND	U	0.333	1.00 1.00	ND	U	0.333	1.00 1.00
1,1-Dichloroethane	75-34-3	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
1,2-Dichloroethane	107-06-2	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
1,1-Dichloroethylene	75-35-4	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
1,2-Dichloropropane	78-87-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
1,3-Dichloropropylene	542-75-6	UG/L	ND	U	0.500	2.00	ND	U	0.500	2.00	ND	U	0.500	2.00
Ethylbenzene	100-41-4	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
Methyl Bromide ^{\c} Methyl Chloride ^{\d}	74-83-9 74-87-3	UG/L UG/L	ND ND	U U	0.337	1.00 1.00	ND ND	U U	0.337	1.00 1.00	ND ND	U U	0.337	1.00 1.00
Methylene chloride*	75-09-2	UG/L	0.740	J	0.533	2.00	0.750	1	0.533	2.00	1.88	BJ	0.500	2.00
1,1,2,2-Tetrachloroethane	79-34-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
Tetrachloroethylene	127-18-4	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	3.44	-	0.333	1.00
Toluene	108-88-3	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
trans-1,2-Dichloroethylene	156-60-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
1,1,1-Trichloroethane	71-55-6	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
1,1,2-Trichloroethane	79-00-5 79-01-6	UG/L UG/L	ND ND	U U	0.333	1.00 1.00	ND ND	U U	0.333	1.00	ND ND	U U	0.333	1.00
Trichloroethylene Vinyl chloride	75-01-4	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.333	1.00
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			-	Organic Toxic Pol			-		1.00		2	0.000	1.00
2-Chlorophenol	95-57-8	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	2.84	9.47
2,4-Dichlorophenol	120-83-2	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	2.84	9.47
2,4-Dimethylphenol	105-67-9	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	2.84	9.47
4,6-dinitro-o-cresol/e	534-52-1	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	2.84	9.47
2,4-Dinitrophenol	51-28-5	UG/L UG/L	ND ND	U	50.0 30.0	200	ND	U U	50.0	200	ND ND	U U	4.74	18.9 9.47
2-Nitrophenol 4-Nitrophenol	88-75-5 100-02-7	UG/L UG/L	ND ND	U U	30.0	100 100	ND ND	U U	30.0 30.0	100 100	ND ND	UU	2.84	9.47
p-chloro-m-cresol\f	59-50-7	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	2.84	9.47
Pentachlorophenol	87-86-5	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	2.84	9.47
Phenol	108-95-2	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	2.84	9.47
2,4,6-Trichlorophenol	88-06-2	UG/L	ND	U	30.0	100	ND	U	30.0	100	ND	U	2.84	9.47
			0		Organic Toxic Po		r		,					
Aroclor-1016	12674-11-2	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.0315	0.0947
Aroclor-1221 Aroclor-1232	11104-28-2	UG/L UG/L	ND ND	U U	0.333	1.00 1.00	ND ND	U U	0.333	1.00 1.00	ND ND	U U	0.0315	0.0947
Aroclor-1232 Aroclor-1242	53469-21-9	UG/L UG/L	ND ND	U U	0.333	1.00	ND ND	U U	0.333	1.00	ND ND	U U	0.0315	0.0947
Aroclor-1248	12672-29-6	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.0315	0.0947
Aroclor-1254	11097-69-1	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.0315	0.0947
Aroclor-1260	11096-82-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.0315	0.0947
Aroclor-Total	PCBTOT	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00	ND	U	0.0315	0.0947
					ertain Conventior	1								
Chlorine, Total Residual Oil & Grease		MG/L	0.0183	JH	0.0170	0.0500	0.0220	HJ	0.0170	0.0500	ND	HU	0.0170	0.0500
AND CHARACT	1	MG/L	ND	U	1.37	4.90	1.46	J	1.36	4.85	1.44	J	1.35	4.81

Table 3.1A Analytical Results for Source Water Volumes

Bolded result indicates pollutant was at or detected above the DL DL = Method Detection Limit RL = Reporting Limit UG/L = micrograms per liter MG/L - milligrams per liter U = Analyte was analyzed for, but not detected above the MDL J = Value is estimated B = The target analyte was detected in the associated blank H = Analytical holding time was exceeded d = 5-day BOD--The 2:1 depletion requirement was not met for this sample \a = Dibromochloromethane

\b = Bromodichloromethane

\c = Bromomethane

\d = Chloromethane

\e = 2-Methyl-4,6-dinitrophenol

\f = 4-Chloro-3-methylphenol

* Methylene chloride is a common laboratory contaminant and is likely not present in the water volumes tested. It was detected in the lab blank for the Torus sample, and detected in all of the analyzed samples at similar trace levels, including in the Intake (seawater) sample. These facts, comsidered collectively, indicate that the methylene chloride detections are not present in any of the samples.

Page 2 of 2

FORM 3510-2C - ATTACHMENT 3.1B Treatment Units for Outfall 015

Form 2c Attachment 3.1B

After being commingled in the Torus, water treatment and discharge will be accomplished as follows and as depicted in the graphic below:

1. Water will undergo mechanical filtration using a Solids Collection Filter Top-Loading Canister System (Mechanical Filter [Exhibit 2C-2 Code 1-T]). The canister system has a rated flow of 85 gallons per minute (gpm) and contains 2 micron sized filter elements having an effective filtration size of 0.75 micron once the filter begins to load with solids. The filter cartridge is changed out when the vendor established differential pressure limit is reached or when radiological conditions could impact handling and disposal of the removed cannister, whichever occurs first.

Following mechanical filtration, water is routed to a mixed bed resin demineralizer (Mixed Bed Resin / Charcoal [Exhibit 2C-2 Code 2-J/2-A]) for radiological and chemical (including organic) contaminant removal. The demineralizer has a rated flow of 100 gpm and is loaded with 20 cubic feet (cu ft) of mixed bed resin (60 / 40 anion / cation mix) and 10 cu ft of granular activated charcoal. Demineralization effectiveness is monitored by sampling effluent for silica. The presence of detectable levels of silica is a precursor to degraded effectiveness necessitating changeout of resin / charcoal mix.

Spent treatment media from both units will be shipped off-site for disposal at an appropriately licensed facility. Concentrated liquid (or semi-liquid) waste from the three onsite water volumes that is not acceptable for discharge because of radiological concern is expected to be shipped off-site for disposal at an appropriately licensed facility as well.

2. Less than 20,000 gallons of the demineralized effluent will be collected in an onsite Treated Water Storage Tank (*). Once established as radiologically acceptable for discharge, the maximum discharge flow rate will be determined and credited dilution of up to 5 Salt Service Water Pumps, rated for 3,000 gpm each, will be established. This dilution flow enters the facility discharge canal through the Salt Service Water Discharge Header piping at the head of the canal. The Outfall #015 discharge will then commence not to exceed the flow rate limit established based on radiological considerations. The maximum capacity of the radwaste discharge flow based on pump performance is limited to approximately 150 gpm. Outfall #015 discharge point is in the southeast corner of the discharge canal.

Treated Water and Intake Volumes Chemical Characterization Summary

Analytical sampling was performed in accordance with Form 2C instructions and at direction from the permitting agencies for source water obtained from the Torus and treated with the system described above. A sample of Cape Cod Bay seawater also was collected from the Intake structure and analyzed for the same pollutants and water quality characteristics as the treated water sample.

The quality of the water presently stored in the Torus generally represents the volume with the highest concentrations of pollutants (See Table 3.1A). Water from the Torus was processed through the treatment system and discharged into a treated water tank. Sample TWT A was collected from the treated water tank and represents the performance of the treatment system in reducing the pollutant concentrations in water drawn from the volume (Torus) with highest pollutant concentrations. The

three water volumes will be combined in the Torus prior to commencing discharge. The blended water quality will be generally better than the water used to generate the treated water volume analytical results presented in this Statement of Fact and the NPDES modification application. Thus, the analytical results for the treated water represent a conservative characterization of the anticipated water quality prior to discharge.

A summary of the analytical results for the Treated Water and Intake samples are provided in Form 3510-2C, Tables A, B and C, and in Table 3.1B, below. Laboratory reports are provided in Attachment 3.1C.

Total beta radioactivity is noted as "Believed Present" in Form 3510-2C, Table C, but analytical results are not provided because radiologic discharges for Pilgrim Nuclear Power Station are regulated by the NRC.

Notes:

1. * Denotes compliance sampling location at the Treated Water Storage Tank

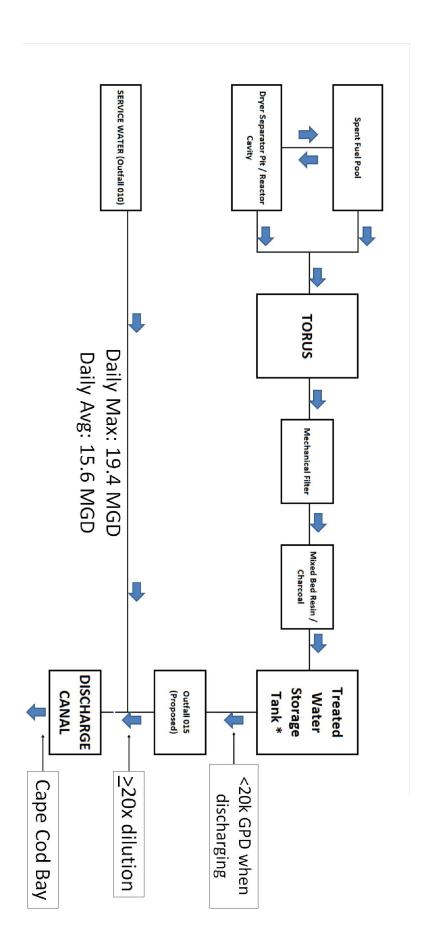


Table 3.1B Analytical Results for Source Water Volumes

Dororater	CAS #	Units	Treated Water Tank				Intake			
Parameter	CA3 #		Resu	ılt	DL	RL	Result		DL	RL
					tional Pollutants		Kesu	ΙL	DL	KL
BOD	T	MG/L	ND	dUH	1.00	2.00	ND	dU	10.0	20.0
COD		MG/L	18.1	J	8.95	20.0	531	0.0	44.8	100
Total Organic Carbon		MG/L	ND	U	0.330	1.00	0.509	J	0.330	1.00
Total Suspended Solids		MG/L	1.00	J	0.570	2.50	4.10		0.570	2.50
Nitrogen, Ammonia	7664-41-7	MG/L	ND	U	0.0170	0.0500	0.196		0.0170	0.0500
рН		S.U.	6.87	Н	0.0100	0.100	8.07	Н	0.0100	0.100
	To	xic Metals, (Cyanide, ai	nd Total	Phenols (Table B	-Section 1)				
Antimony	7440-36-0	UG/L	ND	U	1.00	3.00	ND	U	5.00	15.0
Arsenic	7440-38-2	UG/L	ND	U	2.00	5.00	ND	U	40.0	100
Beryllium	7440-41-7	UG/L	ND	U	0.200	0.500	ND	U	1.00	2.50
Boron	7440-42-8	UG/L	36.7		5.20	15.0	4290		260	750
Cadmium	7440-43-9	UG/L	ND	U	0.300	1.00	ND	U	1.50	5.00
Chromium	7440-47-3	UG/L	ND	U	3.00	10.0	ND	U	15.0	50.0
Copper	7440-50-8	UG/L	1.39	J	0.300	2.00	1.69	J	1.50	10.0
Lead	7439-92-1	UG/L	0.660	J	0.500	2.00	ND	U	2.50	10.0
Mercury Nickel	7439-97-6 7440-02-0	UG/L UG/L	ND 2.02	U	0.0670	0.200	ND ND	UHh U	0.0670	0.200
Selenium	7782-49-2	UG/L	2.02 ND	U	1.50	2.00 5.00	ND ND	U	30.0	10.0
Silver	7440-22-4	UG/L	ND	U	0.300	1.00	ND	U	1.50	5.00
Thallium	7440-22-4	UG/L	ND	U	0.600	2.00	ND	U	3.00	10.0
Zinc	7440-66-6	UG/L	36.1	-	3.30	20.0	ND	U	66.0	400
Cyanide, Total	57-12-5	UG/L	ND	U	1.67	5.00	ND	U	1.67	5.00
Total Phenol		UG/L	ND	U	1.67	5.00	4.04	J	1.67	10.0
	Table B Section	on 2 - Organi	c Toxic Po	llutants	(GC/MS Fraction	- Volatile Co	mpounds)			
Acrolein	107-02-8	UG/L	ND	HU	1.67	5.00	ND	U	1.67	5.00
Acrylonitrile	107-13-1	UG/L	ND	HU	1.67	5.00	ND	U	1.67	5.00
Benzene	71-43-2	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Bromoform	75-25-2	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Carbon tetrachloride	56-23-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Chlorobenzene	108-90-7	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Chlorodibromomethane ^{\a}	124-48-1	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Chloroethane	75-00-3	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
2-Chloroethylvinyl ether	110-75-8	UG/L	ND	U U	1.67	5.00	ND	U	1.67	5.00
Chloroform Dichlorobromomethane ^{\b}	67-66-3 75-27-4	UG/L UG/L	ND ND	U	0.333 0.333	1.00 1.00	ND ND	U U	0.333	1.00 1.00
1,1-Dichloroethane	75-27-4	UG/L UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
1,2-Dichloroethane	107-06-2	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
1,1-Dichloroethylene	75-35-4	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
1,2-Dichloropropane	78-87-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
1,3-Dichloropropylene	542-75-6	UG/L	ND	U	0.500	2.00	ND	U	0.500	2.00
Ethylbenzene	100-41-4	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Methyl Bromide ^{\c}	74-83-9	UG/L	ND	U	0.337	1.00	ND	U	0.337	1.00
Methyl Chloride ^{\d}	74-87-3	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Methylene chloride*	75-09-2	UG/L	0.580	J	0.500	2.00	0.880	J	0.500	2.00
1,1,2,2-Tetrachloroethane	79-34-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Tetrachloroethylene	127-18-4	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Toluene	108-88-3	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
trans-1,2-Dichloroethylene	156-60-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
1,1,1-Trichloroethane	71-55-6	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
1,1,2-Trichloroethane	79-00-5	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Trichloroethylene	79-01-6	UG/L	ND	U	0.333	1.00	ND	U	0.333	1.00
Vinyl chloride	75-01-4	UG/L	ND Dia Tavia D	U	0.333	1.00	ND pounds)	U	0.333	1.00
2-Chlorophenol	95-57-8	UG/L	nic Toxic P ND	ollutant: U	s (GS/MS Fraction 2.87	n - Acid Com 9.56	pounds) ND	U	2.78	9.26
2-Uniorophenol 2,4-Dichlorophenol	95-57-8 120-83-2	UG/L UG/L	ND ND	UU	2.87	9.56 9.56	ND ND	UU	2.78	9.26 9.26
2,4-Dicniorophenoi 2,4-Dimethylphenol	120-83-2	UG/L UG/L	ND	U	2.87	9.56 9.56	ND	U	4.63	9.26 18.5
4,6-dinitro-o-cresol/e	534-52-1	UG/L UG/L	ND	U	2.87	9.56 9.56	ND ND	U	2.78	9.26
2,4-Dinitrophenol	51-28-5	UG/L	ND	U	4.78	9.50 19.1	ND	U	2.78	9.20
2-Nitrophenol	88-75-5	UG/L	ND	U	2.87	9.56	ND	U	2.78	9.26
4-Nitrophenol	100-02-7	UG/L	ND	U	2.87	9.56	ND	U	2.78	9.26
p-chloro-m-cresol\f	59-50-7	UG/L	ND	U	2.87	9.56	ND	U	2.78	9.26
Pentachlorophenol	87-86-5	UG/L	ND	U	2.87	9.56	ND	U	2.78	9.26
Phenol	108-95-2	UG/L	ND	U	2.87	9.56	ND	U	2.78	9.26
2,4,6-Trichlorophenol	88-06-2	UG/L	ND	U	2.87	9.56	ND	U	2.78	9.26

Table 3.1B Analytical Results for Source Water Volumes

	Table B Sect	ion 5 - Oraz	anic Toxic I	Pollutan	ts (GC/MS Fractio	n - Pesticide	es/PCBs)			
Aroclor-1016	12674-11-2	UG/L	ND	U	0.0317	0.0952	ND	hU	0.0309	0.000928
Aroclor-1221	11104-28-2	UG/L	ND	U	0.0317	0.0952	ND	hU	0.0309	0.000928
Aroclor-1232	11141-16-5	UG/L	ND	U	0.0317	0.0952	ND	hU	0.0309	0.000928
Aroclor-1242	53469-21-9	UG/L	ND	U	0.0317	0.0952	ND	hU	0.0309	0.000928
Aroclor-1248	12672-29-6	UG/L	ND	U	0.0317	0.0952	0.0455	hJ	0.0309	0.000928
Aroclor-1254	11097-69-1	UG/L	ND	U	0.0317	0.0952	ND	hU	0.0309	0.000928
Aroclor-1260	11096-82-5	UG/L	ND	U	0.0317	0.0952	ND	hU	0.0309	0.000928
Aroclor-Total	PCBTOT	UG/L	ND	U	0.0317	0.0952	0.0455	hJ	0.0309	0.000928
	able C - Certain Co							-		
Chlorine, Total Residual		MG/L	0.0449	HJ	0.0170	0.0500	ND	HU	0.0170	0.0500
Oil & Grease		MG/L	1.47	J	1.37	4.90	ND	U	1.11	3.97
PFAS/PFOA										
Perfluorododecanoic acid										
(PFDOA)	307-55-1	NG/L	ND	U	0.572	1.73	ND	U	0.530	1.61
Perfluorooctane sulfonic acid										
(PFOS)	1763-23-1	NG/L	ND	U	0.693	1.73	ND	U	0.642	1.61
Perfluoroheptanoic acid										
(PFHpA)	375-85-9	NG/L	ND	U	0.572	1.73	ND	U	0.530	1.61
Perfluorohexanoic acid (PFHxA)	307-24-4	NG/L	ND	U	0.693	1.73	ND	U	0.642	1.61
Perfluorobutane sulfonic acid										
(PFBS)	375-73-5	NG/L	ND	U	0.572	1.54	ND	U	0.530	1.43
Perfluorooctanoic acid (PFOA)	335-67-1	NG/L	ND	U	0.693	1.73	ND	U	0.642	1.61
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	13252-13-6	NG/L	ND	U	0.572	1.73	ND	U	0.530	1.61
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	NG/L	ND	U	0.572	1.73	ND	U	0.530	1.61
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	2355-31-9	NG/L	ND	U	1.14	3.47	ND	U	1.06	3.21
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	2991-50-6	NG/L	ND	U	1.14	3.47	ND	U	1.06	3.21
Perfluorotetradecanoic acid										•.=.
(PFTDA)	376-06-7	NG/L	ND	U	0.693	1.73	ND	U	0.642	1.61
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	NG/L	ND	U	0.572	1.73	ND	U	0.530	1.61
9-Chlorohexadecafluoro-3-	2000 / 10				0.072					
oxanonane-1-sulfonic acid (9-Cl- PF3ONS)	756426-58-1	NG/L	ND	U	0.572	1.62	ND	U	0.530	1.50
Perfluorononanoic acid (PFNA)	375-95-1	NG/L	ND	U	0.572	1.73	ND	U	0.530	1.61
11-Chloroeicosafluoro-3- oxaundecane-1-sulfonic acid (11- Cl-PF3OUdS)	763051-92-9	NG/L	ND	U	0.572	1.63	ND	U	0.530	1.51
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	NG/L	ND	U	0.572	1.58	ND	U	0.530	1.46
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	919005-14-4	NG/L	ND	U	0.572	1.73	ND	U	0.530	1.40
			_	-			-	-		
Perfluorodecanoic acid (PFDA)	335-76-2	NG/L	ND	U	0.676	1.73	ND	U	0.626	1.61

Bolded result indicates pollutant was at or detected above the DL

DL = Method Detection Limit

RL = Reporting Limit UG/L = micrograms per liter

MG/L - milligrams per liter

NG/L = nanograms per liter

U = Analyte was analyzed for, but not detected above the MDL

J = Value is estimated

- B = The target analyte was detected in the associated blank
- H = Analytical holding time was exceeded

d = 5-day BOD--The 2:1 depletion requirement was not met for this sample

- h = Preparation or preservation holding time was exceeded
- \a = Dibromochloromethane
- \b = Bromodichloromethane
- \c = Bromomethane
- d = Chloromethane
- \e = 2-Methyl-4,6-dinitrophenol
- f = 4-Chloro-3-methylphenol

Table 3.1B Analytical Results for Source Water Volumes

* Methylene chloride is a common laboratory contaminant and is likely not present in the water volumes tested. It was detected in the lab blank for the Torus sample, and detected in all of the analyzed samples at similar trace levels, including in the Intake (seawater) sample. These facts, comsidered collectively, indicate that the methylene chloride detections are not present in any of

Page 3 of 3

FORM 3510-2C - ATTACHMENT 3.1C Attachment 3.1C – Laboratory Reports

FORM 3510-2C - ATTACHMENT 3.1C

3.1C-1 – Source Volume Laboratory Reports



a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

March 14, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 612631

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 01, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Chain of Custody form did not contain a relinquished signature. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

lina ohnsom Anna Johnson for

Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 612631 GEL Work Order: 612631

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

and Johnson

Reviewed by

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Address :	1 Holtec Blvd. Camden, New J	-	14			Report Date: March 8, 2023							
Contact: Project:	Laura Hageman Pilgrim NPDE		Indification										
		S Fermit N											
	Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:	nple ID:612631001Client ID:CDEC00ttrix:Waterllect Date:28-FEB-23 11:00ceive Date:01-MAR-23llector:Client					CDEC0010 CDEC001)7					
Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analys	at Date	Time	Batch Mtd.			
Micro-biology													
SM 5210B BOD, 5DAY				•••	~			00/01		00001001			
BOD, 5 DAY	dU	ND	10.0	20.0	mg/L		JW2	03/01/2	23 1647	23921031			
Spectrometric Analysis													
SM4500CL_G Total Re	sidual Chlorine "A	As Received	<i>l''</i>										
Chlorine, Residual	JH	0.0183	0.0170	0.0500	mg/L		1 HH2	03/02/2	23 1013	23922762			
Titration and Ion Analy	sis												
EPA 150.1 pH "As Rec	eived"												
pH at Temp 12.4C	Н	7.07	0.0100	0.100	SU		1 HH2	03/03/2	23 0806	23929513			
Volatile Organics													
EPA 624.1 Volatiles Me	ethod List "As Rec	eived"											
1,1,1-Trichloroethane 71-55-6	U	ND	0.333	1.00	ug/L		1 JEB	03/02/2	23 1928	23926034			
1,1,2,2-Tetrachloroetha 79-34-5	ne U	ND	0.333	1.00	ug/L		1						
1,1,2-Trichloroethane 79-00-5	U	ND	0.333	1.00	ug/L		1						
1,1-Dichloroethane	U	ND	0.333	1.00	ug/L		1						
75-34-3		ND	0.222	1.00	/T		1						
1,1-Dichloroethylene 75-35-4	U	ND	0.333	1.00	ug/L		1						
1,2-Dichloroethane	U	ND	0.333	1.00	ug/L		1						
107-06-2 1,2-Dichloropropane	U	ND	0.333	1.00	ug/L		1						
78-87-5													
1,3-Dichloropropylene 542-75-6	U	ND	0.500	2.00	ug/L		1						
2-Chloroethylvinyl ethe	er U	ND	1.67	5.00	ug/L		1						
110-75-8 Aproloin		ND	1 77	5.00			1						
Acrolein 107-02-8	U	ND	1.67	5.00	ug/L		1						
Acrylonitrile 107-13-1	U	ND	1.67	5.00	ug/L		1						

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Certificate of Analysis

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

Report Date: March 8, 2023

	Client Sample Sample ID:	e ID:	Cavity 612631001				Proiect: Client ID:	CDEC00107 CDEC001		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analyst Date	Time	Batch Mtd
Volatile Organics										
EPA 624.1 Volatiles Met	thod List "As Red	ceived"								
Benzene 71-43-2	U	ND		0.333	1.00	ug/L		1		
Bromodichloromethane 75-27-4	U	ND		0.333	1.00	ug/L		1		
Bromoform 75-25-2	U	ND		0.333	1.00	ug/L		1		
Bromomethane 74-83-9	U	ND		0.337	1.00	ug/L		1		
Carbon tetrachloride 56-23-5	U	ND		0.333	1.00	ug/L		1		
Chlorobenzene 108-90-7	U	ND		0.333	1.00	ug/L		1		
Chloroethane 75-00-3	U	ND		0.333	1.00	ug/L		1		
Chloroform 67-66-3	U	ND		0.333	1.00	ug/L		1		
Chloromethane 74-87-3	U	ND		0.333	1.00	ug/L		1		
Dibromochloromethane 124-48-1	U	ND		0.333	1.00	ug/L		1		
Ethylbenzene 100-41-4	U	ND		0.333	1.00	ug/L		1		
Methylene chloride 75-09-2	J	0.740		0.500	2.00	ug/L		1		
Tetrachloroethylene 127-18-4	U	ND		0.333	1.00	ug/L		1		
Toluene 108-88-3	U	ND		0.333	1.00	ug/L		1		
Trichloroethylene 79-01-6	U	ND		0.333	1.00	ug/L		1		
Vinyl chloride 75-01-4	U	ND		0.333	1.00	ug/L		1		
trans-1,2-Dichloroethyle 156-60-5	ne U	ND		0.333	1.00	ug/L		1		
The following Analytica	<u>l Metho</u> ds were	performe	<u>d:</u>							
Method				Analyst Co	omments					
1										
2	SM 4500-Cl G	ì								

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Comp Addre	ess: 1 H	DI, Inc. Ioltec Blvd. mden, New J	oltec Blvd. nden, New Jersey 08104										
Conta	ict: Lai	ura Hageman							Report Date:	March 8,	, 2023		
Projec	ct: Pil	grim NPDES	NPDES Permit Modification										
		ient Sample	ID:	Cavity 612631001				Project: Client ID:	CDEC001 CDEC001	07			
Parameter		Qualifier	Result		DL	RL	Units	s PF	DF Analy	st Date	Time	Batch Mtd.	
3	E	PA 150.1											
4	E	PA 624.1											
Surrogate/Tracer	recovery	Test				Result		Nominal	Recovery%	Acce	eptable l	Limits	
Bromofluorobenzer	ne	EPA 624. Received		s Method List "As		48.5	ug/L	50.0	97	(7	2%-125	%)	
1,2-Dichloroethane	-d4	EPA 624. Received		s Method List "As		52.3	ug/L	50.0	105	(7	3%-129	%)	
Toluene-d8		EPA 624.	1 Volatile	s Method List "As		42.7	ug/L	50.0	85	(7	5%-123	%)	

Received"

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Certificate of Analysis

Company : Address : Contact:	HDI, Inc. 1 Holtec Blvd. Camden, New J Laura Hagemar	-	14			F	Report Date: March 8, 2023							
Project:	Pilgrim NPDE	S Permit N	Iodification											
	Client Sample Sample ID: Matrix: Collect Date: Receive Date Collector:		Spent Fuel Pool 612631002 Water 28-FEB-23 11:10 01-MAR-23 Client		Project: CDEC00107 Client ID: CDEC001									
Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analy	st Date	Time	Batch Mtd.				
Micro-biology				_						_				
<i>SM 5210B BOD, 5DAY</i> BOD, 5 DAY	"As Received" dU	ND	10.0	20.0	mg/L		JW2	03/01/	23 1647	23921031				
Spectrometric Analysis														
<i>SM4500CL_G Total Re</i> Chlorine, Residual	sidual Chlorine " HJ	As Received 0.0220		0.0500	mg/L		1 HH2	03/02/	23 1014	23922762				
Titration and Ion Analy <i>EPA 150.1 pH "As Rec</i> pH at Temp 14.1C		7.27	0.0100	0.100	SU		1 HH2	03/03/	23 0808	23929513				
Volatile Organics														
EPA 624.1 Volatiles Me			0.333	1.00	ua/I		1 JEB	02/02/	22 1051	22026024				
1,1,1-Trichloroethane 71-55-6 1,1,2,2-Tetrachloroetha	U	ND ND	0.333	1.00	ug/L		1 JED	05/02/	25 1951	23926034				
79-34-5	ne U	ND	0.555	1.00	ug/L		1							
1,1,2-Trichloroethane 79-00-5	U	ND	0.333	1.00	ug/L		1							
1,1-Dichloroethane 75-34-3	U	ND	0.333	1.00	ug/L		1							
1,1-Dichloroethylene 75-35-4	U	ND	0.333	1.00	ug/L		1							
1,2-Dichloroethane 107-06-2	U	ND	0.333	1.00	ug/L		1							
1,2-Dichloropropane 78-87-5	U	ND	0.333	1.00	ug/L		1							
1,3-Dichloropropylene 542-75-6	U	ND	0.500	2.00	ug/L		1							
2-Chloroethylvinyl ethe 110-75-8	er U	ND	1.67	5.00	ug/L		1							
Acrolein 107-02-8	U	ND	1.67	5.00	ug/L		1							
Acrylonitrile 107-13-1	U	ND	1.67	5.00	ug/L		1							

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Certificate of Analysis

Report Date: March 8, 2023

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

	Client Sample Sample ID:	e ID:	Spent Fuel Pool 612631002				Project: Client ID:	CDEC00107 CDEC001		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analyst Date	Time	Batch Mtd.
Volatile Organics										
EPA 624.1 Volatiles Met	hod List "As Red	ceived"								
Benzene	U	ND		0.333	1.00	ug/L		1		
71-43-2										
Bromodichloromethane	U	ND		0.333	1.00	ug/L		1		
75-27-4				0.000	1.00	π		1		
Bromoform 75-25-2	U	ND		0.333	1.00	ug/L		1		
		ND		0.337	1.00	/Т		1		
Bromomethane 74-83-9	U	ND		0.557	1.00	ug/L		1		
Carbon tetrachloride	U	ND		0.333	1.00	ug/L		1		
56-23-5	U	n.D		0.555	1.00	ug/ D		1		
Chlorobenzene	U	ND		0.333	1.00	ug/L		1		
108-90-7	0					.0				
Chloroethane	U	ND		0.333	1.00	ug/L		1		
75-00-3										
Chloroform	U	ND		0.333	1.00	ug/L		1		
67-66-3										
Chloromethane	U	ND		0.333	1.00	ug/L		1		
74-87-3						_				
Dibromochloromethane	U	ND		0.333	1.00	ug/L		1		
124-48-1				0.000	1.00	π				
Ethylbenzene 100-41-4	U	ND		0.333	1.00	ug/L		1		
Methylene chloride	-	0.750		0.500	2.00	ug/L		1		
75-09-2	J	0.750		0.300	2.00	ug/L		1		
Tetrachloroethylene	U	ND		0.333	1.00	ug/L		1		
127-18-4	U	ND		0.555	1.00	ug/ D		1		
Toluene	U	ND		0.333	1.00	ug/L		1		
108-88-3	0							-		
Trichloroethylene	U	ND		0.333	1.00	ug/L		1		
79-01-6	C					Ū.				
Vinyl chloride	U	ND		0.333	1.00	ug/L		1		
75-01-4										
trans-1,2-Dichloroethyle 156-60-5	ne U	ND		0.333	1.00	ug/L		1		
The following Analytical	Methods were	performe	1:							
Method	Description					Analyst Co	mments			

Method	Description	Analyst Comments
1	SM 5210B	
2	SM 4500-Cl G	

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Certificate of Analysis

	Company : Address :	HDI, Inc. 1 Holtec Blvd.	001	04									
		Camden, New J	ersey 081	04			Report Date: March 8, 2023						
	Contact:	Laura Hageman	l				-						
	Project: Pilgrim NPDES Permit Modification												
		Client Sample Sample ID:	e ID:	Spent Fuel Pool 612631002				Project: Client ID:	CDEC00				
Parameter		Qualifier	Result		DL	RL	Unit	s PF	DF Anal	yst Date	Time	Batch Mtd.	
3		EPA 150.1											
4		EPA 624.1											
Surrogate/	Fracer recove	ry Test				Result		Nominal	Recovery%	Acce	ptable l	Limits	
Bromofluor	obenzene	EPA 624	.1 Volatile	es Method List "As		47.2	ug/L	50.0	94	(7	2%-125	%)	

Bromofluorobenzene	EPA 624.1 Volatiles Method List "As Received"	47.2 ug/L	50.0	94	(72%-125%)
1,2-Dichloroethane-d4	EPA 624.1 Volatiles Method List "As Received"	51.4 ug/L	50.0	103	(73%-129%)
Toluene-d8	EPA 624.1 Volatiles Method List "As Received"	42.2 ug/L	50.0	84	(75%-123%)

HDI, Inc.					إ	2C :	Summar <u></u>	y		Report D	Date: March 8, 2	2023		
Contact:	HDI, Inc. 1 Holtec Blv Camden, Ne Laura Hage	ew Jersey											Page	1 of 12
Workorder:	612631													
Parmname			NOM	Л	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Micro-biology Batch 2	2392103													
QC120533449 BOD, 5 DAY	91 612667001	DUP			17.1		17.6	mg/L	3.28 ^	ſ	(+/-8.00)	JW2	03/01/23	3 16:47
QC120533448 BOD, 5 DAY	39 LCS		198				201	mg/L		102	(85%-115%)		03/01/23	.3 16:47
QC120533448 BOD, 5 DAY	38 MB						0.0350	mg/L					03/01/23	.3 16:47
QC120533449 BOD, 5 DAY	90 SEED						0.626	mg/L					03/01/23	.3 16:47
Spectrometric Ana Batch 2	nalysis 2392276													
QC120533470 Chlorine, Residu	08 612474001 ual	DUP		HU	ND	HU	ND	mg/L	N/A			HH2	03/02/23	.3 10:11
QC120533470 Chlorine, Residu			0.500				0.529	mg/L		106	(74%-112%)		03/02/23	.3 10:09
QC120533470 Chlorine, Residu						U	ND	mg/L					03/02/23	.3 10:08
QC120533470 Chlorine, Residu	09 612474001 ual		0.500	HU	ND	Н	0.526	mg/L		104	(67%-128%)		03/02/23	3 10:12
Titration and IonBatch2	Analysis 2392951													
QC120533575 pH	612535001	DUP		Н	6.06	Н	6.05	SU	0.165		(0%-5%)	HH2	03/03/23	3 08:05

Workorder: 612631		2000		9						
										2 of 12
ParmnameTitration and Ion AnalysisBatch2392951QC1205335748LCSpH	NOM 7.00	Sample Qual	QC 7.03	<u>Units</u> SU	RPD/D%	REC%	Range (99%-101%)	Anlst	Date 03/03/2	Time 23 08:01
Volatile-GC/MS Batch 2392603 - QC1205335232 LCS										
1,1,1-Trichloroethane	50.0		54.7	ug/L		109	(75%-136%)) JEB	03/02/2	23 12:42
1,1,2,2-Tetrachloroethane	50.0		44.2	ug/L		88	(68%-126%)	ļ		
1,1,2-Trichloroethane	50.0		43.7	ug/L		87	(73%-120%)	1		
1,1-Dichloroethane	50.0		47.1	ug/L		94	(76%-123%)	1		
1,1-Dichloroethylene	50.0		50.2	ug/L		100	(67%-133%)	I		
1,2-Dichloroethane	50.0		53.7	ug/L		107	(68%-124%)	I		
1,2-Dichloropropane	50.0		44.8	ug/L		90	(74%-121%)	1		
1,3-Dichloropropylene	100		91.5	ug/L		92	(75%-129%)	I		
2-Chloroethylvinyl ether	250		220	ug/L		88	(62%-126%)	I		
Benzene	50.0		49.4	ug/L		99	(74%-118%)	I		
Bromodichloromethane	50.0		53.0	ug/L		106	(73%-133%)	I		
Bromoform	50.0		47.0	ug/L		94	(69%-130%)	I		
Bromomethane	50.0		48.6	ug/L		97	(68%-140%))		

QC Summary

		$\mathcal{Q}\mathcal{C}\mathcal{S}\iota$	ummur _.	У						I
Workorder: 612631									Page	e 3 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst		Time
Volatile-GC/MSBatch2392603										
Carbon tetrachloride	50.0		54.6	ug/L		109	(73%-140%)) JEB	03/02/2	23 12:42
Chlorobenzene	50.0		44.5	ug/L	'	89	(76%-120%))		
Chloroethane	50.0		40.5	ug/L	1	81	(70%-131%))		
Chloroform	50.0		50.9	ug/L	1	102	(77%-126%))		
Chloromethane	50.0		36.5	ug/L	1	73	(60%-139%))		
Dibromochloromethane	50.0		47.2	ug/L	r	94	(75%-133%))		
Ethylbenzene	50.0		44.9	ug/L		90	(75%-121%))		
Methylene chloride	50.0		42.4	ug/L	1	85	(69%-120%))		
Tetrachloroethylene	50.0		46.9	ug/L		94	(74%-124%))		
Toluene	50.0		44.1	ug/L		88	(74%-118%))		
Trichloroethylene	50.0		50.1	ug/L		100	(76%-124%))		
Vinyl chloride	50.0		42.0	ug/L		84	(67%-134%))		
trans-1,2-Dichloroethylene	50.0		47.2	ug/L		94	(71%-127%))		
**1,2-Dichloroethane-d4	50.0		51.5	ug/L		103	(73%-129%))		
**Bromofluorobenzene	50.0		48.9	ug/L	,	98	(72%-125%))		

Workorder: 612631		~	•						Page 4 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Volatile-GC/MSBatch2392603		Sumple Sum			H D D D			1	Dur Line
**Toluene-d8	50.0		42.3	ug/L		85	(75%-123%)	JEB	03/02/23 12:42
QC1205335233 LCS Acrolein	250		300	ug/L		120	(63%-141%)		03/02/23 14:12
Acrylonitrile	250		304	ug/L		121	(67%-128%)		
**1,2-Dichloroethane-d4	50.0		52.7	ug/L		105	(73%-129%)		
**Bromofluorobenzene	50.0		47.3	ug/L		95	(72%-125%)		
**Toluene-d8	50.0		43.7	ug/L		87	(75%-123%)		
QC1205335234 MB 1,1,1-Trichloroethane		U	ND	ug/L					03/02/23 14:37
1,1,2,2-Tetrachloroethane		U	ND	ug/L					
1,1,2-Trichloroethane		U	ND	ug/L					
1,1-Dichloroethane		U	ND	ug/L					
1,1-Dichloroethylene		U	ND	ug/L					
1,2-Dichloroethane		U	ND	ug/L					
1,2-Dichloropropane		U	ND	ug/L					
1,3-Dichloropropylene		U	ND	ug/L					

QC Summary

		QC Du	·········.	y					
Workorder: 612631									Page 5 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Volatile-GC/MSBatch2392603									
2-Chloroethylvinyl ether		U	ND	ug/L				JEB	03/02/23 14:37
Acrolein		U	ND	ug/L					
Acumilanituila		U	ND	ug/I					
Acrylonitrile		0	ND	ug/L					
Benzene		U	ND	ug/L					
				U					
Bromodichloromethane		U	ND	ug/L					
Bromoform		U	ND	ug/L					
Bromomethane		U	ND	ug/L					
Carbon tetrachloride		U	ND	ug/L					
Chlorobenzene		U	ND	ug/L					
Chiorobenzene		U	ND	ug/L					
Chloroethane		U	ND	ug/L					
Chloroform		U	ND	ug/L					
Chloromethane		U	ND	ug/L					
Dibromochloromethane		U	ND	ug/L					
Ethylbenzene		U	ND	ug/L					
			1	-					
Methylene chloride		U	ND	ug/L					

QC Summary

Workorder: 612631		~	-					Page 6 of 12
Parmname	NOM	Sample Qual	QC	Units 1	RPD/D% REC%	6 Range	Anlst	Date Time
Volatile-GC/MSBatch2392603								
Tetrachloroethylene		U	ND	ug/L			JEB	03/02/23 14:37
Toluene		U	ND	ug/L				
Trichloroethylene		U	ND	ug/L				
Vinyl chloride		U	ND	ug/L				
trans-1,2-Dichloroethylene		U	ND	ug/L				
**1,2-Dichloroethane-d4	50.0		47.5	ug/L	95	(73%-129%))	
**Bromofluorobenzene	50.0		49.0	ug/L	98	(72%-125%))	
**Toluene-d8	50.0		43.8	ug/L	88	(75%-123%))	
QC1205335235 612516007 PS 1,1,1-Trichloroethane	50.0 U	ND	55.4	ug/L	111	(67%-135%))	03/02/23 20:15
1,1,2,2-Tetrachloroethane	50.0 U	ND	40.5	ug/L	81	(58%-138%))	
1,1,2-Trichloroethane	50.0 U	ND	43.2	ug/L	86	(70%-126%))	
1,1-Dichloroethane	50.0 U	ND	47.9	ug/L	96	(70%-126%))	
1,1-Dichloroethylene	50.0 U	ND	49.5	ug/L	99	(61%-137%))	
1,2-Dichloroethane	50.0 U	ND	54.4	ug/L	109	(64%-129%))	
1,2-Dichloropropane	50.0 U	ND	44.7	ug/L	89	(68%-127%))	

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Workorder: 612631		~	•	, ,			Page 7 of 12
Parmname	NOM	Sample Qual	QC	Units RPD/D%	% REC%	Range Anlst	Date Time
Volatile-GC/MSBatch2392603							
1,3-Dichloropropylene	100		88.0	ug/L	88	(74%-123%) JEB	03/02/23 20:15
2-Chloroethylvinyl ether	250 U	ND	242	ug/L	97	(64%-123%)	
Benzene	50.0 U	ND	48.7	ug/L	97	(65%-122%)	
Bromodichloromethane	50.0 U	ND	53.3	ug/L	107	(68%-137%)	
Bromoform	50.0 U	ND	44.6	ug/L	89	(62%-138%)	
Bromomethane	50.0 U	ND	58.0	ug/L	116	(61%-142%)	
Carbon tetrachloride	50.0 U	ND	55.2	ug/L	110	(63%-144%)	
Chlorobenzene	50.0 U	ND	44.1	ug/L	88	(63%-123%)	
Chloroethane	50.0 U	ND	48.8	ug/L	98	(64%-134%)	
Chloroform	50.0 U	ND	51.8	ug/L	104	(69%-133%)	
Chloromethane	50.0 U	ND	43.6	ug/L	87	(45%-142%)	
Dibromochloromethane	50.0 U	ND	46.7	ug/L	93	(68%-142%)	
Ethylbenzene	50.0 U	ND	45.1	ug/L	90	(65%-124%)	
Methylene chloride	50.0 J	0.810	42.7	ug/L	84	(62%-125%)	
Tetrachloroethylene	50.0 U	ND	46.2	ug/L	92	(64%-129%)	

		£ C at		9						
Workorder: 612631	NOM	Somple Quel	QC	Unita	RPD/D%	REC%	Dongo	Anlat	Page 8 of 1	
Parmname Volatile-GC/MS Batch 2392603	NOM	Sample Qual	<u> </u>	Units	RPD/D%	<u>KEU%</u>	Range	Anlst	Date Time	-
Toluene	50.0 U	ND	44.0	ug/L		88	(63%-121%)	JEB	03/02/23 20:1	5
Trichloroethylene	50.0 U	ND	51.4	ug/L		103	(66%-126%)			
Vinyl chloride	50.0 U	ND	50.1	ug/L		100	(58%-139%)			
trans-1,2-Dichloroethylene	50.0 U	ND	47.7	ug/L		95	(65%-130%)			
**1,2-Dichloroethane-d4	50.0	51.6	50.9	ug/L		102	(73%-129%)			
**Bromofluorobenzene	50.0	47.2	47.6	ug/L		95	(72%-125%)			
**Toluene-d8	50.0	41.5	41.3	ug/L		83	(75%-123%)			
QC1205335236 612516007 PS Acrolein	250 U	ND	226	ug/L		91	(51%-142%)		03/02/23 21:0)3
Acrylonitrile	250 U	ND	302	ug/L		121	(60%-135%)			
**1,2-Dichloroethane-d4	50.0	51.6	50.2	ug/L		100	(73%-129%)			
**Bromofluorobenzene	50.0	47.2	47.3	ug/L		95	(72%-125%)			
**Toluene-d8	50.0	41.5	40.9	ug/L		82	(75%-123%)			
QC1205335237 612516007 PSD 1,1,1-Trichloroethane	50.0 U	ND	56.0	ug/L	1	112	(0%-20%)		03/02/23 20:3	39
1,1,2,2-Tetrachloroethane	50.0 U	ND	41.3	ug/L	2	83	(0%-20%)			
1,1,2-Trichloroethane	50.0 U	ND	43.4	ug/L	0	87	(0%-20%)			

Workorder: 612631		~	•					Page 9 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Anlst	Date Time
Volatile-GC/MS Batch 2392603								
1,1-Dichloroethane	50.0 U	ND	48.8	ug/L	2	98	(0%-20%) JEB	03/02/23 20:39
1,1-Dichloroethylene	50.0 U	ND	50.1	ug/L	1	100	(0%-20%)	
1,2-Dichloroethane	50.0 U	ND	55.0	ug/L	1	110	(0%-20%)	
1,2-Dichloropropane	50.0 U	ND	45.6	ug/L	2	91	(0%-20%)	
1,3-Dichloropropylene	100		89.7	ug/L	2	90	(0%-20%)	
2-Chloroethylvinyl ether	250 U	ND	236	ug/L	3	95	(0%-20%)	
Benzene	50.0 U	ND	49.7	ug/L	2	99	(0%-20%)	
Bromodichloromethane	50.0 U	ND	54.3	ug/L	2	109	(0%-20%)	
Bromoform	50.0 U	ND	46.6	ug/L	4	93	(0%-20%)	
Bromomethane	50.0 U	ND	57.3	ug/L	1	115	(0%-20%)	
Carbon tetrachloride	50.0 U	ND	55.8	ug/L	1	112	(0%-20%)	
Chlorobenzene	50.0 U	ND	44.3	ug/L	0	89	(0%-20%)	
Chloroethane	50.0 U	ND	48.2	ug/L	1	96	(0%-20%)	
Chloroform	50.0 U	ND	52.5	ug/L	1	105	(0%-20%)	
Chloromethane	50.0 U	ND	42.7	ug/L	2	85	(0%-20%)	

QC Summary

Workorder: 612631			2	•					
Workorder: 612631 Parmname	NON	Л	Sample Qual	QC	Units	RPD/D%	REC%	Range Anls	Page 10 of 12 t Date Time
Volatile-GC/MSBatch2392603	NON	<u>/1</u>	Sample Quar	<u> </u>		<u> </u>	<u>_ KEC 70</u>	Kange Anns	<u>a Date Hine</u>
Dibromochloromethane	50.0	U	ND	47.4	ug/L	2	95	(0%-20%) J	EB 03/02/23 20:39
Ethylbenzene	50.0	U	ND	45.0	ug/L	0	90	(0%-20%)	
Methylene chloride	50.0	J	0.810	43.3	ug/L	1	85	(0%-20%)	
Tetrachloroethylene	50.0	U	ND	46.5	ug/L	1	93	(0%-20%)	
Toluene	50.0	U	ND	44.3	ug/L	1	89	(0%-20%)	
Trichloroethylene	50.0	U	ND	52.2	ug/L	2	104	(0%-20%)	
Vinyl chloride	50.0	U	ND	49.4	ug/L	1	99	(0%-20%)	
trans-1,2-Dichloroethylene	50.0	U	ND	48.1	ug/L	1	96	(0%-20%)	
**1,2-Dichloroethane-d4	50.0		51.6	52.3	ug/L		105	(73%-129%)	
**Bromofluorobenzene	50.0		47.2	49.7	ug/L		99	(72%-125%)	
**Toluene-d8	50.0		41.5	42.2	ug/L		84	(75%-123%)	
QC1205335238 612516007 PSD Acrolein	250	U	ND	232	ug/L	2	93	(0%-20%)	03/02/23 21:26
Acrylonitrile	250	U	ND	307	ug/L	1	123	(0%-20%)	
**1,2-Dichloroethane-d4	50.0		51.6	51.1	ug/L		102	(73%-129%)	
**Bromofluorobenzene	50.0		47.2	48.7	ug/L		97	(72%-125%)	

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QC Summary

Workorder:	612631									Page 11 of 12
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Volatile-GC/MS	\$									
Batch	2392603									
**Toluene-d8		50.0	41.5	41.5	ug/L		83	(75%-123%)	JEB	03/02/23 21:26

Notes:

The Qualifiers in this report are defined as follows:

.....

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- C Analyte has been confirmed by GC/MS analysis
- B The target analyte was detected in the associated blank.
- E Concentration of the target analyte exceeds the instrument calibration range
- A The TIC is a suspected aldol-condensation product
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- H Analytical holding time was exceeded
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- D Results are reported from a diluted aliquot of the sample
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- JNX Non Calibrated Compound
- UJ Compound cannot be extracted
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- N1 See case narrative
- Y QC Samples were not spiked with this compound

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QC Summary

Worko	rder:	612631											Page	12 of 12
Parmna	ame			NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
R			Method 166	64 Revision I	B, due to matri	x spike r	ecovery issu	es, this res	sult may not b	be reported of	or used for	regulatory	complia	nce
	purposes	5.												

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

J See case narrative for an explanation

.....

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 612631

GC/MS Volatile

<u>Product:</u> Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer <u>Analytical Method:</u> EPA 624.1 <u>Analytical Procedure:</u> GL-OA-E-026 REV# 29 <u>Analytical Batch:</u> 2392603

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612631001	Cavity
612631002	Spent Fuel Pool
1205335232	Laboratory Control Sample (LCS)
1205335233	Laboratory Control Sample (LCS)
1205335234	Method Blank (MB)
1205335235	612516007(NonSDG) Post Spike (PS)
1205335236	612516007(NonSDG) Post Spike (PS)
1205335237	612516007(NonSDG) Post Spike Duplicate (PSD)
1205335238	612516007(NonSDG) Post Spike Duplicate (PSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

General Chemistry

Product: Biochemical Oxygen Demand <u>Analytical Method:</u> SM 5210B <u>Analytical Procedure:</u> GL-GC-E-045 REV# 28 <u>Analytical Batch:</u> 2392103

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612631001	Cavity
612631002	Spent Fuel Pool
1205334488	Method Blank (MB)
1205334489	Laboratory Control Sample (LCS)
1205334490	BOD Seed (SEED)
1205334491	612667001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

30% Difference Replicate Statement

Testing replicates for samples 612631001 (Cavity) and 612631002 (Spent Fuel Pool) show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes.

Technical Information

2:1 Depletion Requirement

The following samples in this batch did not meet the 2:1 depletion requirement. 612631001 (Cavity) and 612631002 (Spent Fuel Pool).

Miscellaneous Information

Additional Comments

A limited sample was given for analysis due to HIRAD. 612631001 (Cavity) and 612631002 (Spent Fuel Pool).

Product: Total Residual Chlorine

Analytical Method: SM 4500-Cl G Analytical Procedure: GL-GC-E-076 REV# 17 Analytical Batch: 2392276

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612631001	Cavity
612631002	Spent Fuel Pool
1205334706	Method Blank (MB)
1205334707	Laboratory Control Sample (LCS)
1205334708	612474001(Torus-Avantech Influent) Sample Duplicate (DUP)
1205334709	612474001(Torus-Avantech Influent) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Samples (See Below) were received by the laboratory outside of the method specified holding time. The data is qualified.

Sample	Analyte	Value
1205334708 (Torus-Avantech InfluentDUP)		Received 28-FEB-23, out of holding 27-FEB-23
1205334709 (Torus-Avantech InfluentPS)		Received 28-FEB-23, out of holding 27-FEB-23
612631001 (Cavity)		Received 01-MAR-23, out of holding 28-FEB-23
612631002 (Spent Fuel Pool)		Received 01-MAR-23, out of holding 28-FEB-23

Miscellaneous Information

Additional Comments

10mL sample aliquots analyzed due to high radioactivity. 612631001 (Cavity) and 612631002 (Spent Fuel Pool).

Product: pH Analytical Method: EPA 150.1 Analytical Procedure: GL-GC-E-008 REV# 26 Analytical Batch: 2392951

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612631001	Cavity
612631002	Spent Fuel Pool
1205335748	Laboratory Control Sample (LCS)
1205335750	612535001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Samples (See Below) were received by the laboratory outside of the method specified holding time. The data is qualified.

Sample	Analyte	Value
1205335750 (Non SDG 612535001DUP)		Received 01-MAR-23, out of holding 28-FEB-23
612631001 (Cavity)		Received 01-MAR-23, out of holding 28-FEB-23
612631002 (Spent Fuel Pool)		Received 01-MAR-23, out of holding 28-FEB-23

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL Laboratories, LLC 2040 Savage Road Charleston, SC 29407 Phone: (843) 556-8171	Fax: (843) 766-1178	Sample Analysis Requested ⁽⁵⁾ (Fill in the number of containers for each test)	< Preservative Type (6)		Comments Note: extra sample is	required for sample specific QC	Short hold time	Short hold time			Rush: X_Specify:		y []level1 []Level2 []Level3 []Level4	act? [] Yes [] No Cooler Tenn: O. C	al [] Mountain [] Oth		e, F=Fecal, N=Nasal	Please provide any additional details	below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)
Laboratories LLC $(\ell) \supset \ell S$ chemistry I Radiochemistry I Radiochemistry I Radiochemistry I Radiochemistry I Radiochemistry Construction f Custody and Analytical Request	: Katherine Cates	Sample Analysis Requested ⁽⁵⁾ (Fill in		19nik)	H DD DC DC st. of cor	BC	7 x x x x				TAT Requested: Normal:	Fax Results: [] Yes [x] No	Select Deliverable: [] C of A [] QC Summary	Additional Remarks: For Lab Receiving Use Only: Custody Seal Intact? [] Yes	Sample Collection Time Zone: [X] Eastern [] Pacific	e Sample, G = Grab, C = Composite	Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine 04 - 1). 17 Thiosulfate. If no preservative is added = leave field blank	Other	OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:
GEL Laboratories LLC U Belloom Chain of Custody and Analytical Request		Phone # (508)830-8184	Fax # Should this	sample be considered:	hply	*Date Collected *Time *Time Collected Collected (Military) QC Field Sample field field Collected (Military) Code ⁽²⁾ Filtered ⁽³⁾ Matrix ⁽⁴⁾ Ea ⁽⁴⁾ Coppose ⁽⁴⁾ Filtered ⁽⁴⁾ Code ⁽⁴⁾ Filtered ⁽⁴⁾ Filtered ⁽⁴⁾ Code ⁽⁴⁾ Filtered ⁽⁴⁾ Filt	11:00 N	2/28/2023 11:10 N W Y			natures	Time	Mun Sujas F: 40		Sample C	tent Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate ered or - N - for sample was not field filtered.	aste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=5 and number of containers provided for each (i.e. 8260B - 3, 6010B/7470 e. SA = Sulfuric Acid AA = Ascorbic Acid HX = Hexane. ST = Sodium	ards Listed Waste	ble LW=Listed Waste (F,K,P and U-listed wastes.) Waste code(s):
Page of Protect #	PO Rymber: EPA-SUB GEL Work Order Number:	Clicht Name: Comprehensive Decommissioning International (CDI)	Proj <mark>eo</mark> /Site Name: Pilgrim Station	Addees: 600 Rocky Hill Road, Plymouth, Ma 02360	Coleeted By: Site Chemistry Send Results To: I.	e ID start and stop date/time		Spent Fuel Pool			Chain of Custody Signatures	Relinquished By (Signed) Date Time Receiv	3	3 2	For sample shipping and delivery details, see Sample Receip	 Chain of Custody Number = Client Determined QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite Field Filtered: For Iquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered. 	 Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal Sample Analysis Requested: Analytical method requested (i.e. 82608, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1). Demonstrate HA = Hodrochloric Acid NI = Nitric Acid SH = Sodium Hodroxide SA = Sulfuric Acid HX = Recention ET = Sodium Thiosulfate. If no preservative is added = leave field blank 	7) KNOWN OR POSSIBLE HAZARDS	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$

CEES Laboratories LLC				SAMPLE RECEIPT & REVIEW FORM
ent: CDEC		s	SDC	NARVCOC/Work Order: 612 (23)
ceived By: GM		1	Dat	e Received: 3 Circlé Applicable:
Carrier and Tracking Number				7714 Z970 2379
spected Hazard Information	Ycs			Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
Shipped as a DOT Hazardous?				If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
) Did the client designate the samples are to be secired as radioactive?	/			C notation or radioactive stickers on containers equal elient designation.
) Did the RSO classify the samples as adjoactive?	2		1_	
D) Did the client designanc samples are hazardous?		-	1	OC notation or hazard labels on containers equal client designation. D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
E) Did the RSO identify possible hazards?		Ľ	1	FCDS Transmoor FCOgram
Sample Receipt Criteria	Ķ	N		Comments/Qualifiers (Require or 10 Non-Community) Circle Applicable: Seals broken Dumaged container Leaking consumer Other (describe)
1 Shipping containers received intact and scaled?	<u> .</u>		1	Circle Applicable: Client contacted and provided COC COC created upon receipt
2 Chain of custody documents included with shipment?				Preservation Method: Wet los los Packs Dry ice None Other: TEMP:
3 Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?* Daily check performed and passed on IR	-		Â	*all temperatures de receiver in contest Temperature Device Serial #:
temperature gun?			12121	Secondary Temperature Device Series (Comparison Device) Circle Applicuble: Seuls broken Dumaged container Leaking container Other (describe)
5 Sample containers intact and sealed? Samples requiring chemical preservation	n		8	Sample ID's and Containers Affected:
6 at proper pH?			19	If Preservation added, Lotit: If Yes, are Encores or Soil Kits present for solids? Yes_No_NA(If unknown, select No)
Do any samples require Volatile 7 Analysis?	V		作品を読	If Yes, are Encores or Soil Kits present for soilos? Yes NoNO_NO
8 Sumples received within holding time?	-+-		調整論	1D's and tests affected:
9 Sample ID's on COC match ID's on bottles?			が設め	ID's and containers affected: Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10 Date & time on COC match date & tim on bottles?		Δ	-	Circle Applicable: No container count on COC Other (describe)
11 Number of containers received match number indicated on COC?		\bigwedge	やわせ	
12 Are sample containers identifiable as GEL provided by use of GEL labels? 12 COC form is properly signed in				Circle Applicable: Not relinquisher) Other (describe)
13 relinquished/received sections? Comments (Use Continuation Form if needed)	;			
PM (0	nr PM	IA) r	evie	ow: Initials Date Page of GL-CHL-SR-001

;

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 08 March 2023



a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

March 16, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 612850

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 02, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. One of the sample containers for Spent Fuel Pool (2,3,7,8 TCDD) was broken and received empty. Client was notified via email. *612850002(Spent Fuel Pool)*.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Und Johnson Anna Johnson for

Anna Johnson for Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



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Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 612850 GEL Work Order: 612850

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Reviewed by

Page 2 of 45 SDG: 612850

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Certificate of Analysis

Add	ress : 1 C tact: I	HDI, Inc. Holtec Blvd. Camden, New J Laura Hageman						F	Report Date: N	March 1	5, 2023		
Proj	ect:	Pilgrim NPDE	S Permit N	Iodification									
		Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:		Cavity 612850001 Water 28-FEB-23 02-MAR-23 Client				Proiect: Client ID:	CDEC00107 : CDEC001				
Parameter		Qualifier	Result		DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.	
Carbon Analysis			_							_		_	
<i>SM 5310 B Tota</i> Total Organic C			bon "As Re ND	eceived"	165	500	mg/L		500 TSM	03/11/2	23 0102	23943321	
Flow Injection A	nalysis												
EPA 335.4 Cyar	iide, Total	"As Received"											
Cyanide, Total 57-12-5		U	ND		8.35	25.0	ug/L	5.00	1 AXH3	03/07/2	23 0652	23937072	
EPA 420.4 Tota	l Phenols	"As Received"											
Total Phenol		J	10.5		8.34	50.0	ug/L	5.00	1 AXH3	03/08/2	23 0545	23937153	
Ion Chromatogra	aphy												
SW846 9056 An		id "As Received	<i>t''</i>										
Chloride 16887-00-6			10.4	+/-0.351	0.134	0.400	mg/L					23951764	
Bromide 24959-67-9		U	ND	+/-0.0224	0.0670	0.200	mg/L		1 JLD1	03/08/2	23 1132	23951765	
Fluoride 16984-48-8		U	ND	+/-0.0110	0.0330	0.100	mg/L		1				
Sulfate 14808-79-8			3.19	+/-0.115	0.133	0.400	mg/L		1				
Mercury Analysi	s-CVAA												
EPA 245 Mercu Mercury	ry "As Red	ceived" U	ND	+/-0.224	0.670	2.00	ug/L	10.0	1 JP2	03/07/2	23 0930	23935826	
7439-97-6 Metals Analysis-l	ICP-MS												
200.8/200.2 Prie		utant "As Receiv	ved"										
Antimony 7440-36-0		U	ND	+/-3.33	10.0	30.0	ug/L	10.0	1 PRB	03/10/2	23 1418	23936157	
Arsenic 7440-38-2		U	ND	+/-6.67	20.0	50.0	ug/L	10.0	1				
Beryllium 7440-41-7		U	ND	+/-0.667	2.00	5.00	ug/L	10.0	1				
Boron 7440-42-8			177	+/-19.5	52.0	150	ug/L	10.0	1				
								10.0					

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Certificate of Analysis

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

Report Date: March 15, 2023

	Client Sample Sample ID:	e ID:	Cavity 612850001				Project: Client ID:	CDEC00107 CDEC001			
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analyst	Date	Time	Batch Mtd.
Metals Analysis-ICP-MS	s										
200.8/200.2 Priority Po	ollutant "As Recei	ved"									
Cadmium 7440-43-9	U	ND	+/-1.00	3.00	10.0	ug/L		1			
Chromium 7440-47-3	U	ND	+/-10.0	30.0	100	ug/L	10.0	1			
Copper 7440-50-8	U	ND	+/-1.00	3.00	20.0	ug/L	10.0	1			
Lead 7439-92-1	U	ND	+/-1.67	5.00	20.0	ug/L	10.0	1			
Nickel 7440-02-0		31.1	+/-2.53	6.00	20.0	ug/L	10.0	1			
Selenium 7782-49-2	U	ND	+/-5.00	15.0	50.0	ug/L	10.0	1			
Silver 7440-22-4	U	ND	+/-1.00	3.00	10.0	ug/L	10.0	1			
Thallium 7440-28-0	U	ND	+/-2.00	6.00	20.0	ug/L	10.0	1			
Zinc 7440-66-6		726	+/-37.9	33.0	200	ug/L	10.0	1			
Nutrient Analysis											
EPA 350.1 Nitrogen, Ai	mmonia "As Rece	vived"									
Nitrogen, Ammonia 7664-41-7	J	0.0230		0.0170	0.0500	mg/L		1 AXH3 (3/09/2	3 0954	23948288
Oil & Grease Analysis											
EPA 1664A/B n-Hexand	e Extractable Ma	terial (O&C	G) "As Received"	"							
Oil and Grease	U	ND	,	1.37	4.90	mg/L		DXB7 (3/15/2	3 0627	23984109
Semi-Volatile-GC/MS											
EPA 625.1 SVOA, Liqu	id "As Received"										
2,4,6-Trichlorophenol 88-06-2	U	ND		30.0	100	ug/L	0.0100	1 LL2 (3/07/2	3 1934	239383510
2,4-Dichlorophenol 120-83-2	U	ND		30.0	100	ug/L	0.0100	1			
2,4-Dimethylphenol 105-67-9	U	ND		30.0	100	ug/L	0.0100	1			
2,4-Dinitrophenol 51-28-5	U	ND		50.0	200	ug/L	0.0100	1			
2-Chlorophenol 95-57-8	U	ND		30.0	100	ug/L	0.0100	1			

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Certificate of Analysis

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
р · ,	

Report Date: March 15, 2023

Project: Pilgrim NPDES Permit Modification

. <u> </u>	Client Sample Sample ID:		vity 850001		Proi Clie	iect: ent ID:	CDEC0010 CDEC001	07		
Parameter	Qualifier	Result	DL	RL	Units Pl	F	DF Analys	t Date	Time	Batch Mtd.
Semi-Volatile-GC/MS										
EPA 625.1 SVOA, Liquid	"As Received"									
2-Methyl-4,6-dinitrophen 534-52-1	ol U	ND	30.0	100	ug/L 0.02	100	1			
2-Nitrophenol 88-75-5	U	ND	30.0	100	ug/L 0.02	100	1			
4-Chloro-3-methylphenol 59-50-7	U	ND	30.0	100	ug/L 0.02	100	1			
4-Nitrophenol 100-02-7	U	ND	30.0	100	ug/L 0.02	100	1			
Pentachlorophenol 87-86-5	U	ND	30.0	100	ug/L 0.02	100	1			
Phenol 108-95-2	U	ND	30.0	100	ug/L 0.02	100	1			
Semi-Volatiles-PCB										
EPA 608.3 PCB, Liquid (SPE) "As Recei	ved"								
Aroclor-1016	Ū	ND	0.333	1.00	ug/L 0.02	100	1 NS2	03/07/2	3 1831	239398111
12674-11-2										
Aroclor-1221	U	ND	0.333	1.00	ug/L 0.02	100	1			
11104-28-2 Aroclor-1232	U	ND	0.333	1.00	ug/L 0.02	100	1			
11141-16-5	U	ND	0.555	1.00	ug/L 0.0	100	1			
Aroclor-1242	U	ND	0.333	1.00	ug/L 0.02	100	1			
53469-21-9										
Aroclor-1248	U	ND	0.333	1.00	ug/L 0.02	100	1			
12672-29-6 Aroclor-1254		ND	0.333	1.00	ug/L 0.02	100	1			
11097-69-1	U	ND	0.555	1.00	ug/L 0.0.	100	1			
Aroclor-1260	U	ND	0.333	1.00	ug/L 0.02	100	1			
11096-82-5	0				Ū.					
Aroclor-Total	U	ND	0.333	1.00	ug/L 0.02	100	1			
PCBTOT Solida Apolygia										
Solids Analysis		"A D : 1"								
SM 2540D Total Suspend Total Suspended Solids			5.70	25.0	ma/I		CH6	02/06/2	2 0901	239373412
rotai suspended sollds	U	ND	5.70	23.0	mg/L			03/00/2	.5 0801	237313412
Spectrometric Analysis										
EPA 410.4 Chemical Oxy	-		0.05	20.0	7		1 11112	02/07/2	0 1011	220 4207 12
COD	U	ND	8.95	20.0	mg/L		I HH2	03/07/2	3 1311	239429713

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Certificate of Analysis

Company Address : Contact:						Report Date: Ma	rch 15, 2023	
Project:	Pilgrim NPDES Permit Modification							
	Client Sample ID: Cavity Sample ID: 612850001		Proiect: CDEC00107 Client ID: CDEC001					
Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst D	ate Time	Batch Mtd.
The following Prep M	Iethods were performed:							
Method	Description		Analyst	Date	Tin	ne Prep Batch	l	
EPA 420.4	EPA 420.4 Phenols, Total in liquid PREP		ES2	03/07/2	3 110	00 2393714		
EPA 608.3	EPA 608.3 PCB Prep Liquid (SPE)		JM12	03/07/2	3 094	49 2393980		
EPA 245.1/245.2 Prep	EPA 245 Mercury		RM4	03/06/2	3 121	17 2393581		
EPA 335.4	EPA 335.4 Total Cyanide		ES2	03/06/2	3 120	03 2393706		
EPA 200.2	ICP-MS 200.2 PREP		CD3	03/06/2	3 161	15 2393614		
EPA 625.1	BNA Liq. Prep-EPA 625 Analysis		DG3	03/07/2	3 124	45 2393834		
	tical Methods were performed:							
Method	Description		I	Analyst Co	mments			
1	SM 5310 B							
2	EPA 335.4							
3	EPA 420.4							
4	SW846 9056							
5	SW846 9056							
6	EPA 245.1/245.2							
7	EPA 200.8							
8	EPA 350.1							
9 10	EPA 1664A/1664B EPA 625.1							
10	EPA 608.3							
12	SM 2540D							
12	EPA 410.4							
Surrogate/Tracer reco	overy Test		Result	I	Nominal	Recovery%	Acceptable I	Limits
2,4,6-Tribromophenol	EPA 625.1 SVOA, Liquid "As Recei	ived"	65	0 ug/L	1000	65	(37%-132	%)
Phenol-d5	EPA 625.1 SVOA, Liquid "As Recei			4 ug/L	1000	25	(15%-85%	
2-Fluorophenol	EPA 625.1 SVOA, Liquid "As Recei			1 ug/L	1000	35	(11%-79%	
Nitrobenzene-d5	EPA 625.1 SVOA, Liquid "As Recei			1 ug/L	500	60	(39%-112	
2-Fluorobiphenyl	EPA 625.1 SVOA, Liquid "As Recei			1 ug/L	500	62	(39%-112	·
p-Terphenyl-d14	EPA 625.1 SVOA, Liquid "As Recei			1 ug/L 17 ug/L	500	61	(24%-129	
Decachlorobiphenyl	EPA 608.3 PCB, Liquid (SPE) "As	iveu		5 ug/L	2.00	88	(38%-133	
DecaemoroOppieny	LITI 000.5 I CD, Elquid (5I E) As		1.7	Jug/L	2.00	00	(30/0-133	/0]

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Certificate of Analysis

	Company : Address :	HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104									
	Contact:	Laura Hageman			Report Date: March 15, 2023						
	Project:	Pilgrim NPDES Permit	Modification								
		Client Sample ID: Sample ID:	Cavity 612850001				Proiect: Client ID:	CDEC00107 CDEC001			
Parameter		Qualifier Result		DL	RL	Units	PF	DF Analyst I	Date Time	Batch Mtd.	
		Received"									
4cmx	x EPA 608.3 PCB, Liquid (SPE) "As Received"			1.48 ug/L		2.00	74	(33%-109%)			

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	(HDI, Inc. Holtec Blvd Camden, New Laura Hagema	Jersey 0810	04				I	Report Date: N	/larch 1	5, 2023	
Proje		Pilgrim NPD		Aodification								
		Client Samp Sample ID: Matrix: Collect Date Receive Date Collector:	:	Spent Fuel I 612850002 Water 28-FEB-23 02-MAR-23 Client	11:10			Proiect: Client ID:	CDEC0010 CDEC001	7		
Parameter		Qualifier	Result		DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.
Carbon Analysis												
SM 5310 B Tota Total Organic C	-	-	urbon "As Re ND	eceived"	165	500	mg/L		500 TSM	03/11/2	23 0122	23943321
Flow Injection An EPA 335.4 Cyan	-	I "As Passing	1''									
Cyanide, Total 57-12-5	ilae, Tolai	U U	ND		8.35	25.0	ug/L	5.00	1 AXH3	03/07/2	23 0653	3 23937072
EPA 420.4 Total	l Phenols	"As Received	"									
Total Phenol		U	ND		8.34	50.0	ug/L	5.00	1 AXH3	03/08/2	23 0546	5 23937153
Ion Chromatogra	aphy											
SW846 9056 Ani	ions, Liqu	id "As Receiv	ed"									
Bromide 24959-67-9	-	U	ND	+/-0.0224	0.0670	0.200	mg/L		1 JLD1	03/08/2	23 1203	3 23951764
Fluoride 16984-48-8		U	ND	+/-0.0110	0.0330	0.100	mg/L		1			
Sulfate 14808-79-8			3.15	+/-0.114	0.133	0.400	mg/L		1			
Chloride 16887-00-6			9.11	+/-0.307	0.134	0.400	mg/L		2 JLD1	03/08/2	23 2033	3 23951765
Mercury Analysis	s-CVAA											
EPA 245 Mercul Mercury	ry "As Red	ceived" U	ND	+/-0.224	0.670	2.00	ug/L	10.0	1 JP2	03/07/2	23 0932	2 23935826
7439-97-6 Metals Analysis-I	CD MS											
200.8/200.2 Pric		itant "As Roca	ived"									
Antimony 7440-36-0	51 uy 1 0ill	uuni As Kece U	ND	+/-3.33	10.0	30.0	ug/L	10.0	1 PRB	03/10/2	23 1432	2 23936157
Arsenic 7440-38-2		U	ND	+/-6.67	20.0	50.0	ug/L	10.0	1			
Beryllium 7440-41-7		U	ND	+/-0.667	2.00	5.00	ug/L	10.0	1			
Boron 7440-42-8			185	+/-19.6	52.0	150	ug/L	10.0	1			
								10.0				

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Certificate of Analysis

Report Date: March 15, 2023

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

Project: CDEC00107 Client Sample ID: Spent Fuel Pool Client ID: CDEC001 Sample ID: 612850002 Parameter Qualifier Result PF DL RL Units **DF** Analyst Date Time Batch Mtd. Metals Analysis-ICP-MS 200.8/200.2 Priority Pollutant "As Received" Cadmium ND 3.00 10.0 +/-1.00ug/L 1 U 7440-43-9 Chromium ND +/-10.0 30.0 100 ug/L 10.0 1 U 7440-47-3 ND +/-1.003.00 20.0 10.0 Copper ug/L 1 U 7440-50-8 ND +/-1.67 5.00 20.0 ug/L 10.0 Lead 1 U 7439-92-1 32.9 Nickel +/-2.59 6.00 20.0 ug/L 10.0 1 7440-02-0 ND +/-5.00 15.0 50.0 Selenium ug/L 10.0 1 U 7782-49-2 Silver ND +/-1.003.00 10.0 ug/L 10.0 1 U 7440-22-4 Thallium ND +/-2.006.00 20.0 ug/L 10.0 1 U 7440-28-0 Zinc 798 +/-41.433.0 200 ug/L 10.0 1 7440-66-6 **Nutrient Analysis** EPA 350.1 Nitrogen, Ammonia "As Received" Nitrogen, Ammonia 0.0170 0.0500 1 AXH3 03/09/23 0955 23948288 0.0300 mg/L J 7664-41-7 **Oil & Grease Analysis** EPA 1664A/B n-Hexane Extractable Material (O&G) "As Received" Oil and Grease 1.46 1.36 4.85 mg/L DXB7 03/15/23 0627 23984109 J Semi-Volatile-GC/MS EPA 625.1 SVOA, Liquid "As Received" 2,4,6-Trichlorophenol ND 30.0 100 ug/L 0.0100 1 LL2 03/07/23 2002 239383510 U 88-06-2 2,4-Dichlorophenol ND 30.0 100 ug/L 0.0100 1 U 120-83-2 2,4-Dimethylphenol ND 30.0 100 ug/L 0.0100 1 U 105-67-9 50.0 2,4-Dinitrophenol ND 200 ug/L 0.0100 1 U 51-28-5 30.0 100 ug/L 0.0100 2-Chlorophenol ND 1 U 95-57-8

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Certificate of Analysis

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

Report Date: March 15, 2023

	Client Sample Sample ID:	e ID:	Spent Fuel Pool 612850002				Project: Client ID:	CDEC0010 CDEC001)7		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analys	st Date	Time	Batch Mtd
Semi-Volatile-GC/MS											
EPA 625.1 SVOA, Liquid	"As Received"										
2-Methyl-4,6-dinitrophen	ol U	ND		30.0	100	ug/L	0.0100	1			
534-52-1											
2-Nitrophenol	U	ND		30.0	100	ug/L	0.0100	1			
88-75-5	1	ND		20.0	100	/T	0.0100	1			
4-Chloro-3-methylpheno 59-50-7	l U	ND		30.0	100	0	0.0100	1			
4-Nitrophenol 100-02-7	U	ND		30.0	100	ug/L	0.0100	1			
Pentachlorophenol 87-86-5	U	ND		30.0	100	ug/L	0.0100	1			
Phenol 108-95-2	U	ND		30.0	100	ug/L	0.0100	1			
Semi-Volatiles-PCB											
EPA 608.3 PCB, Liquid ((SPE) "As Recei	ved"									
Aroclor-1016	U	ND		0.333	1.00	ug/L	0.0100	1 NS2	03/07/2	23 1845	239398111
12674-11-2	U										
Aroclor-1221	U	ND		0.333	1.00	ug/L	0.0100	1			
11104-28-2											
Aroclor-1232	U	ND		0.333	1.00	ug/L	0.0100	1			
11141-16-5 Aroclor-1242		ND		0.333	1.00	ug/I	0.0100	1			
53469-21-9	U	ND		0.555	1.00	ug/L	0.0100	1			
Aroclor-1248	U	ND		0.333	1.00	ug/L	0.0100	1			
12672-29-6	U					U					
Aroclor-1254	U	ND		0.333	1.00	ug/L	0.0100	1			
11097-69-1					1.00	-	0.0100				
Aroclor-1260 11096-82-5	U	ND		0.333	1.00	ug/L	0.0100	1			
Aroclor-Total	U	ND		0.333	1.00	ug/I	0.0100	1			
PCBTOT	U	ND		0.555	1.00	ug/L	0.0100	1			
Solids Analysis											
SM 2540D Total Suspend	led Solids (TSS)	"As Receiv	ed"								
Total Suspended Solids	U	ND		5.70	25.0	mg/L		CH6	03/06/2	23 0801	239373412
Spectrometric Analysis											
EPA 410.4 Chemical Oxy	vgen Demand "A	s Received									
COD	U	ND		8.95	20.0	mg/L		1 HH2	03/07/2	23 1311	239429713

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Certificate of Analysis

Company : Address : Contact:	HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08 Laura Hageman	104			F	Report Date: Mar	ch 15, 2023	
Project:	Pilgrim NPDES Permit	Modification						
	Client Sample ID: Sample ID:	Spent Fuel Pool 612850002			Project: Client ID:	CDEC00107 CDEC001		
Parameter	Qualifier Result		DL RL	Units	PF	DF Analyst D	ate Time	Batch Mtd.
The following Prep Me	thods were performed:							
Method	Description		Analyst	Date	Tim	e Prep Batch		
EPA 420.4	EPA 420.4 Phenols, Tot	tal in liquid PREP	ES2	03/07/23	3 110	0 2393714		
EPA 245.1/245.2 Prep	EPA 245 Mercury		RM4	03/06/23	3 121	7 2393581		
EPA 200.2	ICP-MS 200.2 PREP		CD3	03/06/23	3 161	5 2393614		
EPA 608.3	EPA 608.3 PCB Prep L	iquid (SPE)	JM12	03/07/23	3 094	9 2393980		
EPA 625.1	BNA Liq. Prep-EPA 62	5 Analysis	DG3	03/07/23	3 124	5 2393834		
EPA 335.4	EPA 335.4 Total Cyanie	de	ES2	03/06/23	3 120	3 2393706		
The following Analytic	al Methods were perform	ed:						
Method	Description			Analyst Co	mments			
1	SM 5310 B							
2	EPA 335.4							
3	EPA 420.4							
4	SW846 9056							
5	SW846 9056							
6	EPA 245.1/245.2							
7	EPA 200.8							
8	EPA 350.1							
9	EPA 1664A/1664B							
10	EPA 625.1							
11	EPA 608.3							
12 13	SM 2540D EPA 410.4							
15	EFA 410.4							
Surrogate/Tracer recov	ery Test		Result	Ν	Nominal	Recovery%	Acceptable I	Limits
2,4,6-Tribromophenol	EPA 625.1 SVOA	, Liquid "As Received"	8.	38 ug/L	1000	84	(37%-132	%)
Phenol-d5	EPA 625.1 SVOA	, Liquid "As Received"	32	20 ug/L	1000	32	(15%-85%	%)
2-Fluorophenol	EPA 625.1 SVOA	, Liquid "As Received"	4	15 ug/L	1000	42	(11%-79%	%)
Nitrobenzene-d5		, Liquid "As Received"		90 ug/L	500	78	(39%-112	
2-Fluorobiphenyl		, Liquid "As Received"		00 ug/L	500	80	(39%-112	
p-Terphenyl-d14		, Liquid "As Received"		07 ug/L	500	81	(24%-129	·
		-		-				
Decachlorobiphenyl	EPA 608.3 PCB, I	Aquia (SPE) "As	1.	56 ug/L	2.00	78	(38%-133	%)

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Certificate of Analysis

	Company : Address :	HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 0	8104				ī	Report Date: Marc	h 15 2023	
	Contact:	Laura Hageman					ľ	ceport Date. Mar		
	Project:	Pilgrim NPDES Permi	t Modification							
		Client Sample ID: Sample ID:	Spent Fuel Pool 612850002				Proiect: Client ID:	CDEC00107 CDEC001		
Parameter		Qualifier Result	t	DL	RL	Units	PF	DF Analyst Da	te Time	Batch Mtd.
		Received"								
4cmx		EPA 608.3 PCB, Received"	Liquid (SPE) "As		1.3	39 ug/L	2.00	69	(33%-109	9%)

					QCS	ummar	y		Domont D	4 Manah 15	. 2022	
Contact:	HDI, Inc. 1 Holtec Blvd. Camden, New Jersey Laura Hageman								Kedort D	ate: March 15	5, 2023	Page 1 of 17
Workorder:	612850											
Parmname		NON	1	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Carbon Analysis Batch	2394332 ———											
QC12053381 Total Organic C	99 612934002 DUP Carbon Average			5.05		5.14	mg/L	1.65		(0%-20%)	TSM	03/11/23 02:41
QC12053381 Total Organic (10.0				9.71	mg/L		97.1	(80%-120%)		03/11/23 00:50
QC12053381 Total Organic C					U	ND	mg/L					03/11/23 00:40
QC12053382 Total Organic C	01 612934002 PS Carbon Average	10.0		5.05		14.5	mg/L		94.8	(65%-120%)		03/11/23 03:01
Flow Injection A Batch	nalysis 2393707											
QC12053370 Cyanide, Total	68 613066001 DUP		U	ND	U	ND	ug/L	N/A			AXH3	03/07/23 07:11
QC12053370 Cyanide, Total	63 LCS	50.0				48.2	ug/L		96.4	(90%-110%)		03/07/23 06:47
QC12053370 Cyanide, Total	62 MB				U	ND	ug/L					03/07/23 06:42
QC12053370 Cyanide, Total	69 613066001 MS	100	U	ND		101	ug/L		101	(90%-110%)		03/07/23 07:13
Batch QC12053370 Total Phenol	2393715 77 LCS	50.0				45.2	ug/L		90.4	(90%-110%)	AXH3	03/08/23 05:34

Washandan (12050		2	2 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		5					
Workorder: 612850										Page 2 of 17
Parmname	NOM	M Sample	Qual	QC	Units	RPD/D%	REC%	6 Range	Anlst	Date Time
Flow Injection AnalysisBatch2393715										
QC1205337076 MB Total Phenol			U	ND	ug/L				AXH3	03/08/23 05:33
QC1205337078 612516014 Total Phenol	MS 50.0	U ND		44.7	ug/L		89.5*	(90%-110%)		03/08/23 05:38
QC1205337079 612516014 Total Phenol	MSD 50.0	U ND		46.6	ug/L	4.07	93.2	(0%-20%)		03/08/23 05:39
Ion Chromatography Batch 2395176										
QC1205339686 613338001 Bromide	DUP	J 0.169	J	0.169	mg/L	0.0593 ^		(+/-0.200)	JLD1	03/08/23 14:11
Chloride		17.9		17.8	mg/L	0.171		(0%-20%)		03/08/23 18:26
Fluoride		0.448		0.451	mg/L	0.556 ^		(+/-0.100)		03/08/23 14:11
Sulfate		25.5		25.6	mg/L	0.137		(0%-20%)		03/08/23 18:26
QC1205339685 LCS Bromide	1.25			1.27	mg/L		102	(90%-110%)		03/08/23 13:07
Chloride	5.00			5.10	mg/L		102	(90%-110%)		
Fluoride	2.50			2.51	mg/L		101	(90%-110%)		
Sulfate	10.0			10.1	mg/L		101	(90%-110%)		
QC1205339684 MB Bromide			U	ND	mg/L					03/08/23 12:35
Chloride			U	ND	mg/L					

Workorder: 612850		~	~	~						Page 3 of 17
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Ion ChromatographyBatch2395176										
Fluoride			U	ND	mg/L				JLD1	03/08/23 12:35
Sulfate			U	ND	mg/L					
QC1205339687 613338001 PS Bromide	1.25 J	0.169		1.39	mg/L		97.9	(90%-110%))	03/08/23 14:43
Chloride	5.00	3.58		9.15	mg/L		111*	(90%-110%))	03/08/23 18:58
Fluoride	2.50	0.448		2.90	mg/L		98.1	(90%-110%))	03/08/23 14:43
Sulfate	10.0	5.11		15.7	mg/L		106	(90%-110%))	03/08/23 18:58
Metals Analysis - ICPMS Batch 2393615										
QC1205336814 612850001 DUP Antimony	U	ND	U	ND	ug/L	. N/A			PRB	03/10/23 14:22
Arsenic	U	ND	U	ND	ug/L	. N/A				
Beryllium	U	ND	U	ND	ug/L	. N/A				
Boron		177		170	ug/L	3.52 ^		(+/-150))	
Cadmium	U	ND	U	ND	ug/L	. N/A				
Chromium	U	ND	U	ND	ug/L	. N/A				
Copper	U	ND	U	ND	ug/L	. N/A				
Lead	U	ND	U	ND	ug/L	. N/A				

Workorder: 612850		~		2					Page 4 of 17
Parmname	NOM	Sample Qua	al QC	Units	RPD/D%	REC%	Range A	Anlst	Date Time
Metals Analysis - ICPMS Batch 2393615									
Nickel		31.1	31.9	ug/L	2.66 ^		(+/-20.0)	PRB	03/10/23 14:22
Selenium	U	ND U	ND	ug/L	. N/A				
Silver	U	ND U	ND	ug/L	. N/A				
Thallium	U	ND U	ND	ug/L	. N/A				
Zinc		726	710	ug/L	2.15 ^		(+/-200)		
									I
QC1205336813 LCS Antimony	500		511	ug/L		102	(85%-115%)		03/10/23 14:15
Arsenic	500		509	ug/L		102	(85%-115%)		
Beryllium	500		542	ug/L	1	108	(85%-115%)		
Boron	1000		1040	ug/L	1	104	(85%-115%)		
Cadmium	500		516	ug/L	'	103	(85%-115%)		
Chromium	500		535	ug/L	1	107	(85%-115%)		
Copper	500		543	ug/L	1	109	(85%-115%)		
Lead	500		523	ug/L		105	(85%-115%)		
Nickel	500		532	ug/L	'	106	(85%-115%)		
Selenium	500		512	ug/L	,	102	(85%-115%)		

Workorder: 612850			~	•	,					Page	5 of 17
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS Batch 2393615											
Silver	500			517	ug/L	r	103	(85%-115%)	PRB	03/10/2	23 14:15
Thallium	500			512	ug/L	,	102	(85%-115%)			
Zinc	500			510	ug/L	,	102	(85%-115%)			
QC1205336812 MB Antimony			U	ND	ug/L	,				03/10/2	23 14:12
Arsenic			U	ND	ug/L	,					
Beryllium			U	ND	ug/L	,					
Boron			U	ND	ug/L	,					
Cadmium			U	ND	ug/L	,					
Chromium			U	ND	ug/L	,					
Copper			U	ND	ug/L	,					
Lead			U	ND	ug/L	,					
Nickel			U	ND	ug/L	,					
Selenium			U	ND	ug/L	,					
Silver			U	ND	ug/L	,					
Thallium			U	ND	ug/L	,					

QC Summary

			QC		У						
Workorder: 612850										Page	6 of 17
Parmname	NON	М	Sample Qua	ial QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS Batch 2393615											
Zinc			U	J ND	ug/L				PRB	03/10/2	23 14:12
0.01005005015 (10050001 NG											
QC1205336815 612850001 MS Antimony	500	U	ND	513	ug/L		102	(75%-125%))	03/10/2	23 14:25
Arsenic	500	U	ND	506	ug/L		101	(75%-125%))		
Beryllium	500	U	ND	521	ug/L		104	(75%-125%))		
Boron	1000		177	1190	ug/L		101	(75%-125%))		
Cadmium	500		ND	520	ug/L		104	(75%-125%)			
Chromium	500		ND	521	ug/L		104	(75%-125%)			
Copper	500 500		ND ND	531 525	ug/L ug/L		106 105	(75%-125%) (75%-125%)			
Leau	500	U	nυ	525	ug/ L		105	(1370-12370))		
Nickel	500		31.1	553	ug/L		104	(75%-125%))		
Selenium	500	U	ND	501	ug/L		100	(75%-125%))		
Silver	500	U	ND	509	ug/L		102	(75%-125%))		
Thallium	500	U	ND	509	ug/L		101	(75%-125%))		
Zinc	500		726	1260	ug/L		106	(75%-125%))		

Workorder: 612850		-	C	•	/				Page 7 of 17
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range Anls	
Metals Analysis - ICPMS Batch 2393615									
QC1205336816 612850001 SDILT Antimony	U	ND	U	ND	ug/L	. N/A		(0%-10%) PH	RB 03/10/23 14:29
Arsenic	U	ND	U	ND	ug/L	. N/A		(0%-10%)	
Beryllium	U	ND	U	ND	ug/L	, N/A		(0%-10%)	
Boron		17.7	J	5.31	ug/L	50.4		(0%-10%)	
Cadmium	U	ND	U	ND	ug/L	. N/A		(0%-10%)	
Chromium	U	ND	U	ND	ug/L	. N/A		(0%-10%)	
Copper	U	ND	U	ND	ug/L	. N/A		(0%-10%)	
Lead	U	ND	U	ND	ug/L	. N/A		(0%-10%)	
Nickel		3.11	U	ND	ug/L	. N/A		(0%-10%)	
Selenium	U	ND	U	ND	ug/L	. N/A		(0%-10%)	
Silver	U	ND	U	ND	ug/L	. N/A		(0%-10%)	
Thallium	U	ND	U	ND	ug/L	. N/A		(0%-10%)	
Zinc		72.6	J	13.6	ug/L	6.56		(0%-10%)	
Metals Analysis-MercuryBatch2393582									
QC1205336738 612859001 DUP Mercury	U	ND	U	ND	ug/L	. N/A		J	JP2 03/07/23 09:40

Workorder: 612850			-	2	-	,				Page 8 of 17
Parmname		NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range Anls	
Metals Analysis-MercuryBatch2393582				-						
QC1205336737 LCS Mercury	2	2.00			1.99	ug/L		99.6	(85%-115%) J	JP2 03/07/23 09:22
QC1205336736 MB Mercury				U	ND	ug/L	,			03/07/23 09:20
QC1205336739 612859001 Mercury		2.00 U	ND		2.00	ug/L		100	(75%-125%)	03/07/23 09:42
QC1205336740 612859001 Mercury	SDILT	U	ND	U	ND	ug/L	. N/A		(0%-10%)	03/07/23 09:43
Nutrient Analysis Batch 2394828										
QC1205339099 612516014 Nitrogen, Ammonia	DUP		0.460		0.385	mg/L	. 17.8 ^		(+/-0.100) AX	XH3 03/09/23 12:26
QC1205339098 LCS Nitrogen, Ammonia	1	1.00			1.02	mg/L		102	(90%-110%)	03/09/23 09:31
QC1205339097 MB Nitrogen, Ammonia				J	0.0210	mg/L				03/09/23 09:30
QC1205339100 612516014 Nitrogen, Ammonia		1.00	0.0920		0.858	mg/L		76.6*	(90%-110%)	03/09/23 12:28
Oil & Grease Analysis Batch 2398410										
QC1205345721 LCS Oil and Grease	4	40.0			35.7	mg/L		89.3	(78%-114%) DX	XB7 03/15/23 06:27
QC1205345720 MB Oil and Grease				U	ND	mg/L				03/15/23 06:27

QC Summary

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Workorder: 612850										9 of 17
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Oil & Grease Analysis Batch 2398410										
QC1205345723 611553001 MS Oil and Grease	40.8 U	ND	38.3	mg/L		91.3	(78%-114%)	DXB7	03/15/2	23 06:27
Semi-Volatile-GC/MS Batch 2393835										
QC1205337319 LCS 2,4,6-Trichlorophenol	50.0		38.5	ug/L		77	(50%-127%)	LL2	03/07/2	23 19:07
2,4-Dichlorophenol	50.0		36.9	ug/L		74	(50%-119%)	1		
2,4-Dimethylphenol	50.0		29.2	ug/L		58	(46%-99%)	1		
2,4-Dinitrophenol	50.0		43.4	ug/L		87	(28%-151%)	1		
2-Chlorophenol	50.0		34.2	ug/L		68	(46%-107%)	1		
2-Methyl-4,6-dinitrophenol	50.0		49.0	ug/L		98	(42%-149%)	1		
2-Nitrophenol	50.0		41.3	ug/L		83	(50%-115%)	i		
4-Chloro-3-methylphenol	50.0		37.9	ug/L		76	(50%-118%)	1		
4-Nitrophenol	50.0		15.1	ug/L		30	(21%-110%)	1		
Pentachlorophenol	50.0		30.9	ug/L		62	(42%-132%)	1		
Phenol	50.0		16.1	ug/L		32	(12%-90%)	1		
**2,4,6-Tribromophenol	100		76.0	ug/L		76	(37%-132%)	1		
**2-Fluorobiphenyl	50.0		35.5	ug/L		71	(39%-112%))		

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Workorder: 612850		\boldsymbol{z}							
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Page 10 of 17 Date Time
Semi-Volatile-GC/MS Batch 2393835	NOM	Sample Quai	<u> </u>		<u>KFD/D 78</u>	<u>KEC 70</u>	Kange	Allist	Date Time
**2-Fluorophenol	100		38.3	ug/L		38	(11%-79%)	LL2	03/07/23 19:07
**Nitrobenzene-d5	50.0		34.9	ug/L		70	(39%-112%))	
**Phenol-d5	100		29.6	ug/L		30	(15%-85%))	
**p-Terphenyl-d14	50.0		33.3	ug/L		67	(24%-129%))	
QC1205337318 MB 2,4,6-Trichlorophenol		U	ND	ug/L					03/07/23 18:40
2,4-Dichlorophenol		U	ND	ug/L					
2,4-Dimethylphenol		U	ND	ug/L					
2,4-Dinitrophenol		U	ND	ug/L					
2-Chlorophenol		U	ND	ug/L					
2-Methyl-4,6-dinitrophenol		U	ND	ug/L					
2-Nitrophenol		U	ND	ug/L					
4-Chloro-3-methylphenol		U	ND	ug/L					
4-Nitrophenol		U	ND	ug/L					
Pentachlorophenol		U	ND	ug/L					
Phenol		U	ND	ug/L					

QC Summary

Workorder: 612850		~	•	~				Page 11 of 17
Parmname	NOM	Sample Qual	QC	Units RPD/D%	% REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS Batch 2393835								
**2,4,6-Tribromophenol	100		77.1	ug/L	77	(37%-132%)	LL2	03/07/23 18:40
**2-Fluorobiphenyl	50.0		39.9	ug/L	80	(39%-112%))	
**2-Fluorophenol	100		40.9	ug/L	41	(11%-79%)	I	
**Nitrobenzene-d5	50.0		41.5	ug/L	83	(39%-112%)	1	
**Phenol-d5	100		33.6	ug/L	34	(15%-85%)	1	
**p-Terphenyl-d14	50.0		33.2	ug/L	66	(24%-129%))	
QC1205337320 612859003 MS 2,4,6-Trichlorophenol	108 U	ND	78.3	ug/L	73	(47%-130%))	03/07/23 20:56
2,4-Dichlorophenol	108 U	ND	77.6	ug/L	72	(49%-119%)	1	
2,4-Dimethylphenol	108 U	ND	61.9	ug/L	58	(40%-111%)	1	
2,4-Dinitrophenol	108 U	ND	88.8	ug/L	83	(25%-154%)	1	
2-Chlorophenol	108 U	ND	78.0	ug/L	73	(42%-113%)	I	
2-Methyl-4,6-dinitrophenol	108 U	ND	102	ug/L	95	(30%-145%))	
2-Nitrophenol	108 U	ND	85.5	ug/L	80	(42%-120%)	1	
4-Chloro-3-methylphenol	108 U	ND	84.8	ug/L	79	(42%-123%)	1	
4-Nitrophenol	108 U	ND	51.4	ug/L	48	(20%-98%))	

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Workorder: 612850	NON		0.1.00	T T 1 /		DEGA			Page 12 of 17
Parmname Semi-Volatile-GC/MS Batch 2393835	NOM	Sample	Qual QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Pentachlorophenol	108	U ND	64.7	ug/L		60	(36%-139%)	LL2	03/07/23 20:56
Phenol	108	U ND	55.1	ug/L		51	(23%-71%)		
**2,4,6-Tribromophenol	215	78.7	151	ug/L		70	(37%-132%)		
**2-Fluorobiphenyl	108	37.9	68.9	ug/L		64	(39%-112%)		
**2-Fluorophenol	215	39.5	106	ug/L		49	(11%-79%)		
**Nitrobenzene-d5	108	37.7	70.9	ug/L		66	(39%-112%)		
**Phenol-d5	215	30.9	102	ug/L		48	(15%-85%)		
**p-Terphenyl-d14	108	26.8	75.0	ug/L		70	(24%-129%)		
QC1205337321 612859003 MSD 2,4,6-Trichlorophenol	108	U ND	288	ug/L	114*	268*	(0%-79%)		03/07/23 21:23
2,4-Dichlorophenol	108	U ND	261	ug/L	108*	242*	(0%-42%)		
2,4-Dimethylphenol	108	U ND	212	ug/L	110*	197*	(0%-42%)		
2,4-Dinitrophenol	108	U ND	368	ug/L	122*	342*	(0%-106%)		
2-Chlorophenol	108	U ND	246	ug/L	104*	228*	(0%-78%)		
2-Methyl-4,6-dinitrophenol	108	U ND	411	ug/L	120*	383*	(0%-86%)		
2-Nitrophenol	108	U ND	277	ug/L	106*	258*	(0%-69%)		

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Workorder: 612850	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Danga	Anlst	Page 13 of 17
Parmname Semi-Volatile-GC/MS Batch 2393835	NOM	Sample Quai	<u> </u>	Units	KPD/D%	KEU %	Range	Anist	Date Time
4-Chloro-3-methylphenol	108 U	ND	306	ug/L	113*	285*	(0%-41%)	LL2	03/07/23 21:23
4-Nitrophenol	108 U	ND	209	ug/L	121*	194*	(0%-110%)		
Pentachlorophenol	108 U	ND	262	ug/L	121*	244*	(0%-82%)		
Phenol	108 U	ND	176	ug/L	105*	163*	(0%-42%)		
**2,4,6-Tribromophenol	215	78.7	594	ug/L		276*	(37%-132%)		
**2-Fluorobiphenyl	108	37.9	242	ug/L		225*	(39%-112%)		
**2-Fluorophenol	215	39.5	335	ug/L		156*	(11%-79%)		
**Nitrobenzene-d5	108	37.7	228	ug/L		212*	(39%-112%)		
**Phenol-d5	215	30.9	325	ug/L		151*	(15%-85%)		
**p-Terphenyl-d14	108	26.8	256	ug/L		238*	(24%-129%)		
Semi-Volatiles-PCB Batch 2393981									
QC1205337604 LCS Aroclor-1016	1.00		0.704	ug/L		70	(50%-101%)	NS2	03/07/23 18:18
Aroclor-1260	1.00		0.783	ug/L		78	(46%-108%)		
**4cmx	0.200		0.134	ug/L		67	(33%-109%)		
**Decachlorobiphenyl	0.200		0.161	ug/L		81	(38%-133%)		

QC Summary

Workorder: 612850			~	•	-					Page 14 of 17
Parmname	NOM	Л	Sample Qual	l QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Semi-Volatiles-PCB Batch 2393981										
QC1205337603 MB Aroclor-1016			U	ND	ug/L				NS2	03/07/23 18:05
Aroclor-1221			U	ND	ug/L					
Aroclor-1232			U	ND	ug/L					
Aroclor-1242			U	ND	ug/L					
Aroclor-1248			U	ND	ug/L					
Aroclor-1254			U	ND	ug/L					
Aroclor-1260			U	ND	ug/L					
Aroclor-Total			U	ND	ug/L					
**4cmx	0.200			0.123	ug/L		62	(33%-109%))	
**Decachlorobiphenyl	0.200			0.146	ug/L		73	(38%-133%))	
QC1205337605 612878001 MS Aroclor-1016	1.00	U	ND	0.618	ug/L		62	(32%-112%))	03/07/23 19:37
Aroclor-1260	1.00	U	ND	0.579	ug/L		58	(32%-126%))	
**4cmx	0.200		0.133	0.129	ug/L		64	(33%-109%))	
**Decachlorobiphenyl	0.200		0.135	0.132	ug/L		66	(38%-133%))	

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QC Summary

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Workorder: 612850												Page 15 of 17
Parmname		NON	M	Sample (Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Semi-Volatiles-PCB Batch 2393981												
QC1205337606 612878001 Aroclor-1016		.00	U	ND		0.719	ug/L	15	72	(0%-27%)	NS2	03/07/23 19:50
Aroclor-1260	1	.00	U	ND		0.716	ug/L	21	72	(0%-29%)	1	
**4cmx	0.2	200		0.133		0.138	ug/L		69	(33%-109%)	1	
**Decachlorobiphenyl	0.2	200		0.135		0.149	ug/L		74	(38%-133%)	I	
Solids Analysis Batch 2393734												
QC1205337143 613035001 Total Suspended Solids	DUP		U	ND	U	ND	mg/L	N/A			CH6	03/06/23 08:01
QC1205337140 LCS Total Suspended Solids	4	500				497	mg/L		99.4	(95%-105%)	1	03/06/23 08:01
QC1205337139 MB Total Suspended Solids					U	ND	mg/L					03/06/23 08:01
Spectrometric Analysis Batch 2394297												
QC1205338112 612952001 COD	DUP		U	ND	U	ND	mg/L	N/A			HH2	03/07/23 13:11
QC1205338111 LCS COD	5	500				495	mg/L		99.1	(90%-110%))	03/07/23 13:11
QC1205338110 MB COD					U	ND	mg/L					03/07/23 13:11
QC1205338113 612952001 COD		500	U	ND		507	mg/L		101	(90%-110%))	03/07/23 13:11

Notes:

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QC Summary

workorder:	612850									Page	16 of 17
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated

- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- C Analyte has been confirmed by GC/MS analysis
- B The target analyte was detected in the associated blank.
- E Concentration of the target analyte exceeds the instrument calibration range
- A The TIC is a suspected aldol-condensation product
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- H Analytical holding time was exceeded
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- D Results are reported from a diluted aliquot of the sample
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- JNX Non Calibrated Compound
- UJ Compound cannot be extracted
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- N1 See case narrative
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- Y QC Samples were not spiked with this compound
- R Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.

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QC Summary

workorder:	612850									Page 17 o	f 17
Parmname		NOM	Sample Qu	al QC	Units	RPD/D%	REC%	Range	Anlst	Date Tir	ne

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

J See case narrative for an explanation

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N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 612850

GC/MS Semivolatile

<u>Product:</u> Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry <u>Analytical Method:</u> EPA 625.1 <u>Analytical Procedure:</u> GL-OA-E-009 REV# 46 <u>Analytical Batch:</u> 2393835

Preparation Method: EPA 625.1 **Preparation Procedure:** GL-OA-E-013 REV# 35 **Preparation Batch:** 2393834

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612850001	Cavity
612850002	Spent Fuel Pool
1205337318	Method Blank (MB)
1205337319	Laboratory Control Sample (LCS)
1205337320	612859003(NonSDG) Matrix Spike (MS)
1205337321	612859003(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

CCV Requirements

All Calibration Verification Standards (CCV) did meet the acceptance criteria as outlined in Table 6 in Method 625.1. The analytes which failed on the included Continuing Calibration Summary report were within the %acceptance criteria for the respective analyte or within 60%-140% for analytes not listed in Table 6. The data were reported.

Quality Control (QC) Information

Surrogate Recoveries

The MSD (See Below) did not meet surrogate recovery acceptance criteria. The MSD had a final volume of 3.5 mL, while the parent and MS had a final volume of 1.0 mL. Because the recoveries were biased high and target analytes were not detected in the associated parent sample above the reporting limit, the data were reported.

Sample	Analyte	Value
1205337321 (Non SDG 612859003MSD)	2, 4, 6-Tribromophenol	276* (37%-132%)

2-Fluorobiphenyl	225* (39%-112%)
2-Fluorophenol	156* (11%-79%)
Nitrobenzene-d5	212* (39%-112%)
Phenol-d5	151* (15%-85%)
p-Terphenyl-d14	238* (24%-129%)

Spike Recovery Statement

The MSD (See Below) spike recoveries were not within the acceptance limits. The MSD had a final volume of 3.5 mL, while the parent and MS had a final volume of 1.0 mL. Because the recoveries were biased high and target analytes were not detected in the associated parent sample above the reporting limit, the data were reported.

Sample	Analyte	Value
1205337321 (Non SDG 612859003MSD)	2, 4, 6-Trichlorophenol	268* (47%-130%)
	2, 4-Dichlorophenol	242* (49%-119%)
	2, 4-Dimethylphenol	197* (40%-111%)
	2, 4-Dinitrophenol	342* (25%-154%)
	2-Chlorophenol	228* (42%-113%)
	2-Methyl-4, 6-dinitrophenol	383* (30%-145%)
	2-Nitrophenol	258* (42%-120%)
	4-Chloro-3-methylphenol	285* (42%-123%)
	4-Nitrophenol	194* (20%-98%)
	Pentachlorophenol	244* (36%-139%)
	Phenol	163* (23%-71%)

MS/MSD Relative Percent Difference (RPD) Statement

The RPD values between the MS and MSD, (See Below), were not within the acceptance limits. The MSD had a final volume of 3.5 mL, while the parent and MS had a final volume of 1.0 mL. The biased high recoveries in the MSD when compared to the MS attributed to the RPD failure. The data were reported.

Sample	Analyte	Value	
1205337320MS and 1205337321MSD (Non SDG 612859003)	2, 4, 6-Trichlorophenol	RPD 114* (0%-79%)	
	2, 4-Dichlorophenol	RPD 108* (0%-42%)	
	2, 4-Dimethylphenol	RPD 110* (0%-42%)	
	2, 4-Dinitrophenol	RPD 122* (0%-106%)	
	2-Chlorophenol	RPD 104* (0%-78%)	
	2-Methyl-4, 6-dinitrophenol	RPD 120* (0%-86%)	
	2-Nitrophenol	RPD 106* (0%-69%)	
	4-Chloro-3-methylphenol	RPD 113* (0%-41%)	

4-Nitrophenol	RPD 121* (0%-110%)
Pentachlorophenol	RPD 121* (0%-82%)
Phenol	RPD 105* (0%-42%)

Miscellaneous Information

Additional Comments Diphenylamine Statement

Diphenylamine has superseded the reporting of N-Nitroso-diphenylamine. As per the EPA,

N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine. Studies of these two compounds at GEL, both independent of each other and together, showed that they not only co-elute, but also have similar mass spectra. N-Nitroso-diphenylamine and Diphenylamine are therefore reported as Diphenylamine on all reports and forms.

GC Semivolatile PCB

<u>Product:</u> Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD <u>Analytical Method:</u> EPA 608.3 <u>Analytical Procedure:</u> GL-OA-E-040 REV# 25 <u>Analytical Batch:</u> 2393981

<u>Preparation Method:</u> EPA 608.3 <u>Preparation Procedure:</u> GL-OA-E-070 REV# 11 <u>Preparation Batch:</u> 2393980

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612850001	Cavity
612850002	Spent Fuel Pool
1205337603	Method Blank (MB)
1205337604	Laboratory Control Sample (LCS)
1205337605	612878001(NonSDG) Matrix Spike (MS)
1205337606	612878001(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation/Analytical Method Verification

All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Miscellaneous Information

Manual integrations

Samples (See Below) required manual integration to correctly position the baseline as set in the calibration standard injections.

Sample	Analyte	Value
1205337604 (LCS)	Aroclor-1260	Result 0.783ug/L
1205337606 (Non SDG 612878001MSD)	Aroclor-1016	Result 0.719ug/L
	Decachlorobiphenyl	Result 0.149ug/L
612850001 (Cavity)	Decachlorobiphenyl	Result 1.75ug/L

Metals

Product: Determination of Metals by ICP-MS Analytical Method: EPA 200.8 **Analytical Procedure:** GL-MA-E-014 REV# 35 **Analytical Batch:** 2393615

Preparation Method: EPA 200.2 **Preparation Procedure:** GL-MA-E-016 REV# 18 **Preparation Batch:** 2393614

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612850001	Cavity
612850002	Spent Fuel Pool
1205336812	Method Blank (MB)ICP-MS
1205336813	Laboratory Control Sample (LCS)
1205336816	612850001(CavityL) Serial Dilution (SD)
1205336814	612850001(CavityD) Sample Duplicate (DUP)
1205336815	612850001(CavityS) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

ICSA/ICSAB Statement

For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Technical Information

Preparation Information

The samples in this SDG were prepared with less starting material than stated in the SOP due to the radioactivity concerns of the samples- ALARA.

<u>Product:</u> Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer <u>Analytical Method:</u> EPA 245.1/245.2 <u>Analytical Procedure:</u> GL-MA-E-010 REV# 39 <u>Analytical Batch:</u> 2393582

Preparation Method: EPA 245.1/245.2 Prep **Preparation Procedure:** GL-MA-E-010 REV# 39 **Preparation Batch:** 2393581

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612850001	Cavity
612850002	Spent Fuel Pool
1205336736	Method Blank (MB)CVAA
1205336737	Laboratory Control Sample (LCS)
1205336740	612859001(NonSDGL) Serial Dilution (SD)
1205336738	612859001(NonSDGD) Sample Duplicate (DUP)
1205336739	612859001(NonSDGS) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation Information

The samples in this SDG were prepared with less starting material than stated in the SOP due to the radioactivity concerns of the samples- ALARA. 612850001 (Cavity) and 612850002 (Spent Fuel Pool).

General Chemistry

Product: Carbon, Total Organic Analytical Method: SM 5310 B Analytical Procedure: GL-GC-E-093 REV# 21 Analytical Batch: 2394332

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#Client Sample Identification612850001Cavity

612850002	Spent Fuel Pool
1205338196	Method Blank (MB)
1205338197	Laboratory Control Sample (LCS)
1205338199	612934002(NonSDG) Sample Duplicate (DUP)
1205338201	612934002(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions

The following samples 612850001 (Cavity) and 612850002 (Spent Fuel Pool) in this sample group were diluted due to limited sample quantity. The following samples was limited due to RADII. 612850001 (Cavity) and 612850002 (Spent Fuel Pool). Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Anglata	612850	
Analyte	001	002
Total Organic Carbon Average	500X	500X

Product: Cyanide, Total Analytical Method: EPA 335.4 Analytical Procedure: GL-GC-E-095 REV# 23 Analytical Batch: 2393707

Preparation Method: EPA 335.4 **Preparation Procedure:** GL-GC-E-067 REV# 24 **Preparation Batch:** 2393706

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	<u>Client Sample Identification</u>
612850001	Cavity
612850002	Spent Fuel Pool
1205337062	Method Blank (MB)
1205337063	Laboratory Control Sample (LCS)
1205337068	613066001(NonSDG) Sample Duplicate (DUP)
1205337069	613066001(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where

applicable, with the following exceptions.

Technical Information

Sample Preservation/Integrity

Samples 1205337068 (Non SDG 613066001DUP) and 1205337069 (Non SDG 613066001MS) in this sample group did not meet the preservation requirements of the method.

Sample Dilutions

Samples were diluted at the prep step due to the highly radioactive and/or hazardous matrix of samples: 612850001 (Cavity) and 612850002 (Spent Fuel Pool). Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Product: Total Phenols <u>Analytical Method:</u> EPA 420.4 <u>Analytical Procedure:</u> GL-GC-E-102 REV# 10 <u>Analytical Batches:</u> 2393715 and 2393714

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612850001	Cavity
612850002	Spent Fuel Pool
1205337076	Method Blank (MB)
1205337077	Laboratory Control Sample (LCS)
1205337078	612516014(NonSDG) Matrix Spike (MS)
1205337079	612516014(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries ((R)) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The spike recovery falls outside of the established acceptance limits. Since both the spike duplicate recovery and the RPD between the spike and spike duplicate fall within acceptance limits, the data is reported.

Analyte	Sample	Value
Total Phenol	1205337078 (Non SDG 612516014MS)	89.5* (90%-110%)

Technical Information

Sample Dilutions

Samples were diluted at the prep step due to the highly radioactive and/or hazardous matrix of samples: 612850001 (Cavity) and 612850002 (Spent Fuel Pool). Dilutions may be required for many reasons, including to

minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

<u>Product:</u> Ion Chromatography <u>Analytical Method:</u> SW846 9056 <u>Analytical Procedure:</u> GL-GC-E-086 REV# 30 <u>Analytical Batch:</u> 2395176

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612850001	Cavity
612850002	Spent Fuel Pool
1205339684	Method Blank (MB)
1205339685	Laboratory Control Sample (LCS)
1205339686	613338001(NonSDG) Sample Duplicate (DUP)
1205339687	613338001(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Chloride	1205339687 (Non SDG 613338001PS)	111* (90%-110%)

Technical Information

Sample Dilutions

The following samples 1205339686 (Non SDG 613338001DUP), 1205339687 (Non SDG 613338001PS), 612850001 (Cavity) and 612850002 (Spent Fuel Pool) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Amalanta	612	850
Analyte	001	002
Chloride	2X	2X

Product: Ammonia Nitrogen

Preparation Method: EPA 350.1 **Preparation Procedure:** GL-GC-E-106 REV# 10 **Preparation Batch:** 2394828

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612850001	Cavity
612850002	Spent Fuel Pool
1205339097	Method Blank (MB)
1205339098	Laboratory Control Sample (LCS)
1205339099	612516014(NonSDG) Sample Duplicate (DUP)
1205339100	612516014(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Nitrogen, Ammonia	1205339100 (Non SDG 612516014PS)	76.6* (90%-110%)

Technical Information

Sample Dilutions

The following samples 1205339099 (Non SDG 612516014DUP) and 1205339100 (Non SDG 612516014PS) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Product: n-Hexane Extractable Material

<u>Analytical Method:</u> EPA 1664A/1664B <u>Analytical Procedure:</u> GL-GC-E-094 REV# 18 <u>Analytical Batch:</u> 2398410

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612850001	Cavity
612850002	Spent Fuel Pool
1205345720	Method Blank (MB)
1205345721	Laboratory Control Sample (LCS)

1205345723 611553001(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

<u>Product:</u> Solids, Total Suspended <u>Analytical Method:</u> SM 2540D <u>Analytical Procedure:</u> GL-GC-E-012 REV# 18 <u>Analytical Batch:</u> 2393734

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612850001	Cavity
612850002	Spent Fuel Pool
1205337139	Method Blank (MB)
1205337140	Laboratory Control Sample (LCS)
1205337143	613035001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments

A reduced aliquot was used due to limited volume. The client did not provide an entire 1 liter aliquot. 612850001 (Cavity) and 612850002 (Spent Fuel Pool).

Product: COD Analytical Method: EPA 410.4 Analytical Procedure: GL-GC-E-061 REV# 21 Analytical Batch: 2394297

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612850001	Cavity
612850002	Spent Fuel Pool
1205338110	Method Blank (MB)
1205338111	Laboratory Control Sample (LCS)
1205338112	612952001(NonSDG) Sample Duplicate (DUP)
1205338113	612952001(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL Laboratories, LLC 2040 Savage Road	_ 5	Cates Cates	Decommissioning International (CDI) Phone # (508)830-8184 Sample Analysis Requested ⁽⁵⁾ (Fill in the number of containers for each test)	Fax # Should this	mouth, Ma 02360 considered: PC D	Send Results To: L.hageman@CDI-decom.com	Phee Plee D Plee D	2/28/2023 11:00 N N W Y	1 Fuel Pool 2/28/2023 11:10 N N W Y 19 x x x x x x x x x x x x x x x x x x			Chain of Custody Signatures TAT Requested: Normal:	Date Time Received by (signed) Date Time Fax Results: [] Yes [x] No	2/1/2 /4(2) 1 AF 3/2/Lz 073 U Select Deliverable: [] C of A [] QC Summary [] level 2 [] Level 3 [] Level 4	1 1 2 1 2 1 2 1 2 1 2 1	al [] Mo	 Chain of Custody Number = Client Determined Chain of Custody Number = Client Determined OC Codes. N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Duplicate Sample, G = Grab, C = Composite 	3) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.	 Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, WW=Water, W=Water, WW=Water, WW=Water, WW=Water, WW=Water, WW=Water, WW=Water, WW=Water, WW=Water, SU=Solit, SU=Soli	sulfate, If no preservative is added = leave field blank	E HAZARDS Characteristic Hazards Listed Waste Other Other Other Please provide any additional details below regarding head to regarding the figure of the regulation of the regulatin of the regiver of the regulatin of the regulation	
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6 at proper pH? If Preservation added, Low: 7 Do any samples require Volatile If Yes, are Encores or Soil Kits present for solids? YesNoNA(If unknown, select No) 7 Do any samples require Volatile If Yes, are Encores or Soil Kits present for solids? YesNoNA(If unknown, select No) 8 Samples received within holding time? If Yes, are Encores or Soil Kits present for solids? YesNoNA(If unknown, select No) 9 Sample ID's on COC match ID's on bottles? ID's and containers affected: 9 Sample ID's on COC match date & time on COC containers received match number indicated on COC? ID's and containers affected: 10 Date & time on COC match date & time of containers identifiable as CCC form is properly signed in relinquished of CCC? Circle Applicable: No dates on containers coCC missing info Other (describe) 11 Rate provided by use of GEL labels? Circle Applicable: Not relinquished Other (describe) Contract on the recedul): Cornments (Use Continuation Form if needed): Circle Applicable: Not relinquished Other (describe) Date & time on form if needed):		2	(T	28 28	15 IF I Part I TOD bottle rec't proken rempty
7 Do any samples require Volatile Analysis? Do liquid VOA vials contain acid preservation? YesNoNA(If unknown, select No) 8 Samples received within holding time? ID's and containers affected: 9 Sample ID's on COC match ID's on bottles? ID's and containers affected: 10 Date & time on COC match date & time on bottles? Circle Applicable: No dates on containers No times on containers COC missing info 11 Number of containers received match number indicated on COC? X 12 Circle Applicable: No container count on COC Other (describe) 13 COC form is properly signed in relinguished/received sections? 13 Continuation Form if needed):	6 Samples requiring chemical preservatio at proper pH?	n C		-	If Preservation added, Lot#:
8 Samples received within holding time? V ID's and containers affected: 9 battles? ID's and containers affected: 10 Date & time on COC match date & time on COC? 11 Number of containers received match number indicated on COC? V Circle Applicable: No container count on COC Other (describe) 12 Are sample containers identifiable as GEL provided by use of GEL labels? V Circle Applicable: Not relinquished Other (describe) 13 COC form is properly signed in relinquished/received sections? V Circle Applicable: Not relinquished Other (describe) Comments (Use Continuation Form if needed): V Date 3/3/L3 page of GEL page of GEL	Do any samples require Volatile				Do liquid VOA vials contain acid preservation? YesNoNO_NO
9 Sample ID's on COC match ID's on bottles? ID's and containers affected: 10 Date & time on COC match date & time on bottles? Circle Applicable: No dates on containers No times on containers COC missing info 11 Number of containers received match number indicated on COC? Circle Applicable: No container count on COC Other (describe) 12 Are sample containers identifiable as GEL provided by use of GEL labels? Circle Applicable: Not relinquished Other (describe) 13 COC form is properly signed in relinquished/received sections? Circle Applicable: Not relinquished Other (describe) Comments (Use Continuation Form if needed): Date 3/3/L3 Page of	a Currenter received within holding time?	-	X	調査	1D's and tests affected:
9 bottles? Sea Circle Applicable: No dates on containers No times on containers COC missing into "Oner (describe) 10 Date & time on COC match date & time on bottles? Circle Applicable: No container count on COC Other (describe) 11 Number of containers received match number indicated on COC? Circle Applicable: No container count on COC Other (describe) 12 Are sample containers identifiable as GEL provided by use of GEL labels? Circle Applicable: Not relinquished Other (describe) 13 COC form is properly signed in relinquished/received sections? Circle Applicable: Not relinquished Other (describe) Comments (Use Continuation Form if needed): Date Although and the date	Sample ID's on COC match ID's on	-	X		
10 on bottles? Circle Applicable: No container count on COC Other (describe) 11 Number indicated on COC? Circle Applicable: No container count on COC Other (describe) 12 Are sample containers identifiable as GEL provided by use of GEL labels? Circle Applicable: Not relinquished Other (describe) 13 COC form is properly signed in relinquished/received sections? Circle Applicable: Not relinquished Other (describe) Comments (Use Continuation Form if needed): Circle Applicable: Not relinquished Date 3/3/23 page of	Date & time on COC match date & tir	me	+		
12 Are sample containers identifiable as GEL provided by use of GEL labels? X 13 COC form is properly signed in relinquished/received sections? Circle Applicable: Not relinquished Other (describe) Comments (Use Continuation Form if needed): A Date 30/20 Page of	Number of containers received match	-	X		Circle Applicable: No container count on COC Other (describe)
13 COC form is properly signed in relinquished/received sections? Comments (Use Continuation Form if needed): Date Date Page of	the same containers identifiable as	_	X	開設	the law New edisoutched Other (describe)
Comments (Use Continuation Form if needed): $ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\$	13 COC form is properly signed in		Y		Circle Applicable: Not reiniquisite
	Comments (Use Continuation Form if needed)	:			
					AD alatan 1
	DM (or PN	(A)	revio	

Anna Johnson

From:	Erin Trent
Sent:	Monday, March 6, 2023 10:06 AM
To:	Laura Hageman; Anna Johnson
Cc:	Team Trent
Subject:	RE: Broken container for 2,3,7,8 TCDD (612850)
Follow Up Flag:	Follow up
Flag Status:	Flagged

Hi Laura, If you sent 3 bottles for TCDD, then we should be fine. Do you remember if 3 were sent?

Erin Trent Project Manager



2040 Savage Road, Charleston, SC 29407 | PO Box 30712, Charleston, SC 29417 Office Direct: 843.769.7374 | Office Main: 843.556.8171 | Fax: 843.766.1178 E-Mail: <u>erin.trent@gel.com</u> | Website: <u>www.gel.com</u>

Analytical Testing



From: Laura Hageman <l.hageman@holtec.com>
Sent: Monday, March 6, 2023 9:59 AM
To: Anna Johnson <Anna.Johnson@gel.com>
Cc: Team Trent <Team.Trent@gel.com>; Erin Trent <Erin.Trent@gel.com>
Subject: RE: Broken container for 2,3,7,8 TCDD (612850)

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Thank you for the information. I am sorry I did not reply sooner (we are off on Fridays). Is there enough sample for the analysis to be performed or will another sample need to be sent?

Thank you,

Laura Hageman

Chemistry Superintendent/ BHI Site Manager Pilgrim Nuclear Power Station (508) 830-8184 (w) (508) 254-5594 (c) From: Anna Johnson <<u>Anna.Johnson@gel.com</u>> Sent: Friday, March 3, 2023 9:59 AM To: Laura Hageman <<u>l.hageman@holtec.com</u>> Cc: Team Trent <<u>Team.Trent@gel.com</u>> Subject: Broken container for 2,3,7,8 TCDD (612850)

CAUTION: This email came from a source OUTSIDE of Holtec!! Do not click any links or open any attachments unless you trust the sender and know the contents to be safe. Clicking links or opening attachments could lead to infecting your computer or Holtec's servers with malicious viruses.

Hello,

we received sample container Spent Fuel Pool for 2,3,7,8 TCDD broken and empty, please advise how we should proceed.

See attachment for reference, Thanks!

Anna Johnson

Project Manager Assistant



2040 Savage Road, Charleston, SC 29407 | PO Box 30712, Charleston, SC 29417 Office Main: 843.556.8171 | Fax: 843.766.1178 E-Mail: <u>anna.johnson@gel.com</u> | Website: <u>www.gel.com</u>

Analytical Testing



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State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 15 March 2023



a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

March 15, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 612643

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 01, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Chain of Custody form did not contain a relinquished signature. All sample containers arrived without any visible signs of tampering or breakage. The following additional comments were noted at receipt: (insert text box).. Only received 18 containers, and the chain of custody states that there are 19 containers. Client was notified via email and advised to proceed with analysis.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Vie & Trent

Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



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Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 612643 GEL Work Order: 612643

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- J Value is estimated

N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Reviewed by

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

А	ompany : ddress : ontact:	HDI, Inc. 1 Holtec Blvd. Camden, New Laura Hageman	-	04				Report Date: March 15, 2023								
P	roject:	Pilgrim NPDE	ES Permit N	Aodification												
		Client Sampl Sample ID: Matrix: Collect Date: Receive Date Collector:	:	Torus-Avan 612643001 Water 27-FEB-23 01-MAR-23 Client	09:05	nt	Project: CDEC00107 Client ID: CDEC001									
Parameter		Qualifier	Result		DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.				
Carbon Analys																
SM 5310 B To Total Organic		ic/Inorganic Car		ceived"	0.330	1.00	mg/I		1 TSM	03/13/2	3 1008	3 2392379 1				
Total Organic	Carbon A	verage J	0.528		0.550	1.00	mg/L		1 1 5 1 1	03/13/2	5 1908	23923791				
Flow Injection	Analysis															
-		al "As Received														
Cyanide, Tota 57-12-5		U	ND		1.67	5.00	ug/L	1.00	1 AXH3	03/06/2	3 1029	23929202				
	otal Phenol	s "As Received"			=	10.0	~	1.00								
Total Phenol		U	ND		1.67	10.0	ug/L	1.00	1 AXH3	03/08/2	3 0542	23937153				
Ion Chromatog	graphy															
	Anions, Lie	uid "As Receive	ed"													
Chloride 16887-00-6			79.0	+/-2.69	1.68	5.00	mg/L		25 JLD1	03/02/2	3 2356	5 23928844				
Bromide 24959-67-9			0.269	+/-0.0241	0.0670	0.200	mg/L		1 JLD1	03/02/2	3 1837	23928845				
Fluoride 16984-48-8		U	ND	+/-0.0110	0.0330	0.100	mg/L		1							
Sulfate 14808-79-8			8.51	+/-0.287	0.133	0.400	mg/L		1							
Mercury Analy	ysis-CVAA	L														
<i>EPA 245 Mer</i> Mercury 7439-97-6	cury "As R	eceived" U	ND	+/-0.0226	0.0670	0.200	ug/L	1.00	1 JP2	03/03/2	3 1038	3 23922846				
Metals Analysi	is-ICP-MS															
-		lutant "As Recei	ived"													
Zinc 7440-66-6			1400	+/-70.0	3.30	20.0	ug/L	1.00	1 BAJ	03/07/2	3 0450	23922987				
Antimony 7440-36-0		U	ND	+/-0.333	1.00	3.00	-	1.00	1 BAJ	03/07/2	3 1603	23922988				
Arsenic 7440-38-2		U	ND	+/-0.667	2.00	5.00	ug/L	1.00	1							
Beryllium 7440-41-7		U	ND	+/-0.0667	0.200	0.500	ug/L	1.00	1							
								1.00								

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Certificate of Analysis

Report Date: March 15, 2023

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

	Client Sample Sample ID:		Torus-Avante 612643001	ch Influe	nt		Project: Client ID:	CDEC00107 CDEC001		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analyst Date	Time	Batch Mtd.
Metals Analysis-ICP-M	IS									
200.8/200.2 Priority P	ollutant "As Recei	ved"								
Boron		169	+/-8.64	5.20	15.0	ug/L		1		
7440-42-8										
Cadmium	U	ND	+/-0.100	0.300	1.00	ug/L	1.00	1		
7440-43-9			(1.00	2 00	10.0	<i></i>	1.00			
Chromium	U	ND	+/-1.00	3.00	10.0	ug/L	1.00	1		
7440-47-3 Copper		ND	+/-0.100	0.300	2.00	ug/L	1.00	1		
7440-50-8	U	ND	+/-0.100	0.500	2.00	ug/L	1.00	1		
Lead	U	ND	+/-0.167	0.500	2.00	ug/L	1.00	1		
7439-92-1	U	112	.,	01000	2.00	<i>aB, 2</i>	1.00	-		
Nickel		2.93	+/-0.248	0.600	2.00	ug/L	1.00	1		
7440-02-0										
Selenium	U	ND	+/-0.500	1.50	5.00	ug/L	1.00	1		
7782-49-2										
Silver	U	ND	+/-0.100	0.300	1.00	ug/L	1.00	1		
7440-22-4 Thallium		ND	. / 0.200	0.600	2.00		1.00	1		
7440-28-0	U	ND	+/-0.200	0.600	2.00	ug/L	1.00	1		
Nutrient Analysis										
EPA 350.1 Nitrogen, A		:								
Nitrogen, Ammonia		ND		0.0170	0.0500	m a /I		1 AXH3 03/09	vaz 0020	22040200
7664-41-7	U	ND		0.0170	0.0500	mg/L		1 AXH3 03/09	/23 0939	23948289
Oil & Grease Analysis										
EPA 1664A/B n-Hexan	ne Extractable Mai	terial (O&G) "As Received"							
Oil and Grease	J	1.44		1.35	4.81	mg/L		DXB7 03/14	/23 0546	5 239689610
Semi-Volatile-GC/MS										
EPA 625.1 SVOA, Liqi	uid "As Received"									
2,4,6-Trichlorophenol	U	ND		2.84	9.47	ug/L0	.000947	1 LL2 03/02	2/23 2324	239187111
88-06-2	0					0				
2,4-Dichlorophenol	U	ND		2.84	9.47	ug/L0	.000947	1		
120-83-2										
2,4-Dimethylphenol	U	ND		2.84	9.47	ug/L0	.000947	1		
105-67-9				. = .						
2,4-Dinitrophenol	U	ND		4.74	18.9	ug/L0	.000947	1		
51-28-5 2 Chlanachanal				0.04	0.47	/T O	000047	1		
2-Chlorophenol	U	ND		2.84	9.47	ug/L0	.000947	1		
95-57-8										

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Certificate of Analysis

Report Date: March 15, 2023

 Company :
 HDI, Inc.

 Address :
 1 Holtec Blvd.

 Camden, New Jersey 08104

 Contact:
 Laura Hageman

 Project:
 Pilgrim NPDES Permit Modification

Torus-Avantech Influent CDEC00107 Client Sample ID: Project: Client ID: CDEC001 612643001 Sample ID: Parameter Qualifier Result PF DL RL Units **DF** Analyst Date Time Batch Mtd. Semi-Volatile-GC/MS EPA 625.1 SVOA, Liquid "As Received" 2-Methyl-4,6-dinitrophenol ND ug/L0.000947 2.84 9.47 1 U 534-52-1 2-Nitrophenol ND 2.84 9.47 ug/L0.000947 1 U 88-75-5 4-Chloro-3-methylphenol ND 2.84 9.47 ug/L0.000947 1 U 59-50-7 4-Nitrophenol ND 2.84 9.47 ug/L0.000947 1 U 100-02-7 Pentachlorophenol ND 2.84 9.47 ug/L0.000947 1 U 87-86-5 Phenol 2.84 9.47 ug/L0.000947 ND 1 U 108-95-2 Semi-Volatiles-PCB EPA 608.3 PCB, Liquid (SPE) "As Received" Aroclor-1016 0.0315 0.0947 03/05/23 1854 239261012 ug/L0.000947 1 YS1 ND U 12674-11-2 Aroclor-1221 0.0315 0.0947 ug/L0.000947 ND 1 U 11104-28-2 0.0315 0.0947 Aroclor-1232 ug/L0.000947 U ND 1 11141-16-5 0.0315 0.0947 Aroclor-1242 ND ug/L0.000947 1 U 53469-21-9 Aroclor-1248 ND 0.0315 0.0947 ug/L0.000947 1 U 12672-29-6 Aroclor-1254 0.0315 0.0947 ug/L0.000947 ND 1 U 11097-69-1 Aroclor-1260 ND 0.0315 0.0947 ug/L0.000947 1 U 11096-82-5 0.0315 Aroclor-Total ND 0.0947 ug/L0.000947 1 U PCBTOT Solids Analysis SM 2540D Total Suspended Solids (TSS) "As Received" Total Suspended Solids 0.570 2.50 CH6 03/02/23 0751 239226113 U ND mg/L Spectrometric Analysis EPA 410.4 Chemical Oxygen Demand "As Received" COD 8.95 20.0 1 HH2 03/03/23 1403 239284614 39.2 mg/L

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Certificate of Analysis

Company : Address :	HDI, Inc. 1 Holtec Blvd.							
	Camden, New Jersey 08	104			-		1 15 2022	
Contact:	Laura Hageman				ŀ	Report Date: Mai	rch 15, 2023	
Project:	Pilgrim NPDES Permit	Modification						
	Client Sample ID: Sample ID:	Torus-Avantech In 612643001	fluent		Project: Client ID:	CDEC00107 CDEC001		
Parameter	Qualifier Result		DL RL	Units	PF	DF Analyst D	ate Time	Batch Mtd
The following Prep Met	thods were performed.							
Method	Description		Analyst	Date	Tim	e Prep Batch	l	
EPA 200.2	ICP-MS 200.2 PREP		CD3	03/02/23	3 155	0 2392297		
EPA 245.1/245.2 Prep	EPA 245 Mercury		RM4	03/02/23				
EPA 420.4	EPA 420.4 Phenols, To	tal in liquid PREP	ES2	03/07/23	3 110			
EPA 335.4	EPA 335.4 Total Cyani	de	ES2	03/03/23	3 120	8 2392919		
EPA 608.3	EPA 608.3 PCB Prep L	iquid (SPE)	JM12	03/03/23	3 105	3 2392608		
EPA 625.1	BNA Liq. Prep-EPA 62	25 Analysis	TH1	03/02/23	3 114	9 2391868		
The following Analytica	al Methods were perform	ed:						
Method	Description		1	Analyst Co	mments			
1	SM 5310 B							
2	EPA 335.4							
3	EPA 420.4							
4	SW846 9056							
5	SW846 9056							
6	EPA 245.1/245.2							
7	EPA 200.8							
8	EPA 200.8							
9	EPA 350.1							
10	EPA 1664A/1664B							
11	EPA 625.1							
12	EPA 608.3							
13	SM 2540D							
14	EPA 410.4							
Surrogate/Tracer recove	ery Test		Result	Ν	Nominal	Recovery%	Acceptable	Limits
Nitrobenzene-d5	EPA 625.1 SVOA	, Liquid "As Received"	34	.8 ug/L	47.4	74	(39%-112	%)
2-Fluorobiphenyl	EPA 625.1 SVOA	, Liquid "As Received"	34	.4 ug/L	47.4	73	(39%-112	%)
p-Terphenyl-d14	EPA 625.1 SVOA	, Liquid "As Received"	19	.4 ug/L	47.4	41	(24%-129	%)
2,4,6-Tribromophenol	EPA 625.1 SVOA	, Liquid "As Received"	54	.4 ug/L	94.7	57	(37%-132	%)
Phenol-d5		, Liquid "As Received"		.8 ug/L	94.7	18	(15%-859	
2-Fluorophenol		, Liquid "As Received"		.9 ug/L	94.7	24	(11%-799	
	LI A 023.1 S V UA	, Liquiu As Received	22	., ug/L	74.7	24	(1170-79)	/u)

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Certificate of Analysis

Report Date: March 15, 2023

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Dilarim NDDES Dormit Modification
r toject.	Pilgrim NPDES Permit Modification

	Client Sample ID: Sample ID:	Torus-Avantech Influent 612643001			Proiect: Client ID:	CDEC00107 CDEC001	
Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Da	ate Time Batch Mtd.
Decachlorobiphenyl	EPA 608.3 PCB, L Received"	iquid (SPE) "As	0.154	ug/L	0.189	81	(38%-133%)
4cmx	EPA 608.3 PCB, L Received"	iquid (SPE) "As	0.124	ug/L	0.189	66	(33%-109%)

					OC S	Summar	v						
Contact:	HDI, Inc. 1 Holtec Blvd. Camden, New Jersey Laura Hageman			-					Redort Da	ate: March 1	5, 2023	Page 1 of 17	
Workorder:	612643												
Parmname		NO	м	Sample	Oual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time	
Carbon Analysis	2392379					-							
QC12053349 Total Organic C	00 612533001 DUP Carbon Average		U	ND	U	ND	mg/L	N/A			TSM	03/13/23 17:26	
QC12053348 Total Organic C		10.0				9.84	mg/L		98.4	(80%-120%))	03/13/23 16:34	
QC12053348 Total Organic C					U	ND	mg/L					03/13/23 16:25	
QC12053349 Total Organic C	02 612533001 PS Carbon Average	10.0	U	ND		10.2	mg/L		101	(65%-120%))	03/13/23 18:06	
Flow Injection A Batch	nalysis 2392920 ———												
QC12053357 Cyanide, Total	00 612715002 DUP		U	ND	U	ND	ug/L	N/A			AXH3	03/06/23 10:43	
QC12053356 Cyanide, Total	97 LCS	50.0				50.0	ug/L		100	(90%-110%))	03/06/23 10:12	
QC12053356 Cyanide, Total	96 MB				U	ND	ug/L					03/06/23 10:11	
QC12053357 Cyanide, Total	01 612715002 MS	100	U	ND		105	ug/L		105	(90%-110%))	03/06/23 10:44	
Batch QC12053370 Total Phenol	2393715 77 LCS	50.0				45.2	ug/L		90.4	(90%-110%)	AXH3	03/08/23 05:34	

Workorder: 612643		\mathcal{L}^{-1}	•	<i>J</i>					
									Page 2 of 17
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Flow Injection AnalysisBatch2393715									
QC1205337076 MB Total Phenol		U	ND	ug/L				AXH3	03/08/23 05:33
QC1205337078 612516014 MS Total Phenol	50.0 U	ND	44.7	ug/L		89.5*	(90%-110%)	ļ	03/08/23 05:38
QC1205337079 612516014 MSD Total Phenol	50.0 U	ND	46.6	ug/L	4.07	93.2	(0%-20%)	I	03/08/23 05:39
Ion Chromatography Batch 2392884									
QC1205335640 612772001 DUP Bromide	U	ND U	ND	mg/L	N/A			JLD1	03/02/23 21:48
Chloride		9.58	9.56	mg/L	0.192		(0%-20%)		
Fluoride		0.279	0.278	mg/L	0.251 ^	۲	(+/-0.100)	J	
Sulfate		261	260	mg/L	0.403		(0%-20%)		03/03/23 02:35
QC1205335639 LCS Bromide	1.25		1.31	mg/L		105	(90%-110%)	I	03/02/23 18:05
Chloride	5.00		4.98	mg/L		99.5	(90%-110%)		
Fluoride	2.50		2.50	mg/L		100	(90%-110%)		
Sulfate	10.0		10.2	mg/L		102	(90%-110%)		
QC1205335638 MB Bromide		U	ND	mg/L					03/02/23 17:34
Chloride		U	ND	mg/L					

Workorder: 612643		-	•	ſ						Page	3 of 17
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date 7	
Ion Chromatography Batch 2392884											
Fluoride			U	ND	mg/L				JLD1	03/02/23	3 17:34
Sulfate			U	ND	mg/L						
QC1205335641 612772001 PS Bromide	1.25 U	ND		1.28	mg/L		102	(90%-110%)	ļ	03/02/23	3 23:24
Chloride	5.00	9.58		15.4	mg/L		117*	(90%-110%)	I		
Fluoride	2.50	0.279		2.66	mg/L		95.2	(90%-110%)	I		
Sulfate	10.0	10.4		21.0	mg/L		105	(90%-110%))	03/03/23	3 03:07
Metals Analysis - ICPMS Batch 2392298											
QC1205334767 612643001 DUP Antimony	U	ND	U	ND	ug/L	. N/A			BAJ	03/07/23	3 16:07
Arsenic	U	ND	U	ND	ug/L	. N/A					
Beryllium	U	ND	U	ND	ug/L	. N/A					
Boron		169		176	ug/L	3.83		(0%-20%)	1		
Cadmium	U	ND	U	ND	ug/L	. N/A					
Chromium	U	ND	U	ND	ug/L	. N/A					
Copper	U	ND	U	ND	ug/L	. N/A					
Lead	U	ND	U	ND	ug/L	. N/A					

Workorder: 612643		~		2				Page 4 of 17
Parmname	NOM	Sample Q	Qual QC	Units	RPD/D%	REC%	Range Anlst	
Metals Analysis - ICPMS Batch 2392298	_	_	_	_	_	_		
Nickel		2.93	2.86	ug/L	2.35 ^		(+/-2.00) BA	AJ 03/07/23 16:07
Selenium	U	ND	U ND	ug/L	, N/A			
				_				
Silver	U	ND	U ND	ug/L	, N/A			
Thallium	U	ND	U ND	ug/L	, N/A			
					*			
Zinc		1400	1460	ug/L	4.38		(0%-20%)	03/07/23 04:53
QC1205334766 LCS Antimony	50.0		53.7	ug/L		107	(85%-115%)	03/07/23 16:00
Antimony	50.0		55.1	ug/ 12		107	(05/0-115/0)	03/07/23 10:00
Arsenic	50.0		50.8	ug/L	,	102	(85%-115%)	
Beryllium	50.0		54.9	ug/L		110	(85%-115%)	
Boron	100		103	ug/L		103	(85%-115%)	
Cadmium	50.0		53.9	ug/I		108	(85%-115%)	
Cadimum	50.0		55.7	ug/L		100	(85%-115%)	
Chromium	50.0		51.9	ug/L	,	104	(85%-115%)	
Copper	50.0		53.1	ug/L	,	106	(85%-115%)	
Lead	50.0		52.7	ug/L		105	(85%-115%)	
NT: 11	50.0		52.2	ug/I		106	(950/ 1150/)	
Nickel	50.0		53.2	ug/L		106	(85%-115%)	
Selenium	50.0		51.9	ug/L		104	(85%-115%)	
							(00,10,110,11)	

Workorder: 612643			~	•	,					Page	5 of 17
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst		Time
Metals Analysis - ICPMSBatch2392298											
Silver	50.0			55.0	ug/L		110	(85%-115%)	BAJ	03/07/2	23 16:00
Thallium	50.0			53.2	ug/L		106	(85%-115%)			
Zinc	50.0			52.4	ug/L		105	(85%-115%)		03/07/2	23 04:46
QC1205334765 MB Antimony			U	ND	ug/L					03/07/2	23 15:56
Arsenic			U	ND	ug/L						
Beryllium			U	ND	ug/L						
Boron			U	ND	ug/L						
Cadmium			U	ND	ug/L						
Chromium			U	ND	ug/L						
Copper			U	ND	ug/L						
Lead			U	ND	ug/L						
Nickel			U	ND	ug/L						
Selenium			U	ND	ug/L						
Silver			U	ND	ug/L						
Thallium			U	ND	ug/L						

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Workorder: 612643									Page (6 of 17
Parmname	NOM	Sample	Qual QC	Units	RPD/D%	REC%	Range	Anlst	Date 7	Time
Metals Analysis - ICPMSBatch2392298										
Zinc			U ND	ug/L				BAJ	03/07/23	3 04:43
QC1205334768 612643001 MS Antimony	50.0 U	ND	54.2	ug/L		108	(75%-125%))	03/07/23	3 16:11
							(1010	,		, 10.11
Arsenic	50.0 U	ND	51.5	ug/L		103	(75%-125%))		
Beryllium	50.0 U	ND	55.1	ug/L		110	(75%-125%))		
Boron	100	169	270	ug/L		101	(75%-125%))		
			50.5	σ						
Cadmium	50.0 U	ND	52.7	ug/L		105	(75%-125%))		
Chromium	50.0 U	ND	52.7	ug/L		105	(75%-125%))		
Chioman	50.0 0		54.1	u <u></u> 5/12		105	(13/0-12370))		
Copper	50.0 U	ND	53.8	ug/L		107	(75%-125%))		
Lead	50.0 U	ND	50.7	ug/L		101	(75%-125%))		
Nickel	50.0	2.93	54.6	ug/L		103	(75%-125%))		
Selenium	50.0 U	ND	50.7	ug/L		101	(75%-125%))		
Silver	50.0 U	ND	52.7	ug/L		105	(75%-125%)	`		
Silver	JU.U U		54.1	ug/ L		105	(1370-12370))		
Thallium	50.0 U	ND	50.9	ug/L		102	(75%-125%))		
				C						
Zinc	50.0	1400	1480	ug/L		N/A	(75%-125%))	03/07/23	3 04:57

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Workorder: 612643										Page	7 of 17
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMSBatch2392298											
QC1205334769 612643001 SDILT Antimony	U	ND	U	ND	ug/L	. N/A		(0%-10%)) BAJ	03/07/2	23 16:14
Arsenic	U	ND	U	ND	ug/L	. N/A		(0%-10%))		
Beryllium	U	ND	U	ND	ug/L	, N/A		(0%-10%))		
Boron		169		40.3	ug/L	. 19		(0%-10%))		
Cadmium	U	ND	U	ND	ug/L	, N/A		(0%-10%))		
Chromium	U	ND	U	ND	ug/L	, N/A		(0%-10%))		
Copper	U	ND	U	ND	ug/L	, N/A		(0%-10%))		
Lead	U	ND	U	ND	ug/L	, N/A		(0%-10%))		
Nickel		2.93	J	0.674	ug/L	. 15.1		(0%-10%))		
Selenium	U	ND	U	ND	ug/L	. N/A		(0%-10%))		
Silver	U	ND	U	ND	ug/L	. N/A		(0%-10%))		
Thallium	U	ND	U	ND	ug/L	, N/A		(0%-10%))		
Zinc		1400		299	ug/L	6.87		(0%-10%))	03/07/2	23 05:00
Metals Analysis-Mercury Batch 2392284											
QC1205334717 612518001 DUP Mercury	U	ND	U	ND	ug/L	. N/A			JP2	03/03/2	23 10:30

Workorder: 612643					-	-					Page 8 of 17
Parmname		NOM	Л	Sample	Qual	QC	Units	RPD/D%	REC%	Range Anlst	Date Time
Metals Analysis-MercuryBatch2392284											
QC1205334716 LCS Mercury		2.00				1.97	ug/L		98.5	(85%-115%) JP2	03/03/23 10:25
QC1205334715 MB Mercury					U	ND	ug/L				03/03/23 10:23
QC1205334718 612518001 Mercury	MS	2.00	U	ND		1.80	ug/L		89.8	(75%-125%)	03/03/23 10:31
QC1205334719 612518001 Mercury	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)	03/03/23 10:33
Nutrient Analysis Batch 2394828											
QC1205339099 612516014 Nitrogen, Ammonia	DUP			0.460		0.385	mg/L	17.8 ^		(+/-0.100) AXH3	03/09/23 12:26
QC1205339098 LCS Nitrogen, Ammonia		1.00				1.02	mg/L		102	(90%-110%)	03/09/23 09:31
QC1205339097 MB Nitrogen, Ammonia					J	0.0210	mg/L				03/09/23 09:30
QC1205339100 612516014 Nitrogen, Ammonia	PS	1.00		0.0920		0.858	mg/L		76.6*	(90%-110%)	03/09/23 12:28
Oil & Grease Analysis Batch 2396896											
QC1205342505 LCS Oil and Grease		40.0				36.4	mg/L		91	(78%-114%) DXB7	03/14/23 05:46
QC1205342504 MB Oil and Grease					U	ND	mg/L				03/14/23 05:46

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Workorder: 612643										9 of 17
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Oil & Grease Analysis Batch 2396896										
QC1205342507 611175001 MS Oil and Grease	40.0 J	1.98	38.3	mg/L		90.8	(78%-114%)	DXB7	03/14/2	23 05:46
Semi-Volatile-GC/MS Batch 2391871										
QC1205334196 LCS 2,4,6-Trichlorophenol	50.0		42.1	ug/L		84	(50%-127%)	LL2	03/02/2	23 17:26
2,4-Dichlorophenol	50.0		37.2	ug/L		74	(50%-119%)			
2,4-Dimethylphenol	50.0		26.8	ug/L		54	(46%-99%)			
2,4-Dinitrophenol	50.0		47.1	ug/L		94	(28%-151%)			
2-Chlorophenol	50.0		32.0	ug/L		64	(46%-107%)			
2-Methyl-4,6-dinitrophenol	50.0		55.1	ug/L		110	(42%-149%)			
2-Nitrophenol	50.0		43.7	ug/L		87	(50%-115%)			
4-Chloro-3-methylphenol	50.0		37.8	ug/L		76	(50%-118%)			
4-Nitrophenol	50.0		15.5	ug/L		31	(21%-110%)			
Pentachlorophenol	50.0		32.1	ug/L		64	(42%-132%)			
Phenol	50.0		15.7	ug/L		31	(12%-90%)			
**2,4,6-Tribromophenol	100		84.1	ug/L		84	(37%-132%)			
**2-Fluorobiphenyl	50.0		38.6	ug/L		77	(39%-112%)			

Workorder: 612643		2								
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Page 10 of 1 Date Time	_
Semi-Volatile-GC/MS Batch 2391871	NOM	Sample Quai	<u> </u>	Units	KFD/D 70	<u>KEC 70</u>	Kange	Amst	Date Time	-
**2-Fluorophenol	100		38.2	ug/L		38	(11%-79%)	LL2	03/02/23 17:2	6
**Nitrobenzene-d5	50.0		37.3	ug/L		75	(39%-112%)			
**Phenol-d5	100		29.3	ug/L		29	(15%-85%)			
**p-Terphenyl-d14	50.0		37.4	ug/L		75	(24%-129%)			
QC1205334195 MB 2,4,6-Trichlorophenol		U	ND	ug/L					03/02/23 16:5	9
2,4-Dichlorophenol		U	ND	ug/L						
2,4-Dimethylphenol		U	ND	ug/L						
2,4-Dinitrophenol		U	ND	ug/L						
2-Chlorophenol		U	ND	ug/L						
2-Methyl-4,6-dinitrophenol		U	ND	ug/L						
2-Nitrophenol		U	ND	ug/L						
4-Chloro-3-methylphenol		U	ND	ug/L						
4-Nitrophenol		U	ND	ug/L						
Pentachlorophenol		U	ND	ug/L						
Phenol		U	ND	ug/L						

QC Summary

Workorder: 612643		~	•	~				Page 11 of 17
Parmname	NOM	Sample Qual	QC	Units R	PD/D% REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS Batch 2391871								
**2,4,6-Tribromophenol	100		75.9	ug/L	76	(37%-132%)) LL2	03/02/23 16:59
**2-Fluorobiphenyl	50.0		34.8	ug/L	70	(39%-112%))	
**2-Fluorophenol	100		35.9	ug/L	36	(11%-79%))	
**Nitrobenzene-d5	50.0		35.6	ug/L	71	(39%-112%))	
**Phenol-d5	100		26.8	ug/L	27	(15%-85%))	
**p-Terphenyl-d14	50.0		36.1	ug/L	72	(24%-129%))	
QC1205334197 612518003 MS 2,4,6-Trichlorophenol	100 U	ND	65.6	ug/L	66	(47%-130%))	03/02/23 22:29
2,4-Dichlorophenol	100 U	ND	57.7	ug/L	58	(49%-119%))	
2,4-Dimethylphenol	100 U	ND	44.1	ug/L	44	(40%-111%))	
2,4-Dinitrophenol	100 U	ND	55.2	ug/L	55	(25%-154%))	
2-Chlorophenol	100 U	ND	54.7	ug/L	55	(42%-113%))	
2-Methyl-4,6-dinitrophenol	100 U	ND	68.6	ug/L	69	(30%-145%))	
2-Nitrophenol	100 U	ND	60.0	ug/L	60	(42%-120%))	
4-Chloro-3-methylphenol	100 U	ND	67.5	ug/L	67	(42%-123%))	
4-Nitrophenol	100 U	ND	37.2	ug/L	37	(20%-98%))	

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Workorder: 612643		~							Page 12 of 17
ParmnameSemi-Volatile-GC/MSBatch2391871	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Pentachlorophenol	100 U	ND	48.7	ug/L		49	(36%-139%)	LL2	03/02/23 22:29
Phenol	100 U	ND	36.1	ug/L		36	(23%-71%)		
**2,4,6-Tribromophenol	200	53.6	128	ug/L		64	(37%-132%)		
**2-Fluorobiphenyl	100	27.0	56.1	ug/L		56	(39%-112%)		
**2-Fluorophenol	200	29.3	75.7	ug/L		38	(11%-79%)		
**Nitrobenzene-d5	100	27.2	52.9	ug/L		53	(39%-112%)		
**Phenol-d5	200	19.5	66.7	ug/L		33	(15%-85%)		
**p-Terphenyl-d14	100	22.2	62.0	ug/L		62	(24%-129%)		
QC1205334198 612518003 MSD 2,4,6-Trichlorophenol	100 U	ND	84.4	ug/L	25	84	(0%-79%)		03/02/23 22:57
2,4-Dichlorophenol	100 U	ND	80.1	ug/L	32	80	(0%-42%)		
2,4-Dimethylphenol	100 U	ND	60.1	ug/L	31	60	(0%-42%)		
2,4-Dinitrophenol	100 U	ND	66.9	ug/L	19	67	(0%-106%)		
2-Chlorophenol	100 U	ND	70.3	ug/L	25	70	(0%-78%)		
2-Methyl-4,6-dinitrophenol	100 U	ND	84.0	ug/L	20	84	(0%-86%)		
2-Nitrophenol	100 U	ND	85.0	ug/L	34	85	(0%-69%)		

Workorder: 612643		~	•						
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range A	Anlst	Page 13 of 17 Date Time
Semi-Volatile-GC/MS Batch 2391871	NOM	Sample Quar	<u> </u>	Units	<u>KFD/D 76</u>	<u>KEC 70</u>	Kange A	Allist	Date Time
4-Chloro-3-methylphenol	100 U	ND	88.3	ug/L	27	88	(0%-41%)	LL2	03/02/23 22:57
4-Nitrophenol	100 U	ND	48.2	ug/L	26	48	(0%-110%)		
Pentachlorophenol	100 U	ND	58.7	ug/L	19	59	(0%-82%)		
Phenol	100 U	ND	47.9	ug/L	28	48	(0%-42%)		
**2,4,6-Tribromophenol	200	53.6	166	ug/L		83	(37%-132%)		
**2-Fluorobiphenyl	100	27.0	73.0	ug/L		73	(39%-112%)		
**2-Fluorophenol	200	29.3	95.3	ug/L		48	(11%-79%)		
**Nitrobenzene-d5	100	27.2	72.1	ug/L		72	(39%-112%)		
**Phenol-d5	200	19.5	88.2	ug/L		44	(15%-85%)		
**p-Terphenyl-d14	100	22.2	68.3	ug/L		68	(24%-129%)		
Semi-Volatiles-PCB Batch 2392610									
QC1205335249 LCS Aroclor-1016	1.00		0.717	ug/L		72	(50%-101%)	YS1	03/05/23 17:18
Aroclor-1260	1.00		0.717	ug/L		72	(46%-108%)		
**4cmx	0.200		0.121	ug/L		61	(33%-109%)		
**Decachlorobiphenyl	0.200		0.155	ug/L		77	(38%-133%)		

QC Summary

Workorder: 612	2643		-	-						Page 14 of 17
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Semi-Volatiles-PCB Batch 23926	510									
QC1205335250 Aroclor-1016	LCSD	1.00		0.741	ug/L	3	74	(0%-26%)) YS1	03/05/23 17:30
Aroclor-1260		1.00		0.728	ug/L	1	73	(0%-26%))	
**4cmx		0.200		0.122	ug/L		61	(33%-109%))	
**Decachlorobiphenyl		0.200		0.159	ug/L		80	(38%-133%))	
QC1205335248 Aroclor-1016	MB		U	ND	ug/L					03/05/23 17:06
Aroclor-1221			U	ND	ug/L					
Aroclor-1232			U	ND	ug/L					
Aroclor-1242			U	ND	ug/L					
Aroclor-1248			U	ND	ug/L					
Aroclor-1254			U	ND	ug/L					
Aroclor-1260			U	ND	ug/L					
Aroclor-Total			U	ND	ug/L					
**4cmx		0.200		0.112	ug/L		56	(33%-109%))	
**Decachlorobiphenyl		0.200		0.150	ug/L		75	(38%-133%))	

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QC Summary

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Workorder: 612643											15 of 17
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Solids Analysis Batch 2392261											
QC1205334828 612682001 DUP Total Suspended Solids		118		118	mg/L	0 ^		(+/-50.0)	CH6	03/02/	23 07:51
QC1205334666 LCS Total Suspended Solids	500			503	mg/L		101	(95%-105%)		03/02/2	23 07:51
QC1205334667 LCSD Total Suspended Solids	500			500	mg/L	0.598	100	(0%-5%)		03/02/	23 07:51
QC1205334665 MB Total Suspended Solids			U	ND	mg/L					03/02/	23 07:51
Spectrometric Analysis Batch 2392846 ——											
QC1205335587 612421001 DUP COD		46.2		55.5	mg/L	18.3 ^		(+/-20.0)	HH2	03/03/	23 14:03
QC1205335586 LCS COD	500			493	mg/L		98.5	(90%-110%)		03/03/	23 14:03
QC1205335585 MB COD			U	ND	mg/L					03/03/	23 14:03
QC1205335588 612421001 MS COD	500	46.2		549	mg/L		100	(90%-110%)		03/03/	23 14:03

Notes:

The Qualifiers in this report are defined as follows:

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

J Value is estimated

Р Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

С Analyte has been confirmed by GC/MS analysis

В The target analyte was detected in the associated blank.

Е Concentration of the target analyte exceeds the instrument calibration range

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Workor	der: 612643 Page 16 of 1
Parmna	me NOM Sample Qual QC Units RPD/D% REC% Range Anlst Date Time
А	The TIC is a suspected aldol-condensation product
Х	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Ν	MetalsThe Matrix spike sample recovery is not within specified control limits
N	OrganicsPresumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor Analytical holding time was exceeded
H **	Analytical holding time was exceeded Analyte is a surrogate compound
<	Result is less than value reported
	Result is greater than value reported
> h	Preparation or preservation holding time was exceeded
h P	
R Z	Sample results are rejected Paint Filter TestParticulates passed through the filter, however no free liquids were observed.
d ^	5-day BODThe 2:1 depletion requirement was not met for this sample
	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
D	Results are reported from a diluted aliquot of the sample
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
E	% difference of sample and SD is >10%. Sample concentration must meet flagging criteria
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Е	General ChemistryConcentration of the target analyte exceeds the instrument calibration range
JNX	Non Calibrated Compound
UJ	Compound cannot be extracted
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
FB N1	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies See case narrative
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
Y	QC Samples were not spiked with this compound
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance
N	purposes. Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

- e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
- J See case narrative for an explanation

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QC Summary

Workorder:	612643									Page 17 of 17
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the

RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 612643

<u>GC/MS Semivolatile</u>

<u>Product:</u> Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry <u>Analytical Method:</u> EPA 625.1 <u>Analytical Procedure:</u> GL-OA-E-009 REV# 46 <u>Analytical Batch:</u> 2391871

Preparation Method: EPA 625.1 **Preparation Procedure:** GL-OA-E-013 REV# 35 **Preparation Batch:** 2391868

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612643001	Torus-Avantech Influent
1205334195	Method Blank (MB)
1205334196	Laboratory Control Sample (LCS)
1205334197	612518003(NonSDG) Matrix Spike (MS)
1205334198	612518003(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

CCV Requirements

Not all Calibration Verification Standards (CCV) met the acceptance criteria as outlined in Table 6 in Method 625.1. The target analyte 2-Methyl-4,6-dinitrophenol was outside the acceptance criteria. As the analyte was not detected in the associated client samples, the biased high response had no adverse impact on the reported data. All other analytes which failed on the included Continuing Calibration Summary report were within the %acceptance criteria for the respective analyte or within 60%-140% for analytes not listed in Table 6. The data were reported.

Miscellaneous Information

Additional Comments

Diphenylamine Statement

Diphenylamine has superseded the reporting of N-Nitroso-diphenylamine. As per the EPA,

N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine. Studies of these two compounds at GEL, both independent of each other and together, showed that they not only co-elute, but also have similar mass spectra. N-Nitroso-diphenylamine and Diphenylamine are therefore reported as Diphenylamine on all reports and forms.

GC Semivolatile PCB

<u>Product:</u> Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD <u>Analytical Method:</u> EPA 608.3 <u>Analytical Procedure:</u> GL-OA-E-040 REV# 25 <u>Analytical Batch:</u> 2392610

Preparation Method: EPA 608.3 **Preparation Procedure:** GL-OA-E-070 REV# 11 **Preparation Batch:** 2392608

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612643001	Torus-Avantech Influent
1205335248	Method Blank (MB)
1205335249	Laboratory Control Sample (LCS)
1205335250	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation/Analytical Method Verification

All samples and QC in this batch were cleaned using alumina in order to remove oil and other high molecular weight interferences. All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Miscellaneous Information

Additional Comments

The column 1 has been chosen as the primary column. The data are reported from the column 1 for all samples in this batch.

Metals

Product: Determination of Metals by ICP-MS Analytical Method: EPA 200.8 **Analytical Procedure:** GL-MA-E-014 REV# 35 **Analytical Batch:** 2392298

Preparation Method: EPA 200.2

Preparation Procedure: GL-MA-E-016 REV# 18 **Preparation Batch:** 2392297

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612643001	Torus-Avantech Influent
1205334765	Method Blank (MB)ICP-MS
1205334766	Laboratory Control Sample (LCS)
1205334769	612643001(Torus-Avantech InfluentL) Serial Dilution (SD)
1205334767	612643001(Torus-Avantech InfluentD) Sample Duplicate (DUP)
1205334768	612643001(Torus-Avantech InfluentS) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

ICSA/ICSAB Statement

For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

<u>Product:</u> Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer <u>Analytical Method:</u> EPA 245.1/245.2 <u>Analytical Procedure:</u> GL-MA-E-010 REV# 39 <u>Analytical Batch:</u> 2392284

Preparation Method: EPA 245.1/245.2 Prep **Preparation Procedure:** GL-MA-E-010 REV# 39 **Preparation Batch:** 2392283

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612643001	Torus-Avantech Influent
1205334715	Method Blank (MB)CVAA
1205334716	Laboratory Control Sample (LCS)
1205334719	612518001(NonSDGL) Serial Dilution (SD)
1205334717	612518001(NonSDGD) Sample Duplicate (DUP)
1205334718	612518001(NonSDGS) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

General Chemistry

Product: Carbon, Total Organic <u>Analytical Method:</u> SM 5310 B <u>Analytical Procedure:</u> GL-GC-E-093 REV# 21 <u>Analytical Batch:</u> 2392379

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612643001	Torus-Avantech Influent
1205334898	Method Blank (MB)
1205334899	Laboratory Control Sample (LCS)
1205334900	612533001(NonSDG) Sample Duplicate (DUP)
1205334902	612533001(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions

Samples 1205334900 (Non SDG 612533001DUP) and 1205334902 (Non SDG 612533001PS) were diluted based on historical data. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Sample Re-analysis

Samples 1205334898 (MB) and 1205334899 (LCS) were re-analyzed due to CCV failure. The reanalysis data with passing instrument QC was reported. Samples 1205334900 (Non SDG 612533001DUP), 1205334902 (Non SDG 612533001PS) and 612643001 (Torus-Avantech Influent) were re-analyzed due to (its) proximity to an overrange sample. The results from the reanalysis are reported.

Product: Cyanide, Total Analytical Method: EPA 335.4 Analytical Procedure: GL-GC-E-095 REV# 23 Analytical Batch: 2392920

Preparation Method: EPA 335.4 **Preparation Procedure:** GL-GC-E-067 REV# 24 **Preparation Batch:** 2392919 The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612643001	Torus-Avantech Influent
1205335696	Method Blank (MB)
1205335697	Laboratory Control Sample (LCS)
1205335700	612715002(NonSDG) Sample Duplicate (DUP)
1205335701	612715002(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: Total Phenols <u>Analytical Method:</u> EPA 420.4 <u>Analytical Procedure:</u> GL-GC-E-102 REV# 10 <u>Analytical Batches:</u> 2393715 and 2393714

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612643001	Torus-Avantech Influent
1205337076	Method Blank (MB)
1205337077	Laboratory Control Sample (LCS)
1205337078	612516014(NonSDG) Matrix Spike (MS)
1205337079	612516014(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries ($\ensuremath{^{\circ}R}$) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The spike recovery falls outside of the established acceptance limits. Since both the spike duplicate recovery and the RPD between the spike and spike duplicate fall within acceptance limits, the data is reported.

Analyte	Sample	Value
Total Phenol	1205337078 (Non SDG 612516014MS)	89.5* (90%-110%)

Product: Ion Chromatography <u>Analytical Method:</u> SW846 9056 <u>Analytical Procedure:</u> GL-GC-E-086 REV# 30 <u>Analytical Batch:</u> 2392884

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612643001	Torus-Avantech Influent
1205335638	Method Blank (MB)
1205335639	Laboratory Control Sample (LCS)
1205335640	612772001(NonSDG) Sample Duplicate (DUP)
1205335641	612772001(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Chloride	1205335641 (Non SDG 612772001PS)	117* (90%-110%)

Technical Information

Sample Dilutions

The following samples 1205335640 (Non SDG 612772001DUP), 1205335641 (Non SDG 612772001PS) and 612643001 (Torus-Avantech Influent) were diluted because target analyte concentrations exceeded the calibration range. The following samples 1205335640 (Non SDG 612772001DUP) and 1205335641 (Non SDG 612772001PS) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyta	612643
Analyte	001
Chloride	25X

<u>Product:</u> Ammonia Nitrogen <u>Preparation Method:</u> EPA 350.1 <u>Preparation Procedure:</u> GL-GC-E-106 REV# 10

Preparation Batch: 2394828

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612643001	Torus-Avantech Influent
1205339097	Method Blank (MB)
1205339098	Laboratory Control Sample (LCS)
1205339099	612516014(NonSDG) Sample Duplicate (DUP)
1205339100	612516014(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Nitrogen, Ammonia	1205339100 (Non SDG 612516014PS)	76.6* (90%-110%)

Technical Information

Sample Dilutions

The following samples 1205339099 (Non SDG 612516014DUP) and 1205339100 (Non SDG 612516014PS) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

<u>Product:</u> n-Hexane Extractable Material <u>Analytical Method:</u> EPA 1664A/1664B <u>Analytical Procedure:</u> GL-GC-E-094 REV# 18 <u>Analytical Batch:</u> 2396896

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612643001	Torus-Avantech Influent
1205342504	Method Blank (MB)
1205342505	Laboratory Control Sample (LCS)
1205342507	611175001(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

<u>Product:</u> Solids, Total Suspended <u>Analytical Method:</u> SM 2540D <u>Analytical Procedure:</u> GL-GC-E-012 REV# 18 <u>Analytical Batch:</u> 2392261

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612643001	Torus-Avantech Influent
1205334665	Method Blank (MB)
1205334666	Laboratory Control Sample (LCS)
1205334667	Laboratory Control Sample Duplicate (LCSD)
1205334828	612682001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments

Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 1205334828 (Non SDG 612682001DUP).

Product: COD Analytical Method: EPA 410.4 Analytical Procedure: GL-GC-E-061 REV# 21 Analytical Batch: 2392846

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612643001	Torus-Avantech Influent
1205335585	Method Blank (MB)
1205335586	Laboratory Control Sample (LCS)
1205335587	612421001(NonSDG) Sample Duplicate (DUP)
1205335588	612421001(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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Profect # Profect # GELOQuote #: COCNumber (0):	PO Øumber: EPA-SUB	Climin Name: Comprehensive Decommissioning International (CDI)	Project/Site Name: Pilgrim Station	Addess: 600 Rocky Hill Road, Plymouth, Ma 02360	Collected By: Site Chemistry	Sample ID *For composities - indicate start and stop date (time	Torus-AVANTech Influent								Relinquished By (Signed) Date Ti		2		> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)	 Chain of Custody Number = Client Determined O Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD 	3.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.	 Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Suface Water, WW=Water, WL=Misc Liquid, SO=Soil, SD=Soil, SD=Soil, Water, O=Oil, F=Frliter, P=Wipe, U=Unne, F=Fecal, N=Nasal Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1). 	6) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank	7) KNOWN OR POSSIBLE HAZARDS	RCRA Metals As = Arsenic Hg= Mercury		Cd = Cadmium Ag= Silver Cr = Chromium MR= Misc. RCRA metals	$\mathbf{P}\mathbf{b} = \mathrm{Lead}$

		-		MPLE RECEIPT & REVIEW FORM
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hipped as a DOT Hazardous?	-	1	Hazard	Class Shipped: UN#: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
Did the client designate the samples are to be ived as radioactive?	-			otation or radioactive stickers on containers equal client designation.
Did the RSO classify the samples as joactive?	/		Maxim	num Net Counts Observed (Observed Counts - Area Background Counts): 2 PM / mR/Hr Classified as: Fad / Rad 2 Rad 3
		1	COC	notation or hazard labels on containers equal client designation.
Did the client designate samples are hazardous?		-	If D or	r E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
Did the RSO identify possible hazards? Sample Receipt Criteria	Yes	VN	NN N	Comments/Qualifiers (Required for Non-Conforming Items)
Shipping containers received intact and scaled?	/		C	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
Chain of custody documents included with shipment?	1		1	Circle Applicable: Client contacted and provided COC COC created upon receipt Preservation Method: Wet Ice Packs Dry ice None Other: TEMP:
Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	/			*all temperatures are recorded in Celsius TEMP:
4 Daily check performed and passed on IR temperature gun?	/			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Sample containers intact and sealed?	/			Sample ID's and Containers Affected:
6 Samples requiring chemical preservation at proper pH?	X	ET:		If Preservation added, Lot#: If View and Encores or Soil Kits present for solids? Yes No NA (If yes, take to VOA Freezer)
7 Do any samples require Volatile Analysis?			X	Do liquid VOA viuls contain acid preservation? YesNoNA(No
8 Samples received within holding time?	0	K		ID's and texts affected:
9 Sample ID's on COC match ID's on bottles?	0			1D's and containers affected: Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10 Date & time on COC match date & time on bottles?	e	2		Circle Applicable: No container count on COC Other (describe)
11 Number of containers received match number indicated on COC?		No. of the local division of the local divis	X	ONLY RECEIVED 18
12 Are sample containers identifiable as GEL provided by use of GEL labels? 13 COC form is properly signed in relinquished/received sections?	-	X		Circle Applicable: Not relinquished Other (describe)
Comments (Use Continuation Form if needed):				
				100/0 p. 312123 Page of

Max Gloth

From:Laura Hageman <l.hageman@holtec.com>Sent:Thursday, March 2, 2023 1:37 PMTo:Max GlothSubject:RE: Missing container 612643

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Great, thank you for following up and I apologize for the confusion.

Laura Hageman

Chemistry Superintendent/ BHI Site Manager Pilgrim Nuclear Power Station (508) 830-8184 (w) (508) 254-5594 (c)

From: Max Gloth <Max.Gloth@gel.com> Sent: Thursday, March 2, 2023 1:35 PM To: Laura Hageman <I.hageman@holtec.com> Subject: RE: Missing container 612643

CAUTION: This email came from a source OUTSIDE of Holtec!! Do not click any links or open any attachments unless you trust the sender and know the contents to be safe. Clicking links or opening attachments could lead to infecting your computer or Holtec's servers with malicious viruses.

We are missing one container of the SVOC/Pesticides/PCBs 1L Amber. We should have enough to proceed with analysis.

From: Laura Hageman <<u>l.hageman@holtec.com</u>> Sent: Thursday, March 2, 2023 10:19 AM To: Max Gloth <<u>Max.Gloth@gel.com</u>> Cc: Team Trent <<u>Team.Trent@gel.com</u>> Subject: RE: Missing container 612643

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Can you tell me which is missing? See below for list of bottles that should have been included:

SVOC/Pesticides/PCBs= 6x 1L Amber 2,3,7,8 TCCD= 3x 1L Amber Metals= 250ml poly with Nitric Cyanide= 250ml poly with Sodium Hydroxide TOC= 150 ml Amber with Sulfuric Anions- 250ml poly Boron= 250ml poly with Nitric COD-125ml poly with sulfuric TSS= 1L ml Poly Ammonia= 125 ml poly with sulfuric Phenols= 250 ml amber with sulfuric Oil and grease= 1Lml Amber with Hydrochloric Acid

Thank you,

Laura Hageman

Chemistry Superintendent/ BHI Site Manager Pilgrim Nuclear Power Station (508) 830-8184 (w) (508) 254-5594 (c)

From: Max Gloth <<u>Max.Gloth@gel.com</u>> Sent: Thursday, March 2, 2023 10:06 AM To: Laura Hageman <<u>I.hageman@holtec.com</u>> Cc: Team Trent <<u>Team.Trent@gel.com</u>> Subject: Missing container 612643

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Clicking links or opening attachments could lead to infecting your computer or Holtec's servers with malicious viruses.

Notifying you that we only received 18 containers, while the chain of custody states that there should be 19. Please advise. See attachment for reference, thank you.

Max Gloth Project Manager Assistant



2040 Savage Road, Charleston, SC 29407 | PO Box 30712, Charleston, SC 29417 Office Main: 843.556.8171 | Fax: 843.766.1178 E-Mail: <u>max.gloth@gel.com</u> | Website: <u>www.gel.com</u>

Analytical Testing



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State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 15 March 2023



a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

March 13, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 612474

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 28, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Chain of Custody form did not contain a relinquished signature. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

lina ohnsom Anna Johnson for

Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 612474 GEL Work Order: 612474

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- B The target analyte was detected in the associated blank.
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

and Johnson

Reviewed by

Certificate of Analysis

Company : Address : Contact: Project:	HDI, Inc. 1 Holtec Blvd. Camden, New J Laura Hageman Pilgrim NPDE	L			Report Date: March 8, 2023								
	Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:		Torus-Avantech Influe 612474001 Water 27-FEB-23 09:05 28-FEB-23 Client	nt		roiect: lient ID:	CDEC0010 CDEC001	17					
Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.			
Micro-biology													
<i>SM 5210B BOD, 5DAY</i> BOD, 5 DAY	"As Received" dU	ND	1.00	2.00	mg/L		JW2	03/01/2	23 0856	23915361			
Spectrometric Analysis													
SM4500CL_G Total Res Chlorine, Residual	idual Chlorine ". HU	As Received ND		0.0500	mg/L		1 HH2	03/02/2	23 1010	23922762			
Titration and Ion Analys EPA 150.1 pH "As Rece													
pH at Temp 15.9C	Н	7.43	0.0100	0.100	SU		1 JW2	03/01/2	23 1555	23920323			
Volatile Organics													
EPA 624.1 Volatiles Met	thod List "As Rec	eived"											
1,1,1-Trichloroethane 71-55-6	U	ND	0.333	1.00	ug/L			03/01/2	23 1158	23915754			
1,1,2,2-Tetrachloroethan 79-34-5	-	ND	0.333	1.00	ug/L		1						
1,1,2-Trichloroethane 79-00-5	U	ND	0.333	1.00	ug/L		1						
1,1-Dichloroethane 75-34-3	U	ND	0.333	1.00	ug/L		1						
1,1-Dichloroethylene 75-35-4	U	ND	0.333	1.00	ug/L		1						
1,2-Dichloroethane 107-06-2	U	ND	0.333	1.00	ug/L		1						
1,2-Dichloropropane 78-87-5	U	ND	0.333	1.00	ug/L		1						
1,3-Dichloropropylene 542-75-6	U	ND	0.500	2.00	ug/L		1						
2-Chloroethylvinyl ether 110-75-8	-	ND	1.67	5.00	ug/L		1						
Acrolein 107-02-8 Acrolonitrile	U	ND	1.67	5.00	ug/L		1						
Acrylonitrile 107-13-1	U	ND	1.67	5.00	ug/L		1						

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

 Company :
 HDI, Inc.

 Address :
 1 Holtec Blvd.

 Camden, New Jersey 08104

 Contact:
 Laura Hageman

 Project:
 Pilgrim NPDES Permit Modification

Client Sample ID: CDEC00107 **Torus-Avantech Influent** Project: Client ID: CDEC001 612474001 Sample ID: Parameter Qualifier Result PF DL RL Units **DF** Analyst Date Time Batch Mtd. **Volatile Organics** EPA 624.1 Volatiles Method List "As Received" Benzene ND 0.333 1.00 1 ug/L U 71-43-2 Bromodichloromethane ND 0.333 1.00 ug/L 1 U 75-27-4 Bromoform ND 0.333 1.00 U ug/L 1 75-25-2 Bromomethane ND 0.337 1.00 1 ug/L U 74-83-9 Carbon tetrachloride ND 0.333 1.00 ug/L 1 U 56-23-5 Chlorobenzene 0.333 1.00 ND ug/L 1 U 108-90-7 Chloroethane ND 0.333 1.00 U ug/L 1 75-00-3 Chloroform ND 0.333 1.00 ug/L 1 U 67-66-3 Chloromethane ND 0.333 1.00 ug/L 1 U 74-87-3 Dibromochloromethane ND 0.333 1.00 ug/L 1 U 124-48-1 Ethylbenzene ND 0.333 1.00 ug/L 1 U 100-41-4 Methylene chloride BJ 1.88 0.500 2.00 ug/L 1 75-09-2 Tetrachloroethylene 3.44 0.333 1.00 ug/L 1 127-18-4 0.333 1.00 Toluene U ND ug/L 1 108-88-3 Trichloroethylene ND 0.333 1.00 U ug/L 1 79-01-6 Vinyl chloride 1.00 ND 0.333 ug/L U 1 75-01-4 trans-1,2-Dichloroethylene 0.333 1.00 U ND ug/L 1 156-60-5 The following Analytical Methods were performed: Method Description **Analyst Comments**

1 SM 5210B

2 SM 4500-Cl G

Report Date: March 8, 2023

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Address :	HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104	Report Date:	March 8, 2023
Contact: Project:	Laura Hageman Pilgrim NPDES Permit Modification		

	Client Sample Sample ID:	e ID:	Torus-Avantech 612474001	Influent			Project: Client ID:	CDEC0010 CDEC001)7		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.
3	EPA 150.1										
4	EPA 624.1										
Surrogate/Tracer recover	ry Test				Result		Nominal	Recovery%	Accep	otable I	Limits
Bromofluorobenzene	EPA 624 Received		s Method List "As		51.9	ug/L	50.0	104	(72	.%-125	%)
1,2-Dichloroethane-d4	EPA 624 Received		s Method List "As		53.5	ug/L	50.0	107	(73	%-129	%)
Toluene-d8	EPA 624 Received		s Method List "As		49.9	ug/L	50.0	100	(75	%-123	%)

					(2C {	Summar	y		Report Date: March 8, 2023				
Contact:	HDI, Inc. 1 Holtec Blv Camden, Ne Laura Hage	ew Jersey			~		-	,	ł	keport Da	ate: March 8, 2	2023	Page 1 of 12	
Workorder:	612474													
Parmname			NON	м	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time	
Micro-biology Batch	2391536													
QC120533388 BOD, 5 DAY	86 612553001	DUP			12.2		12.8	mg/L	4.78 ^		(+/-6.00)	JW2	03/01/23 13:10	
QC120533366 BOD, 5 DAY	69 LCS		198				206	mg/L		104	(85%-115%)		03/01/23 08:56	
QC120533366 BOD, 5 DAY	68 MB						0.0400	mg/L					03/01/23 08:56	
QC120533367 BOD, 5 DAY	70 SEED						0.639	mg/L					03/01/23 08:56	
Spectrometric An Batch	nalysis 2392276													
QC120533470 Chlorine, Residu	08 612474001 ual	DUP		HU	ND	HU	ND	mg/L	N/A			HH2	03/02/23 10:11	
QC12053347(Chlorine, Residu			0.500				0.529	mg/L		106	(74%-112%)		03/02/23 10:09	
QC12053347(Chlorine, Residu						U	ND	mg/L					03/02/23 10:08	
QC12053347(Chlorine, Residu	09 612474001 ual		0.500	HU	ND	Н	0.526	mg/L		104	(67%-128%)		03/02/23 10:12	
Titration and Ion Batch	Analysis 2392032													
QC120533435 pH	58 612158001	DUP		Н	8.10	Н	8.10	SU	0		(0%-5%)	JW2	03/01/23 15:37	

Workorder: 612474		\mathcal{L} - \mathcal{L}	•	5					
									Page 2 of 12
Parmname Titration and Ion Analysis Batch 2392032 QC1205334357 LCS pH	NOM 7.00	Sample Qual	QC 7.00	<u>Units</u> SU	RPD/D%	REC%	Range (99%-101%)	Anlst) JW2	Date Time 03/01/23 15:36
Volatile-GC/MS Batch 2391575 QC1205333728 LCS									
1,1,1-Trichloroethane	50.0		56.1	ug/L		112	(75%-136%)	PXY1	03/01/23 09:02
1,1,2,2-Tetrachloroethane	50.0		50.3	ug/L	'	101	(68%-126%)	I	
1,1,2-Trichloroethane	50.0		50.2	ug/L	'	100	(73%-120%))	
1,1-Dichloroethane	50.0		53.3	ug/L	,	107	(76%-123%))	
1,1-Dichloroethylene	50.0		53.7	ug/L	,	107	(67%-133%)	J	
1,2-Dichloroethane	50.0		47.8	ug/L	,	96	(68%-124%))	
1,2-Dichloropropane	50.0		49.3	ug/L	,	99	(74%-121%))	
1,3-Dichloropropylene	100		105	ug/L	1	105	(75%-129%))	
2-Chloroethylvinyl ether	250		266	ug/L	1	106	(62%-126%))	
Benzene	50.0		51.2	ug/L	,	102	(74%-118%))	
Bromodichloromethane	50.0		55.0	ug/L	,	110	(73%-133%)	J	
Bromoform	50.0		52.4	ug/L	,	105	(69%-130%))	
Bromomethane	50.0		54.6	ug/L	1	109	(68%-140%)	I	

Workorder: 612474		~	•	~			D
Parmname	NOM	Sample Qual	QC	Units RI	PD/D% REC%	Range Anlst	Page 3 of 12 Date Time
Volatile-GC/MSBatch2391575		Sample Quai		<u>Units Ki</u>	<u>PD/D % REC %</u>	Kange Anist	Date Time
Carbon tetrachloride	50.0		55.5	ug/L	111	(73%-140%) PXY1	03/01/23 09:02
Chlorobenzene	50.0		47.7	ug/L	95	(76%-120%)	
Chloroethane	50.0		57.8	ug/L	116	(70%-131%)	
Chloroform	50.0		54.1	ug/L	108	(77%-126%)	
Chloromethane	50.0		44.5	ug/L	89	(60%-139%)	
Dibromochloromethane	50.0		54.8	ug/L	110	(75%-133%)	
Ethylbenzene	50.0		43.4	ug/L	87	(75%-121%)	
Methylene chloride	50.0	В	51.1	ug/L	102	(69%-120%)	
Tetrachloroethylene	50.0		47.6	ug/L	95	(74%-124%)	
Toluene	50.0		47.5	ug/L	95	(74%-118%)	
Trichloroethylene	50.0		52.5	ug/L	105	(76%-124%)	
Vinyl chloride	50.0		48.8	ug/L	98	(67%-134%)	
trans-1,2-Dichloroethylene	50.0		49.8	ug/L	100	(71%-127%)	
**1,2-Dichloroethane-d4	50.0		51.8	ug/L	104	(73%-129%)	
**Bromofluorobenzene	50.0		50.3	ug/L	101	(72%-125%)	

Workorder: 612474		~	•	•					Page 4 of 1
Parmname	NOM	Sample Qual	QC	Units F	RPD/D%	REC%	Range	Anlst	Date Time
Volatile-GC/MSBatch2391575		~~~~~~~~~~							
**Toluene-d8	50.0		50.0	ug/L		100	(75%-123%)	PXY1	03/01/23 09:0
QC1205333729 LCS Acrolein	250		280	ug/L		112	(63%-141%)		03/01/23 10:0
Acrylonitrile	250		251	ug/L		100	(67%-128%)		
**1,2-Dichloroethane-d4	50.0		51.5	ug/L		103	(73%-129%)		
**Bromofluorobenzene	50.0		49.3	ug/L		99	(72%-125%)		
**Toluene-d8	50.0		50.9	ug/L		102	(75%-123%)		
QC1205333730 MB 1,1,1-Trichloroethane		U	ND	ug/L					03/01/23 11:2
1,1,2,2-Tetrachloroethane		U	ND	ug/L					
1,1,2-Trichloroethane		U	ND	ug/L					
1,1-Dichloroethane		U	ND	ug/L					
1,1-Dichloroethylene		U	ND	ug/L					
1,2-Dichloroethane		U	ND	ug/L					
1,2-Dichloropropane		U	ND	ug/L					
1,3-Dichloropropylene		U	ND	ug/L					

QC Summary

		QC Du	mmu.	у					
Workorder: 612474									Page 5 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Volatile-GC/MS Batch 2391575									
2-Chloroethylvinyl ether		U	ND	ug/L				PXY1	03/01/23 11:29
Acrolein		U	ND	ug/L					
Acrylonitrile		U	ND	ug/L					
Benzene		U	ND	ug/L					
Bromodichloromethane		U	ND	ug/L					
Bromoform		U	ND	ug/L					
Bromomethane		U	ND	ug/L					
Carbon tetrachloride		U	ND	ug/L					
Chlorobenzene		U	ND	ug/L					
Chloroethane		U	ND	ug/L					
Chloroform		U	ND	ug/L					
Chloromethane		U	ND	ug/L					
Dibromochloromethane		U	ND	ug/L					
Ethylbenzene		U	ND	ug/L					
Methylene chloride		J	0.580	ug/L					

QC Summary

Workorder: 612474		~	-	,				Page 6 of 12
Parmname	NOM	Sample Qual	QC	Units RP	PD/D% REC%	Range	Anlst	Date Time
Volatile-GC/MSBatch2391575								
Tetrachloroethylene		U	ND	ug/L			PXY1	03/01/23 11:29
Toluene		U	ND	ug/L				
Trichloroethylene		U	ND	ug/L				
Vinyl chloride		U	ND	ug/L				
trans-1,2-Dichloroethylene		U	ND	ug/L				
**1,2-Dichloroethane-d4	50.0		53.1	ug/L	106	(73%-129%))	
**Bromofluorobenzene	50.0		51.5	ug/L	103	(72%-125%))	
**Toluene-d8	50.0		50.9	ug/L	102	(75%-123%))	
QC1205333731 611923001 PS 1,1,1-Trichloroethane	50.0 U	ND	49.4	ug/L	99	(67%-135%))	03/01/23 14:57
1,1,2,2-Tetrachloroethane	50.0 U	ND	50.5	ug/L	101	(58%-138%))	
1,1,2-Trichloroethane	50.0 U	ND	48.9	ug/L	98	(70%-126%))	
1,1-Dichloroethane	50.0 U	ND	48.5	ug/L	97	(70%-126%))	
1,1-Dichloroethylene	50.0 U	ND	50.4	ug/L	101	(61%-137%))	
1,2-Dichloroethane	50.0 U	ND	44.1	ug/L	88	(64%-129%))	
1,2-Dichloropropane	50.0 U	ND	46.0	ug/L	92	(68%-127%))	

*

*

Workorder: 612474		~	•	<i>,</i>			Page 7 of 12
Parmname	NOM	Sample Qual	QC	Units RPD/D%	6 REC%	Range Anlst	Date Time
Volatile-GC/MSBatch2391575					_		
1,3-Dichloropropylene	100		99.4	ug/L	99	(74%-123%) PXY1	03/01/23 14:57
2-Chloroethylvinyl ether	250 U	ND U	ND	ug/L	0*	(64%-123%)	
Benzene	50.0 U	ND	46.1	ug/L	92	(65%-122%)	
Bromodichloromethane	50.0 U	ND	51.2	ug/L	102	(68%-137%)	
Bromoform	50.0 U	ND	50.8	ug/L	102	(62%-138%)	
Bromomethane	50.0 U	ND	58.3	ug/L	117	(61%-142%)	
Carbon tetrachloride	50.0 U	ND	49.9	ug/L	100	(63%-144%)	
Chlorobenzene	50.0 U	ND	44.8	ug/L	90	(63%-123%)	
Chloroethane	50.0 U	ND	51.9	ug/L	104	(64%-134%)	
Chloroform	50.0 U	ND	49.4	ug/L	99	(69%-133%)	
Chloromethane	50.0 U	ND	35.2	ug/L	70	(45%-142%)	
Dibromochloromethane	50.0 U	ND	51.6	ug/L	103	(68%-142%)	
Ethylbenzene	50.0 U	ND	42.1	ug/L	84	(65%-124%)	
Methylene chloride	50.0 BJ	1.93 В	47.2	ug/L	91	(62%-125%)	
Tetrachloroethylene	50.0 U	ND	45.6	ug/L	91	(64%-129%)	

		£ C St	•	,			
Workorder: 612474	NOM	Samuela Orași	QC	Unite DD	D/D% REC%	Dawaa Aulat	Page 8 of 12
Parmname Volatile-GC/MS Batch 2391575		Sample Qual	<u> </u>	Units RPI	D/D% REC%	Range Anlst	<u>Date Time</u>
Toluene	50.0 U	ND	45.2	ug/L	90	(63%-121%) PXY1	03/01/23 14:57
Trichloroethylene	50.0 U	ND	48.5	ug/L	97	(66%-126%)	
Vinyl chloride	50.0 U	ND	26.7	ug/L	53*	(58%-139%)	
trans-1,2-Dichloroethylene	50.0 U	ND	45.7	ug/L	91	(65%-130%)	
**1,2-Dichloroethane-d4	50.0	51.8	51.5	ug/L	103	(73%-129%)	
**Bromofluorobenzene	50.0	51.6	51.8	ug/L	104	(72%-125%)	
**Toluene-d8	50.0	50.8	51.0	ug/L	102	(75%-123%)	
QC1205333733 611923001 PS Acrolein	250 U	ND	266	ug/L	106	(51%-142%)	03/01/23 15:56
Acrylonitrile	250 U	ND	245	ug/L	98	(60%-135%)	
**1,2-Dichloroethane-d4	50.0	51.8	51.1	ug/L	102	(73%-129%)	
**Bromofluorobenzene	50.0	51.6	50.1	ug/L	100	(72%-125%)	
**Toluene-d8	50.0	50.8	50.8	ug/L	102	(75%-123%)	
QC1205333732 611923001 PSD 1,1,1-Trichloroethane	50.0 U	ND	50.5	ug/L	2 101	(0%-20%)	03/01/23 15:26
1,1,2,2-Tetrachloroethane	50.0 U	ND	50.7	ug/L	0 101	(0%-20%)	
1,1,2-Trichloroethane	50.0 U	ND	48.0	ug/L	2 96	(0%-20%)	

Workorder: 612474		~	•	0				Page 9 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Anlst	Date Time
Volatile-GC/MSBatch2391575								
1,1-Dichloroethane	50.0 U	ND	47.7	ug/L	2	95	(0%-20%) PXY1	03/01/23 15:26
1,1-Dichloroethylene	50.0 U	ND	50.2	ug/L	0	100	(0%-20%)	
1,2-Dichloroethane	50.0 U	ND	44.1	ug/L	0	88	(0%-20%)	
1,2-Dichloropropane	50.0 U	ND	46.0	ug/L	0	92	(0%-20%)	
1,3-Dichloropropylene	100		98.7	ug/L	1	99	(0%-20%)	
2-Chloroethylvinyl ether	250 U	ND U	ND	ug/L	N/A	0*	(0%-20%)	
Benzene	50.0 U	ND	46.3	ug/L	1	93	(0%-20%)	
Bromodichloromethane	50.0 U	ND	52.1	ug/L	2	104	(0%-20%)	
Bromoform	50.0 U	ND	53.4	ug/L	5	107	(0%-20%)	
Bromomethane	50.0 U	ND	55.7	ug/L	5	111	(0%-20%)	
Carbon tetrachloride	50.0 U	ND	50.9	ug/L	2	102	(0%-20%)	
Chlorobenzene	50.0 U	ND	44.7	ug/L	0	89	(0%-20%)	
Chloroethane	50.0 U	ND	52.2	ug/L	1	104	(0%-20%)	
Chloroform	50.0 U	ND	49.9	ug/L	1	100	(0%-20%)	
Chloromethane	50.0 U	ND	37.1	ug/L	5	74	(0%-20%)	

QC Summary

Workorder: 612474				0				D 10 6 10
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Anlst	Page 10 of 12 Date Time
Volatile-GC/MS Batch 2391575			<u></u>	<u> </u>			Runge Amst	Duit Tint
Dibromochloromethane	50.0 U	ND	52.4	ug/L	2	105	(0%-20%) PXY1	03/01/23 15:26
Ethylbenzene	50.0 U	ND	40.8	ug/L	3	82	(0%-20%)	
Methylene chloride	50.0 BJ	1.93 B	47.5	ug/L	0	91	(0%-20%)	
Tetrachloroethylene	50.0 U	ND	44.9	ug/L	2	90	(0%-20%)	
Toluene	50.0 U	ND	44.8	ug/L	1	90	(0%-20%)	
Trichloroethylene	50.0 U	ND	49.5	ug/L	2	99	(0%-20%)	
Vinyl chloride	50.0 U	ND	45.8	ug/L	53*	92	(0%-20%)	
trans-1,2-Dichloroethylene	50.0 U	ND	44.1	ug/L	4	88	(0%-20%)	
**1,2-Dichloroethane-d4	50.0	51.8	51.3	ug/L		103	(73%-129%)	
**Bromofluorobenzene	50.0	51.6	51.6	ug/L		103	(72%-125%)	
**Toluene-d8	50.0	50.8	49.8	ug/L		100	(75%-123%)	
QC1205333734 611923001 PSD Acrolein	250 U	ND	270	ug/L	2	108	(0%-20%)	03/01/23 16:26
Acrylonitrile	250 U	ND	255	ug/L	4	102	(0%-20%)	
**1,2-Dichloroethane-d4	50.0	51.8	50.6	ug/L		101	(73%-129%)	
**Bromofluorobenzene	50.0	51.6	50.0	ug/L		100	(72%-125%)	

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QC Summary

Workorder:	612474									Page 11 of	12
Parmname		NOM	Sample Qual	QC	Units 1	RPD/D%	REC%	Range	Anlst	Date Time	2
Volatile-GC/MS	\$										I
Batch	2391575										
**Toluene-d8		50.0	50.8	51.9	ug/L		104	(75%-123%)	PXY1	03/01/23 16:	26

Notes:

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- C Analyte has been confirmed by GC/MS analysis
- B The target analyte was detected in the associated blank.
- E Concentration of the target analyte exceeds the instrument calibration range
- A The TIC is a suspected aldol-condensation product
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- H Analytical holding time was exceeded
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- D Results are reported from a diluted aliquot of the sample
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- JNX Non Calibrated Compound
- UJ Compound cannot be extracted
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- N1 See case narrative
- Y QC Samples were not spiked with this compound

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QC Summary

Worko	order: 612	2474																Page	12 of 12
Parmna	ame				NOM	San	nple (Qual	()C	Units	s 1	RPD/D%	REC%	R	ange	Anlst	Date	Time
R	Per section	9.3.4.1 (of Me	hod 160	64 Revision	B, due to	matrix	spike 1	recover	y issu	es, this	resul	lt may not b	e reported	l or use	ed for 1	egulator	y complia	ance
	purposes.																		

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

J See case narrative for an explanation

.....

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 612474

GC/MS Volatile

<u>Product:</u> Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer <u>Analytical Method:</u> EPA 624.1 <u>Analytical Procedure:</u> GL-OA-E-026 REV# 29 <u>Analytical Batch:</u> 2391575

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612474001	Torus-Avantech Influent
1205333728	Laboratory Control Sample (LCS)
1205333729	Laboratory Control Sample (LCS)
1205333730	Method Blank (MB)
1205333731	611923001(NonSDG) Post Spike (PS)
1205333732	611923001(NonSDG) Post Spike Duplicate (PSD)
1205333733	611923001(NonSDG) Post Spike (PS)
1205333734	611923001(NonSDG) Post Spike Duplicate (PSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Blank (MB) Statement

Target analytes were detected in the blank 1205333730 (MB) below the reporting limit. The data are qualified and reported.

Matrix Spike/Matrix Spike Duplicate Recovery Statement

Preservation by acidification causes 2-Chloroethylvinyl ether to degrade resulting in poor recoveries in samples (See Below).

Sample	Analyte	Value
1205333731 (Non SDG 611923001PS)	2-Chloroethylvinyl ether	0* (64%-123%)
1205333732 (Non SDG 611923001PSD)	2-Chloroethylvinyl ether	0* (64%-123%)

The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The associated spike and/or spike duplicate passed recoveries near the lower/upper end of the limits.

Sample	Analyte	Value
1205333731 (Non SDG 611923001PS)	Vinyl chloride	53* (58%-139%)

Relative Percent Difference (RPD) Statement

The RPD between the matrix spike pair (See Below) were not all within the acceptance limits. The unacceptable RPD may be attributed to matrix interference and/or sample non-homogeneity.

Sample	Analyte	Value
1205333731PS and 1205333732PSD (Non SDG 611923001)	Vinyl chloride	RPD 53* (0%-20%)

General Chemistry

Product: Biochemical Oxygen Demand Analytical Method: SM 5210B **Analytical Procedure:** GL-GC-E-045 REV# 28 **Analytical Batch:** 2391536

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612474001	Torus-Avantech Influent
1205333668	Method Blank (MB)
1205333669	Laboratory Control Sample (LCS)
1205333670	BOD Seed (SEED)
1205333886	612553001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

2:1 Depletion Requirement

The following samples in this batch did not meet the 2:1 depletion requirement. 612474001 (Torus-Avantech Influent).

Product: Total Residual Chlorine <u>Analytical Method:</u> SM 4500-Cl G <u>Analytical Procedure:</u> GL-GC-E-076 REV# 17 <u>Analytical Batch:</u> 2392276

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612474001	Torus-Avantech Influent
1205334706	Method Blank (MB)
1205334707	Laboratory Control Sample (LCS)

1205334708	612474001(Torus-Avantech Influent) Sample Duplicate (DUP)
1205334709	612474001(Torus-Avantech Influent) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Samples (See Below) were received by the laboratory outside of the method specified holding time. The data is qualified.

Sample	Analyte	Value
1205334708 (Torus-Avantech InfluentDUP)		Received 28-FEB-23, out of holding 27-FEB-23
1205334709 (Torus-Avantech InfluentPS)		Received 28-FEB-23, out of holding 27-FEB-23
612474001 (Torus-Avantech Influent)		Received 28-FEB-23, out of holding 27-FEB-23

Product: pH Analytical Method: EPA 150.1 Analytical Procedure: GL-GC-E-008 REV# 26 Analytical Batch: 2392032

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612474001	Torus-Avantech Influent
1205334357	Laboratory Control Sample (LCS)
1205334358	612158001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Samples (See Below) were received by the laboratory outside of the method specified holding time. The data is qualified.

Sample Analyte Value

1205334358 (Non SDG 612158001DUP)	Received 24-FEB-23, out of holding 21-FEB-23
612474001 (Torus-Avantech Influent)	Received 28-FEB-23, out of holding 27-FEB-23

<u>Certification Statement</u>

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL Laboratories, LLC 2040 Savage Road Charleston, SC 29407 Phone: (843) 556-8171	Fax: (843) 766-1178	he number of containers for each test)	C Preservative Type (6)		Comments Note: extra sample is	required for sample specific QC	Short hold time				Rush: X Specify:		[] level 1 [] Level 2 [] Level 3 [] Level 4	5		[] Central [] Mountain [] Other:		⊧Fccal, N=Nasal	-	Please provide any additional details below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)
L ユイーイ alty Analytics	r: Katherine Cates	Sample Analysis Requested ⁽⁵⁾ (Fill in the number of containers for each test)			H DD DC DC ucqs	(7) Known or possible Haza Yotal number YC BC BC BC BC BC	Y 7 x x x x x				TAT Requested: Normal:	Fax Results: [] Yes [x] No] C of A [] QC Summary	Additional Remarks:		sastern [] Pacific		,≓Sludge, SS=Solid Waste, O=Oli, F=Filter, P=Wipe, U=Urine, F= 70A - 1).	um Thiosulfate, If no preservative is added = leave field blank	Other OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:
	der Number.	(CDI) Phone # (508)830-8184	Fax # Sho	sam cons	Send Results To: I.hageman@CDI-decom.com	*Date Collected *Time *Date Collected Collected PC (Military) QC (mm-dd-yy) (hhmm) Code ⁽²⁾ Filed Sample fileses sur-	W				Chain of Custody Signatures	Received by (signed) Date Time	1 (1 - Maren 2/28/23 7:45	2		atrix Spike Sample, MSD = Matrix Spi	was field filtered or - N - for sample was not field filtered.	4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, WL=Water, ML=Mise Liquid, SO=Soil, SL=Sludge, SS=Solid Waste, O=Oil, F=Friter, P=Wipe, U=Urine, F=Fecal, N=Nasal (S.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).	= Sulfuric	Characteristic Hazards Listed Waste FL = Flammable/Ignitable LW= Listed Waste CO = Corrosive LW= Listed Waste CO = Corrosive (F,K,P and U-listed wastes.) RE = Reactive Waste code(s): TSCA Regulated PCB = Polychlorinated PCB = Polychlorinated biphenyls
of	PO Mumber: EPA-SUB	Client Name: Comprehensive Decommissioning International (CDI)	Protody Site Name: Pilgrim Station	Addess: 600 Rocky Hill Road, Plymouth, Ma 02360	Content of the Chemistry Send Rest	424 Sample ID * For composites - indicate start and stop date/time	Torus-Avantech Influent				Chain of Cust	Relinquished By (Signed) Date Time		2	3	 For sample shipping and delivery details, see Sample Receipt & Review form (SRR.) Chain of Custody Number = Client Determined OC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = M 	3.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered	 Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Wate 5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010 	6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$

: CDEC			SAMPLE RECEIPT & REVIEW FORM
			Received: 2/28/23
ved By: 75		Date	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
Carrier and Tracking Number			7714 1319 0508
		ļ	
	5	0 1010	Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
ected Hazard Information	2 S		11NH 2910
	Λ	Haz	ard Class Shipped: UN#: 0.71200 If UN2910, Is the Radioactive Shipment Survey Compliant? Yest No
ipped as a DOT Hazardous?	ľ		C notation or radiuactive stickers on containers equal client designation.
id the client designate the samples are to be wed as radioactive?			
old the RSO classify the samples as		Ma	Eximum Net Counts Observed (Observed Counts - Area Background Counts): 500 CPMP mR/Hr Classified net Red 0 Red 2 Red 3
ouctive?	V		DC notation or hazard labels on containers equal client designation.
Did the client designate samples are hazardous?		8 L	
		Airi	D or E is yes, select Hazards below. PCB's Flammable Foreign Seil RCRA Asbestos Beryllium Other:
Did the RSO identify possible hazards?	<u> </u>	<u> " </u>	Comments/Onalifiers (Required for Non-Conforming Items)
Sample Receipt Criteria	Yes	2 2	Circle Applicable: Saals broken Damaged container Leaking container Other (describe)
Shipping containers received intact and scaled?			
Chain of custody documents included	1	饠	Circle Applicable: Chefit conneccu and payment of a
with shipment?	ť.		Preservation Method: Wet Ice Ice Packs Dry ice None Other: TEMP: 613
Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	\checkmark		* all temperatures activities in content
Daily check performed and passed on II	1		Secondary Temperature Device Serial # (If Applicable).
temperature gun?	ľ	擨	Circle Applicable: Seals broken Damaged container Leaking container ()ther (describe)
5 Sample containers intact and sealed?	V		Sample HD's and Contailners Affected:
Samples requiring chemical preservatio	n	V	
6 at proper pH?			It was an Encores of Soil Kills Diesen for soliday and the
Do any samples require Volatile	1.	周	Do liquid VOA viais contain actor preceivation and the second sec
7 Analysis?			Sample ID's and containers affected:
		瀏	ID's and tests affected:
8 Samples received within holding time?	<u> </u>		1D's and containers affected:
Sample ID's on COC match ID's on	1	∕嬼	
9 bottles?	-+	-71	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10 Date & time on COC match date & th on bottles?	~	<u> </u>	Circle Applicable: No container count on COC Other (describe)
Number of containers received match			
11 number indicated on COC? Are sample containers identifiable as	I	く驚	
14 LOFT arounded by USC OF UP L HUURST			Circle Applicuble: Not relinquished) Other (describe)
13 COC form is properly signed in			
Comments (Use Continuation Form if needed));		
			Dite 3123 Page of

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State	Certification							
Alabama	42200							
Alaska	17-018							
Alaska Drinking Water	SC00012							
Arkansas	88-0651							
CLIA	42D0904046							
California	2940							
Colorado	SC00012							
Connecticut	PH-0169							
DoD ELAP/ ISO17025 A2LA	2567.01							
Florida NELAP	E87156							
Foreign Soils Permit	P330-15-00283, P330-15-00253							
Georgia	SC00012							
Georgia SDWA	967							
Hawaii	SC00012							
Idaho	SC00012							
Illinois NELAP	200029							
Indiana	C-SC-01							
Kansas NELAP	E-10332							
Kentucky SDWA	90129							
Kentucky Wastewater	90129							
Louisiana Drinking Water	LA024							
Louisiana NELAP	03046 (AI33904)							
Maine	2019020							
Maryland	270							
Massachusetts	M-SC012							
Massachusetts PFAS Approv	Letter							
Michigan	9976							
Mississippi	SC00012							
Nebraska	NE-OS-26-13							
Nevada	SC000122023-4							
New Hampshire NELAP	2054							
New Jersey NELAP	SC002							
New Mexico	SC00012							
New York NELAP	11501							
North Carolina	233							
North Carolina SDWA	45709							
North Dakota	R-158							
Oklahoma	2022-160							
Pennsylvania NELAP	68-00485							
Puerto Rico	SC00012							
S. Carolina Radiochem	10120002							
Sanitation Districts of L	9255651							
South Carolina Chemistry	10120001							
Tennessee	TN 02934							
Texas NELAP	T104704235-22-20							
Utah NELAP	SC000122022-37							
Vermont	VT87156							
Virginia NELAP	460202							
Washington	C780							

List of current GEL Certifications as of 08 March 2023

FORM 3510-2C - ATTACHMENT 3.1C

3.1C-2 – Treated Water Tank and Intake Laboratory Reports



a member of The GEL Group INC



P 843.556.8171 F 843.766.1178

gel.com

March 06, 2023

Laura Hageman HDI. Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 611599

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 21, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. The following additional comments were noted at receipt: (insert text box).. Sample was preserved upon arrival. Client was notified via email..

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Und Johnson Anna Johnson for

Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 611599 GEL Work Order: 611599

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

and Johnson

Reviewed by

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Address : Contact:	HDI, Inc. 1 Holtec Blvd. Camden, New J Laura Hageman	-	14				F	Report Date: 1	March 6	, 2023	
Project:	Pilgrim NPDE	S Permit M	Iodification								
	Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:		Intake 611599001 Water 20-FEB-23 08:0 21-FEB-23 Client	00			Proiect: Client ID:	CDEC0010 CDEC001)7		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.
Micro-biology											
SM 5210B BOD, 5DAY BOD, 5 DAY		ND		10.0	20.0	mg/L		JW2	02/22/	03 0756	23877191
BOD, J DA I	dU	ND		10.0	20.0	mg/L		J VV Z	02/22/2	23 0730	230//191
Spectrometric Analysis											
SM4500CL_G Total Res	idual Chlorine "A	As Received	<i>l</i> "								
Chlorine, Residual	HU	ND		0.0170	0.0500	mg/L		1 HH2	02/21/2	23 1640	23875852
Titration and Ion Analys	is										
EPA 150.1 pH "As Rece											
pH at Temp 17.1C	Н	8.07		0.0100	0.100	SU		1 JW2	02/22/2	23 1658	23881923
Volatile Organics											
EPA 624.1 Volatiles Me	thod List "As Rec	eived"									
1,1,1-Trichloroethane	U	ND		0.333	1.00	ug/L		1 JM6	02/22/2	23 1539	23878184
71-55-6	-										
1,1,2,2-Tetrachloroethan 79-34-5	ue U	ND		0.333	1.00	ug/L		1			
1,1,2-Trichloroethane	U	ND		0.333	1.00	ug/L		1			
79-00-5	0	TID.		0.000	1100	ug, 11		•			
1,1-Dichloroethane	U	ND		0.333	1.00	ug/L		1			
75-34-3 1,1-Dichloroethylene	T	ND		0.333	1.00	ug/L		1			
75-35-4	U	ND		0.555	1.00	ug/L		1			
1,2-Dichloroethane	U	ND		0.333	1.00	ug/L		1			
107-06-2		ND		0.000	1.00	π		1			
1,2-Dichloropropane 78-87-5	U	ND		0.333	1.00	ug/L		1			
1,3-Dichloropropylene	U	ND		0.500	2.00	ug/L		1			
542-75-6						~					
2-Chloroethylvinyl ether 110-75-8	U	ND		1.67	5.00	ug/L		1			
Acrolein	U	ND		1.67	5.00	ug/L		1			
107-02-8	U										
Acrylonitrile	U	ND		1.67	5.00	ug/L		1			
107-13-1											

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Certificate of Analysis

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Droject.	D'L NIDDEC D

Report Date: March 6, 2023

Project: Pilgrim NPDES Permit Modification

	Client Sample Sample ID:	e ID:	Intake 611599001				Project: Client ID:	CDEC00107 CDEC001		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analyst Date	Time	Batch Mtd
Volatile Organics										
EPA 624.1 Volatiles Met	thod List "As Red	ceived"								
Benzene	U	ND		0.333	1.00	ug/L		1		
71-43-2				0.000	1.00	æ				
Bromodichloromethane 75-27-4	U	ND		0.333	1.00	ug/L		1		
75-27-4 Bromoform	U	ND		0.333	1.00	ug/L		1		
75-25-2	U	ND		0.555	1.00	ug/L		1		
Bromomethane	U	ND		0.337	1.00	ug/L		1		
74-83-9	C					U				
Carbon tetrachloride	U	ND		0.333	1.00	ug/L		1		
56-23-5					1.00	-				
Chlorobenzene	U	ND		0.333	1.00	ug/L		1		
108-90-7 Chloroethane		ND		0.333	1.00	ug/L		1		
75-00-3	U	ND		0.555	1.00	ug/L		1		
Chloroform	U	ND		0.333	1.00	ug/L		1		
67-66-3	U	T(D		0.000	1.00	ug/E		1		
Chloromethane	U	ND		0.333	1.00	ug/L		1		
74-87-3	C					U				
Dibromochloromethane	U	ND		0.333	1.00	ug/L		1		
124-48-1										
Ethylbenzene	U	ND		0.333	1.00	ug/L		1		
100-41-4		0.000		0.500	• • • •	T				
Methylene chloride 75-09-2	J	0.880		0.500	2.00	ug/L		1		
Tetrachloroethylene		ND		0.333	1.00	ug/L		1		
127-18-4	U	ND		0.333	1.00	ug/L		1		
Toluene	U	ND		0.333	1.00	ug/L		1		
108-88-3	U	1.2				- 8, -				
Trichloroethylene	U	ND		0.333	1.00	ug/L		1		
79-01-6										
Vinyl chloride	U	ND		0.333	1.00	ug/L		1		
75-01-4										
trans-1,2-Dichloroethyle	ne U	ND		0.333	1.00	ug/L		1		
156-60-5										
The following Analytical	l Methods were	performe	d:							
Method	Description					Analyst Co	mments			
1	SM 5210B									
2	SM 4500-Cl C	Ĵ								

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Certificate of Analysis

Batch Mtd.

	Company :	HDI, Inc.								
	Address :	1 Holtec Blvd.								
		Camden, New J	ersey 081	04						
	C ()	T TT						F	Report Date: March 6	, 2023
	Contact:	Laura Hageman								
	Project:	Pilgrim NPDE	S Permit I	Modification						
		Client Sample	· ID·	Intake			I	Project:	CDEC00107	
		Sample ID:		611599001				Client ID:	CDEC001	
Parameter		Qualifier	Result		DL	RL	Units	PF	DF Analyst Date	Time
3		EPA 150.1								

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Bromofluorobenzene	EPA 624.1 Volatiles Method List "As Received"	48.3 ug/L	50.0	97	(72%-125%)
1,2-Dichloroethane-d4	EPA 624.1 Volatiles Method List "As Received"	61.9 ug/L	50.0	124	(73%-129%)
Toluene-d8	EPA 624.1 Volatiles Method List "As Received"	49.5 ug/L	50.0	99	(75%-123%)

4

EPA 624.1

			QC Summary									
Contact:	HDI, Inc. 1 Holtec Blvo Camden, Nev Laura Hager	ew Jersey		~			,	J	Report Date: March 6, 2023			Page 1 of 12
Workorder:	611599											
Parmname		NO	M	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Micro-biology Batch	2387719											
QC120532757 BOD, 5 DAY	611557002	DUP		3.58		3.80	mg/L	5.96 ^		(+/-2.00)	JW2	02/22/23 07:56
QC120532757 BOD, 5 DAY	777 LCS	198				196	mg/L		98.8	(85%-115%)		02/22/23 07:56
QC120532757 BOD, 5 DAY	76 MB					0.160	mg/L					02/22/23 07:56
QC120532757 BOD, 5 DAY	78 SEED					0.709	mg/L					02/22/23 07:56
Spectrometric An Batch	nalysis 2387585											
QC120532733 Chlorine, Residu	73 611599001 lual	DUP	HU	ND	HU	ND	mg/L	N/A			HH2	02/21/23 16:40
QC120532733 Chlorine, Residu		0.500				0.515	mg/L		103	(74%-112%)		02/21/23 16:39
QC120532733 Chlorine, Reside					U	ND	mg/L					02/21/23 16:39
QC120532737 Chlorine, Reside	74 611599001 lual	PS 0.500	HU	ND	Н	0.509	mg/L		102	(67%-128%)		02/21/23 16:40
Titration and Ion Batch	n Analysis 2388192											
QC120532829 pH	.95 610500001	DUP	Н	8.27	Н	8.27	SU	0		(0%-5%)	JW2	02/22/23 16:24

Workorder: 611599				J					Page 2 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Titration and Ion Analysis Batch 2388192 QC1205328294 LCS pH	7.00	Jampie Van	7.00	SU		100	(99%-101%)		02/22/23 16:22
Volatile-GC/MS Batch 2387818 -									
QC1205327729 LCS 1,1,1-Trichloroethane	50.0		40.8	ug/L		82	(75%-136%)	JM6	02/22/23 08:31
1,1,2,2-Tetrachloroethane	50.0		46.1	ug/L		92	(68%-126%)	i	
1,1,2-Trichloroethane	50.0		44.5	ug/L		89	(73%-120%)	i	
1,1-Dichloroethane	50.0		41.1	ug/L		82	(76%-123%)	i	
1,1-Dichloroethylene	50.0		37.9	ug/L		76	(67%-133%)	i	
1,2-Dichloroethane	50.0		44.7	ug/L		89	(68%-124%)	i	
1,2-Dichloropropane	50.0		39.7	ug/L		79	(74%-121%)	ł	
1,3-Dichloropropylene	100		89.3	ug/L		89	(75%-129%)	ł	
2-Chloroethylvinyl ether	250		230	ug/L		92	(62%-126%)	ł	
Benzene	50.0		40.6	ug/L		81	(74%-118%)	l	
Bromodichloromethane	50.0		46.6	ug/L		93	(73%-133%)	1	
Bromoform	50.0		52.9	ug/L		106	(69%-130%)	1	
Bromomethane	50.0		51.2	ug/L		102	(68%-140%)	J	

		$\mathcal{Q}\mathcal{C}$ Si	ummur	у						
Workorder: 611599									Page	e 3 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst		Time
Volatile-GC/MSBatch2387818										
Carbon tetrachloride	50.0		43.1	ug/L	e.	86	(73%-140%)) JM6	02/22/.	23 08:31
Chlorobenzene	50.0		43.3	ug/L	1	87	(76%-120%))		
Chloroethane	50.0		60.4	ug/L	1	121	(70%-131%))		
Chloroform	50.0		42.5	ug/L	'	85	(77%-126%))		
Chloromethane	50.0		42.2	ug/L	'	84	(60%-139%))		
Dibromochloromethane	50.0		51.0	ug/L	1	102	(75%-133%))		
Ethylbenzene	50.0		40.5	ug/L	1	81	(75%-121%))		
Methylene chloride	50.0		36.9	ug/L	'	74	(69%-120%))		
Tetrachloroethylene	50.0		41.1	ug/L	1	82	(74%-124%))		
Toluene	50.0		41.8	ug/L		84	(74%-118%))		
Trichloroethylene	50.0		40.4	ug/L	1	81	(76%-124%))		
Vinyl chloride	50.0		45.2	ug/L		90	(67%-134%))		
trans-1,2-Dichloroethylene	50.0		38.7	ug/L		77	(71%-127%))		
**1,2-Dichloroethane-d4	50.0		54.6	ug/L	1	109	(73%-129%))		
**Bromofluorobenzene	50.0		47.0	ug/L	,	94	(72%-125%))		

Workorder: 611599		~	•	·					Page 4 of	12
Parmname	NOM	Sample Qual	QC	Units I	RPD/D%	REC%	Range	Anlst	Date Time	
Volatile-GC/MS Batch 2387818		<u> </u>								_
**Toluene-d8	50.0		53.0	ug/L		106	(75%-123%)	JM6	02/22/23 08:3	31
QC1205327730 LCS Acrolein	250		209	ug/L		84	(63%-141%)		02/22/23 09:2	26
Acrylonitrile	250		301	ug/L		120	(67%-128%)			
**1,2-Dichloroethane-d4	50.0		55.3	ug/L		111	(73%-129%)			
**Bromofluorobenzene	50.0		49.0	ug/L		98	(72%-125%)			
**Toluene-d8	50.0		51.1	ug/L		102	(75%-123%)			
QC1205327731 MB 1,1,1-Trichloroethane		U	ND	ug/L					02/22/23 10:4	49
1,1,2,2-Tetrachloroethane		U	ND	ug/L						
1,1,2-Trichloroethane		U	ND	ug/L						
1,1-Dichloroethane		U	ND	ug/L						
1,1-Dichloroethylene		U	ND	ug/L						
1,2-Dichloroethane		U	ND	ug/L						
1,2-Dichloropropane		U	ND	ug/L						
1,3-Dichloropropylene		U	ND	ug/L						

QC Summary

			\mathcal{L}	Summu	' y						
Workorder:	611599									Page	5 of 12
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS Batch	S 2387818										
2-Chloroethylv	vinyl ether		U	ND	ug/L	,			JM6	02/22/2	23 10:49
Acrolein			U	ND	ug/L	,					
Acrylonitrile			U	ND	ug/L	,					
Benzene			U	ND	ug/L						
Bromodichloro	omethane		U	ND	ug/L						
Bromoform			U	ND	ug/L	,					
Bromomethane	e		U	ND	ug/L	,					
Carbon tetrach	ıloride		U	ND	ug/L	,					
Chlorobenzene	9		U	ND	ug/L	,					
Chloroethane			U	ND	ug/L	r					
Chloroform			U	ND	ug/L	,					
Chloromethane	e		U	ND	ug/L	,					
Dibromochloro	omethane		U	ND	ug/L	,					
Ethylbenzene			U	ND	ug/L	,					
Methylene chlo	oride		U	ND	ug/L	1					

QC Summary

Workorder: 611599		~	~					Page 6 of 12
Parmname	NOM	Sample Qual	QC	Units I	RPD/D% REC%	6 Range	Anlst	Date Time
Volatile-GC/MS Batch 2387818								
Tetrachloroethylene		U	ND	ug/L			JM6	02/22/23 10:49
Toluene		U	ND	ug/L				
Trichloroethylene		U	ND	ug/L				
Vinyl chloride		U	ND	ug/L				
trans-1,2-Dichloroethylene		U	ND	ug/L				
**1,2-Dichloroethane-d4	50.0		56.8	ug/L	114	(73%-129%))	
**Bromofluorobenzene	50.0		49.1	ug/L	98	(72%-125%))	
**Toluene-d8	50.0		50.4	ug/L	101	(75%-123%))	
QC1205327732 610804001 PS 1,1,1-Trichloroethane	S 50.0 U	ND	58.0	ug/L	116	(67%-135%))	02/22/23 17:34
1,1,2,2-Tetrachloroethane	50.0 U	ND	55.3	ug/L	111	(58%-138%))	
1,1,2-Trichloroethane	50.0 U	ND	53.4	ug/L	107	(70%-126%))	
1,1-Dichloroethane	50.0 U	ND	54.4	ug/L	109	(70%-126%))	
1,1-Dichloroethylene	50.0 U	ND	55.4	ug/L	111	(61%-137%))	
1,2-Dichloroethane	50.0 U	ND	60.7	ug/L	121	(64%-129%))	
1,2-Dichloropropane	50.0 U	ND	50.0	ug/L	100	(68%-127%))	

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QC Summary

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Workorder: 611599									Page	7 of 12
Parmname	NOM	Sample Qua	al QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS Batch 2387818										
1,3-Dichloropropylene	100		109	ug/L		109	(74%-123%)	JM6	02/22/2	23 17:34
2-Chloroethylvinyl ether	250 U	ND U	ND	ug/L		0*	(64%-123%)	1		
Benzene	50.0 U	ND	53.2	ug/L		106	(65%-122%)	ł		
Bromodichloromethane	50.0 U	ND	59.2	ug/L		118	(68%-137%)	Ì		
Bromoform	50.0 U	ND	63.4	ug/L		127	(62%-138%)	J		
Bromomethane	50.0 U	ND	56.0	ug/L		112	(61%-142%))		
Carbon tetrachloride	50.0 U	ND	61.3	ug/L		123	(63%-144%)	I		
Chlorobenzene	50.0 U	ND	53.6	ug/L		107	(63%-123%)	I		
Chloroethane	50.0 U	ND	60.2	ug/L		120	(64%-134%)	I		
Chloroform	50.0 U	ND	54.7	ug/L		109	(69%-133%)	I		
Chloromethane	50.0 U	ND	42.0	ug/L		84	(45%-142%)	1		
Dibromochloromethane	50.0 U	ND	61.8	ug/L		124	(68%-142%)	1		
Ethylbenzene	50.0 U	ND	50.8	ug/L		102	(65%-124%)	I		
Methylene chloride	50.0 J	0.800	49.8	ug/L		98	(62%-125%)	I		
Tetrachloroethylene	50.0 U	ND	51.3	ug/L		103	(64%-129%)	I		

		20.51		<i>y</i>					
Workorder: 611599			0.0						Page 8 of 12
Parmname Volatile-GC/MS Batch 2387818	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Toluene	50.0 U	ND	50.6	ug/L		101	(63%-121%)	JM6	02/22/23 17:34
Trichloroethylene	50.0 U	ND	52.3	ug/L		105	(66%-126%)		
Vinyl chloride	50.0 U	ND	45.2	ug/L		90	(58%-139%)		
trans-1,2-Dichloroethylene	50.0 U	ND	54.0	ug/L		108	(65%-130%)		
**1,2-Dichloroethane-d4	50.0	56.6	55.2	ug/L		110	(73%-129%)		
**Bromofluorobenzene	50.0	47.9	48.1	ug/L		96	(72%-125%)		
**Toluene-d8	50.0	51.2	51.0	ug/L		102	(75%-123%)		
QC1205327733 610804001 PS Acrolein	250 U	ND	205	ug/L		82	(51%-142%)		02/22/23 18:29
Acrylonitrile	250 U	ND	282	ug/L		113	(60%-135%)		
**1,2-Dichloroethane-d4	50.0	56.6	56.1	ug/L		112	(73%-129%)		
**Bromofluorobenzene	50.0	47.9	49.9	ug/L		100	(72%-125%)		
**Toluene-d8	50.0	51.2	50.4	ug/L		101	(75%-123%)		
QC1205327734 610804001 PSD 1,1,1-Trichloroethane	50.0 U	ND	59.7	ug/L	3	119	(0%-20%)		02/22/23 18:02
1,1,2,2-Tetrachloroethane	50.0 U	ND	54.1	ug/L	2	108	(0%-20%)		
1,1,2-Trichloroethane	50.0 U	ND	53.4	ug/L	0	107	(0%-20%)		

Workorder: 611599		~	•					Page 9 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Anlst	Date Time
Volatile-GC/MS Batch 2387818								
1,1-Dichloroethane	50.0 U	ND	55.7	ug/L	2	111	(0%-20%) JM6	02/22/23 18:02
1,1-Dichloroethylene	50.0 U	ND	58.3	ug/L	5	117	(0%-20%)	
1,2-Dichloroethane	50.0 U	ND	61.5	ug/L	1	123	(0%-20%)	
1,2-Dichloropropane	50.0 U	ND	50.1	ug/L	0	100	(0%-20%)	
1,3-Dichloropropylene	100		109	ug/L	1	109	(0%-20%)	
2-Chloroethylvinyl ether	250 U	ND U	ND	ug/L	N/A	0*	(0%-20%)	
Benzene	50.0 U	ND	53.9	ug/L	1	108	(0%-20%)	
Bromodichloromethane	50.0 U	ND	61.4	ug/L	4	123	(0%-20%)	
Bromoform	50.0 U	ND	65.0	ug/L	2	130	(0%-20%)	
Bromomethane	50.0 U	ND	57.7	ug/L	3	115	(0%-20%)	
Carbon tetrachloride	50.0 U	ND	63.3	ug/L	3	127	(0%-20%)	
Chlorobenzene	50.0 U	ND	53.4	ug/L	0	107	(0%-20%)	
Chloroethane	50.0 U	ND	62.5	ug/L	4	125	(0%-20%)	
Chloroform	50.0 U	ND	56.3	ug/L	3	113	(0%-20%)	
Chloromethane	50.0 U	ND	42.1	ug/L	0	84	(0%-20%)	

QC Summary

Workorder: 611599			2	•						
	NO			00	TT •4		DECA			Page 10 of 12
Parmname Volatile-GC/MS Batch 2387818	NON	<u>vi</u>	Sample Qual	QC	Units	RPD/D%	REC%	Range A	nlst	Date Time
Dibromochloromethane	50.0	U	ND	61.8	ug/L	0	124	(0%-20%)	JM6	02/22/23 18:02
Ethylbenzene	50.0	U	ND	50.1	ug/L	1	100	(0%-20%)		
Methylene chloride	50.0	J	0.800	51.0	ug/L	2	100	(0%-20%)		
Tetrachloroethylene	50.0	U	ND	51.6	ug/L	0	103	(0%-20%)		
Toluene	50.0	U	ND	50.5	ug/L	0	101	(0%-20%)		
Trichloroethylene	50.0	U	ND	54.1	ug/L	3	108	(0%-20%)		
Vinyl chloride	50.0	U	ND	46.7	ug/L	3	93	(0%-20%)		
trans-1,2-Dichloroethylene	50.0	U	ND	54.6	ug/L	1	109	(0%-20%)		
**1,2-Dichloroethane-d4	50.0		56.6	56.5	ug/L		113	(73%-129%)		
**Bromofluorobenzene	50.0		47.9	49.1	ug/L		98	(72%-125%)		
**Toluene-d8	50.0		51.2	50.4	ug/L		101	(75%-123%)		
QC1205327735 610804001 PSD Acrolein	250	U	ND	198	ug/L	3	79	(0%-20%)		02/22/23 18:57
Acrylonitrile	250	U	ND	293	ug/L	4	117	(0%-20%)		
**1,2-Dichloroethane-d4	50.0		56.6	56.8	ug/L		114	(73%-129%)		
**Bromofluorobenzene	50.0		47.9	50.2	ug/L		100	(72%-125%)		

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QC Summary

Workorder:	611599									Page 11 of 12	
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time	
Volatile-GC/MS Batch	2387818										
**Toluene-d8		50.0	51.2	50.3	ug/L		101	(75%-123%)	JM6	02/22/23 18:57	

Notes:

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- C Analyte has been confirmed by GC/MS analysis
- B The target analyte was detected in the associated blank.
- E Concentration of the target analyte exceeds the instrument calibration range
- A The TIC is a suspected aldol-condensation product
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- H Analytical holding time was exceeded
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- D Results are reported from a diluted aliquot of the sample
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- JNX Non Calibrated Compound
- UJ Compound cannot be extracted
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- N1 See case narrative
- Y QC Samples were not spiked with this compound

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QC Summary

Worko	rder: 611599										Page	12 of 12
Parmna	me		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
R		1.1 of Method	1664 Revision B	, due to matrix spike rec	overy issu	es, this res	sult may not b	e reported o	or used for	regulatory	complia	nce
N	purposes. Presumptive ev	dence based on	i mass spectral li	brary search to make a to	entative id	entificatio	n of the analy	te (TIC) O	mantitation	is based o	n neares	t

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

J See case narrative for an explanation

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 611599

GC/MS Volatile

<u>Product:</u> Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer <u>Analytical Method:</u> EPA 624.1 <u>Analytical Procedure:</u> GL-OA-E-026 REV# 29 <u>Analytical Batch:</u> 2387818

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
611599001	Intake
1205327729	Laboratory Control Sample (LCS)
1205327730	Laboratory Control Sample (LCS)
1205327731	Method Blank (MB)
1205327732	610804001(NonSDG) Post Spike (PS)
1205327733	610804001(NonSDG) Post Spike (PS)
1205327734	610804001(NonSDG) Post Spike Duplicate (PSD)
1205327735	610804001(NonSDG) Post Spike Duplicate (PSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike/Matrix Spike Duplicate Recovery Statement

Preservation by acidification causes 2-Chloroethylvinyl ether to degrade resulting in poor recoveries in samples (See Below).

Sample	Analyte	Value
1205327732 (Non SDG 610804001PS)	2-Chloroethylvinyl ether	0* (64%-123%)
1205327734 (Non SDG 610804001PSD)	2-Chloroethylvinyl ether	0* (64%-123%)

General Chemistry

Product: Biochemical Oxygen Demand

Analytical Method: SM 5210B Analytical Procedure: GL-GC-E-045 REV# 28 Analytical Batch: 2387719 The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
611599001	Intake
1205327576	Method Blank (MB)
1205327577	Laboratory Control Sample (LCS)
1205327578	BOD Seed (SEED)
1205327579	611557002(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

2:1 Depletion Requirement

The following samples in this batch did not meet the 2:1 depletion requirement. 611599001 (Intake).

Product: Total Residual Chlorine Analytical Method: SM 4500-Cl G **Analytical Procedure:** GL-GC-E-076 REV# 17 **Analytical Batch:** 2387585

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
611599001	Intake
1205327371	Method Blank (MB)
1205327372	Laboratory Control Sample (LCS)
1205327373	611599001(Intake) Sample Duplicate (DUP)
1205327374	611599001(Intake) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Samples (See Below) were received by the laboratory outside of the method specified holding time. The data is qualified.

Sample	Analyte	Value
1205327373 (Intake DUP)		Received 21-FEB-23, out of holding 20-FEB-23
1205327374 (Intake PS)		Received 21-FEB-23, out of holding 20-FEB-23

Product: pH Analytical Method: EPA 150.1 Analytical Procedure: GL-GC-E-008 REV# 26 Analytical Batch: 2388192

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
611599001	Intake
1205328294	Laboratory Control Sample (LCS)
1205328295	610500001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Samples (See Below) were received by the laboratory outside of the method specified holding time. The data is qualified.

Sample	Analyte	Value
1205328295 (Non SDG 610500001DUP)		Received 10-FEB-23, out of holding 09-FEB-23
611599001 (Intake)		Received 21-FEB-23, out of holding 20-FEB-23

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL Laboratories, LLC 2040 Savage Road Charleston, SC 29407 Phone: (843) 556-8171 Fax: (843) 766-1178	(Fill in the number of containers for each test)	< Preservative Type (6)		Comments Note: extra sample is	required for sample specific QC	Short hold time				Rush: Specify:		[] level 1 [] Level 2 [] Level 3 [] Level 4	[] Yes [] No Cooler Temp: °C	[] Central [] Mountain [] Other:		Fccal, N=Nasal	Please provide any additional details below regarding handling and/or disposal concerns (i e · Oriein of sumple(s) type		
(e11599 alty Analytics ttes	alysis Requested ⁽⁵⁾	HCI		H))D))C))C	possible Hazz Total numbe VC VC VC VC VC VC PC PC PC PC PC PC PC PC PC PC PC PC PC	7 x x x x x				TAT Requested: Normal: _X] C of A [] QC Summary	Additional Remarks: For Lab Receiving Use Only: Custody Seal Intact? [Sample Collection Time Zone: [X] Eastern [] Pacific [ıle, G = Grab, C = Composite	Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fccal, N=Nasal 1 for each (i.e. <i>8260B</i> - 3, <i>6010B</i> .7470A - 1). thic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank	Other OT= Other / Unknown 6: a · Hich/Jow nH cebestos benellinm irritents other	(113/2010/ pri, accessos, ocrymum, in mano, om mise. health hazards, etc.) Description:	
GEL Laboratories Laboratories Laboratories gel.com Chemistry Radiochemistry Radiobioassay Specialty Analytics Call Laboratories chain of Custody and Analytical Request GEL Project Manager: Katherine Cates	Phone # (508)830-8184	Fax # Should this	sample be considered:	pply (If	*Time Collected (Military) Code ^{CD} Field Sample Field Sample (7) Known oi isotopic info.) (7) Known oi	00 N N					Date Time	2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/	Addit For L	Sample C	MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sampl - for sample was not field filtered.	W=Water, ML-Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1). Unic Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thios	Listed Waste Other LW= Listed Waste OT= C (F V D and IL listed unrease) (i a · H		
Page of	Clicat Name: Comprehensive Decommissioning International (CDI)	Proceed/Site Name: Pilgrim Station	Addess: 600 Rocky Hill Road, Plymouth, Ma 02360	Condition of the condit	866 Sample ID * For composites - indicate start and stop date (time (mm-dd-yy)					Chain of Custody Signatures	Time	N North D WWW O YOCH I V	3	> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)	 Chain of Custody Number = Client Determined Chain of Custody Number = Client Determined QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was not field filtered. 	 Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, W=Water, ML=Mise Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urin Sample Analysis Requested: Analytical method requested (i.e. 82608, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1). Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, HA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank 	7) KNOWN OR POSSIBLE HAZARDS [Characteristic Hazards] FL = Flammable/Ignitable CO - Connoise	$ \begin{array}{c c} \mathbf{K} \mathbf{C} \mathbf{K} \mathbf{A} \text{ metals} \\ \mathbf{A} \mathbf{s} = \mathbf{A} \mathbf{r} \mathbf{s} \mathbf{n} \mathbf{c} \\ \mathbf{A} \mathbf{s} = \mathbf{A} \mathbf{r} \mathbf{s} \mathbf{n} \mathbf{c} \\ \mathbf{B} \mathbf{a} = \mathbf{B} \mathbf{a} \mathbf{r} \mathbf{u} \mathbf{m} \\ \mathbf{S} \mathbf{e} = \mathbf{S} \mathbf{c} \mathbf{l} \mathbf{n} \mathbf{u} \\ \mathbf{B} \mathbf{a} \mathbf{s} \mathbf{n} \mathbf{u} \mathbf{n} \\ \mathbf{A} \mathbf{s} \mathbf{s} \mathbf{s} \mathbf{s} \mathbf{s} \mathbf{s} \mathbf{s} s$	$ \begin{array}{llllllllllllllllllllllllllllllllllll$

GEL Laboratories LLC			SAMPLE RECEIPT & REVIEW FORM							
Client:	· · ·		SDG/AR/COC/Work Order: (115999							
Received By: MVH			Date Received 21.2003							
			Chele Applicable: Fedex Express FedEx Ground UPS Field Services Courier Other							
Carrier and Tracking Number			771240089267							
Suspected Hazard Information	Yes	No.	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.							
A)Shipped as a DOT Hazardous?		V	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo							
B) Did the client designate the samples are to be received as radioactive?		\checkmark	COC notation or radioactive stickers on containers equal client designation.							
C) Did the RSO classify the samples as radioactive?		V	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): CPM)mR/Hr Classified as: Rad 1 Rad 2 Rad 3							
D) Did the client designate samples are hazardous?		\checkmark	COC notation or hazard labels on containers equal client designation.							
B) Did the RSO identify possible hazards?		V	If D or B is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:							
Sample Receipt Criteria	Yes	NA	2 Comments/Qualifiers (Required for Non-Conforming Items)							
1 Shipping containers received intact and scaled?	V		Circle Applicable: Seals broken Damaged container Leaking container Other (describe)							
2 Chain of custody documents included with shipment?	V	_	Circle Applicable: Client contacted and provided COC COC created upon receipt							
3 Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	\checkmark	Ĺ	Preservation Method: Welkce Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:							
4 Daily check performed and passed on IR temperature gun?	✓		Temperature Device Serial #: <u>IR2-21</u> Secondary Temperature Device Serial # (If Applicable):							
5 Sample containers intact and sealed?	\vee		Circle Applicable: Seals broken Damaged container Leaking container Other (describe)							
6 Samples requiring chemical preservation at proper pH?		γ	Sample ID's and Containers Affected: If Preservation added, Lot#:							
7 Do any samples require Volatile Analysis?	\checkmark		If Yes, are Encores or Soil Kits present for solids? Yes No NA_(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes No NA_(If unknown, select No) Are liquid VOA vials free of headspace? Yes No NA_ Sample ID's and containers affealed:							
8 Samples received within holding time?		1	ID's and tests affected:							
9 Sample ID's on COC match ID's on bottles?	~		ID's and containers affected:							
10 Date & time on COC match date & time on bottles?	V		Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)							
11 Number of containers received match number indicated on COC?	\checkmark		Circle Applicable: No container count on COC Other (describe)							
12 Are sample containers identifiable as GEL provided by use of GEL labels? 12 COC form is properly signed in	\		Circle Applicable: Not relinquished Other (describe)							
13 relinquished/received sections? Comments (Use Continuation Form if needed):	V									
PM (or PM	A)		: Initials Date Date Date OF OF							

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
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List of current GEL Certifications as of 06 March 2023



a member of The GEL Group INC



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gel.com

March 22, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 612189

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 24, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Price & Trent

Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



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Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 612189 GEL Work Order: 612189

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- h Preparation or preservation holding time was exceeded

Vie & Trent

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Reviewed by

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

	Company : Address : Contact: Project:	Laura H	e Blvd. 1, New J lageman)4 Iodification				F	Report Date: N	March 2	2, 2023	
		Sample Matrix Collect	: t Date: e Date:		Treated Wat 612189001 Water 22-FEB-23 24-FEB-23 Client				Proiect: Client ID:	CDEC00107 CDEC001			
Parameter		Qua	alifier	Result		DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.
Carbon Analy	ysis												
SM 5310 B T Total Organi	-	-	nic Carl U	bon "As Red ND	ceived"	0.330	1.00	mg/L		1 TSM	03/08/2	23 1931	23943371
Flow Injection	n Analysis												
EPA 335.4 (al "As Re	eceived"										
Cyanide, To 57-12-5	tal		U	ND		1.67	5.00	ug/L	1.00	1 AXH3	02/28/2	23 0850	23901592
Ion Chromate	ography												
SW846 9056	ó Anions, Lie	uid "As I	Received	<i>l</i> "									
Bromide 24959-67-9			U	ND	+/-0.0223	0.0670	0.200	mg/L			03/02/2	23 0824	23921793
Chloride 16887-00-6				6.69	+/-0.224	0.0670	0.200	mg/L		1			
Fluoride 16984-48-8			U	ND	+/-0.0110	0.0330	0.100	mg/L		1			
Sulfate 14808-79-8				2.32	+/-0.0891	0.133	0.400	mg/L		1			
Mercury Ana	lysis-CVAA	1											
EPA 245 Me	ercury "As R	eceived"											
Mercury 7439-97-6			U	ND	+/-0.0224	0.0670	0.200	ug/L	1.00	1 JP2	03/22/2	23 0943	24013914
Metals Analys	sis-ICP-MS												
200.8/200.2	Priority Pol	llutant "A	s Receiv	ved"									
Antimony 7440-36-0			U	ND	+/-0.334	1.00	3.00	ug/L	1.00	1 BAJ	03/01/2	23 2247	23902285
Arsenic 7440-38-2			U	ND	+/-0.667	2.00	5.00	ug/L	1.00	1			
Beryllium 7440-41-7			U	ND	+/-0.0667	0.200	0.500	ug/L	1.00	1			
Boron 7440-42-8				36.7	+/-2.52	5.20	15.0	ug/L	1.00	1			
Cadmium 7440-43-9			U	ND	+/-0.100	0.300	1.00	ug/L	1.00	1			
Chromium 7440-47-3			U	ND	+/-1.00	3.00	10.0	ug/L	1.00	1			

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Certificate of Analysis

Report Date: March 22, 2023

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

-	Client Sample Sample ID:	e ID:	Treated Water 612189001	r Tank A			Proiect: Client ID:	CDEC00107 CDEC001	1		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analyst	Date	Time	Batch Mtd.
Metals Analysis-ICP-MS											
200.8/200.2 Priority Poll	utant "As Recei	ved"									
Copper 7440-50-8	J	1.39	+/-0.122	0.300	2.00	ug/L	1.00	1			
Lead 7439-92-1	J	0.660	+/-0.170	0.500	2.00	ug/L	1.00	1			
Nickel 7440-02-0		2.02	+/-0.224	0.600	2.00	ug/L	1.00	1			
Selenium 7782-49-2	U	ND	+/-0.501	1.50	5.00	ug/L	1.00	1			
Silver 7440-22-4	U	ND	+/-0.100	0.300	1.00	ug/L	1.00	1			
Thallium 7440-28-0	U	ND	+/-0.200	0.600	2.00	ug/L	1.00	1			
Zinc 7440-66-6		36.1	+/-2.11	3.30	20.0	ug/L	1.00	1			
Nutrient Analysis											
EPA 350.1 Nitrogen, Ami	nonia "As Rece	ived"									
Nitrogen, Ammonia 7664-41-7	U	ND		0.0170	0.0500	mg/L		1 KLP1	03/06/23	1655	23938206
Oil & Grease Analysis											
EPA 1664A/B n-Hexane I	Extractable Mai	erial (O&C	G) "As Received"								
Oil and Grease	J	1.47		1.37	4.90	mg/L		DXB7	03/09/23	0544	23952847
Semi-Volatile-GC/MS											
EPA 625.1 SVOA, Liquid	"As Received"										
2,4,6-Trichlorophenol 88-06-2	U	ND		2.87	9.56	ug/L().000956	1 LL2	02/27/23	2200	23886738
2,4-Dichlorophenol 120-83-2	U	ND		2.87	9.56	ug/L().000956	1			
2,4-Dimethylphenol 105-67-9	U	ND		2.87	9.56	ug/L().000956	1			
2,4-Dinitrophenol 51-28-5	U	ND		4.78	19.1	ug/L().000956	1			
2-Chlorophenol 95-57-8	U	ND		2.87	9.56	ug/L().000956	1			
2-Methyl-4,6-dinitrophen 534-52-1	ol U	ND		2.87	9.56	ug/L().000956	1			
2-Nitrophenol 88-75-5	U	ND		2.87	9.56	ug/L0).000956	1			

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 22, 2023

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

CDEC00107 Client Sample ID: Treated Water Tank A Project: Client ID: CDEC001 Sample ID: 612189001 Parameter Qualifier Result PF DL RL Units **DF** Analyst Date Time Batch Mtd. Semi-Volatile-GC/MS EPA 625.1 SVOA, Liquid "As Received" 4-Chloro-3-methylphenol ND 9.56 2.87 ug/L0.000956 1 U 59-50-7 4-Nitrophenol ND 2.87 9.56 ug/L0.000956 1 U 100-02-7 Pentachlorophenol ND 2.87 9.56 ug/L0.000956 1 U 87-86-5 Phenol ND 2.87 9.56 ug/L0.000956 1 U 108-95-2 Semi-Volatiles-PCB EPA 608.3 PCB, Liquid (SPE) "As Received" 03/01/23 1844 23911469 Aroclor-1016 0.0317 0.0952 ug/L0.000952 1 YS1 ND U 12674-11-2 Aroclor-1221 ND 0.0317 0.0952 ug/L0.000952 1 U 11104-28-2 Aroclor-1232 0.0317 0.0952 ug/L0.000952 ND 1 U 11141-16-5 Aroclor-1242 0.0317 0.0952 ug/L0.000952 ND 1 U 53469-21-9 0.0317 0.0952 Aroclor-1248 ug/L0.000952 U ND 1 12672-29-6 Aroclor-1254 0.0317 0.0952 ND ug/L0.000952 1 U 11097-69-1 Aroclor-1260 ND 0.0317 0.0952 ug/L0.000952 1 U 11096-82-5 Aroclor-Total ND 0.0317 0.0952 ug/L0.000952 1 U PCBTOT Solids Analysis SM 2540D Total Suspended Solids (TSS) "As Received" Total Suspended Solids J 1.00 0.570 2.50 mg/L CH6 02/27/23 0947 238999410 Spectrometric Analysis EPA 410.4 Chemical Oxygen Demand "As Received" COD 18.1 8.95 20.0 mg/L 1 HH2 02/27/23 1444 239032111 J The following Prep Methods were performed: Description Time **Prep Batch** Method Analyst Date EPA 245.1/245.2 Prep EPA 245 Mercury RM4 03/21/23 1134 2401389

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Certificate of Analysis

Report Date: March 22, 2023

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification
	5

	Client Sample Sample ID:	e ID:	Treated Water Tank A 612189001			Proiect: Client ID:	CDEC00107 CDEC001		
Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst D	ate Time	Batch Mtd.
EPA 200.2	ICP-MS 200.2	PREP		EM2	02/27/23	3 15	50 2390227		
EPA 625.1	BNA Liq. Prej	p-EPA 625	Analysis	TH1	03/02/23	3 11-	49 2391868		
EPA 625.1	BNA Liq. Prej	p-EPA 625	Analysis	TH1	02/27/23	3 12	28 2388672		
EPA 608.3	EPA 608.3 PC	B Prep Liq	uid (SPE)	JM12	03/01/23	3 09:	56 2391145		
EPA 335.4	EPA 335.4 To	tal Cyanide	e	ES2	02/27/23	3 13	23 2390158		
The following Analytica	l Methods were	performe	<u>d:</u>						
Method	Description			An	alyst Co	nments			
1	SM 5310 B								
2	EPA 335.4								
3	SW846 9056								
4	EPA 245.1/24	5.2							
5	EPA 200.8								
6	EPA 350.1								
7	EPA 1664A/10	564B							
8	EPA 625.1								
9	EPA 608.3								
10	SM 2540D								
11	EPA 410.4								
Surrogate/Tracer recove	ry Test			Result	Ν	ominal	Recovery%	Acceptable	Limits
Nitrobenzene-d5	EPA 625	.1 SVOA, I	Liquid "As Received"	28.0	ug/L	47.8	58	(39%-112	2%)
2-Fluorobiphenyl	EPA 625	.1 SVOA, I	Liquid "As Received"	26.2	ug/L	47.8	55	(39%-112	2%)
p-Terphenyl-d14	EPA 625	.1 SVOA, I	Liquid "As Received"	23.5	ug/L	47.8	49	(24%-129	9%)
2,4,6-Tribromophenol	EPA 625	.1 SVOA, I	Liquid "As Received"	54.6	ug/L	95.6	57	(37%-132	2%)
Phenol-d5	EPA 625	.1 SVOA, I	Liquid "As Received"	20.6	ug/L	95.6	22	(15%-85	%)
2-Fluorophenol	EPA 625	.1 SVOA, I	Liquid "As Received"	27.2	ug/L	95.6	28	(11%-79	%)
Decachlorobiphenyl	EPA 608 Received		quid (SPE) "As	0.144	ug/L	0.190	75	(38%-133	%)
4cmx	EPA 608 Received	,	quid (SPE) "As	0.123	ug/L	0.190	65	(33%-109	9%)

Contact:	HDI, Inc. 1 Holtec Blvd. Camden, New Jersey Laura Hageman			Q	2C S	ummar	y	I	Page 1 of 17			
Workorder:	612189											
Parmname		NON	Л	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Carbon Analysis												
	2394337 14 613027001 DUP											
Total Organic (1.79		1.80	mg/L	0.669 ^		(+/-1.00)	TSM	03/08/23 22:41
QC12053382												
Total Organic C	Carbon Average	10.0				10.2	mg/L		102	(80%-120%)		03/08/23 19:21
QC12053382 Total Organic (U	ND	mg/L					03/08/23 19:10
Total Organie C					0	ND	ilig/L					03/06/23 17:10
QC12053382 Total Organic C	16 613027001 PS Carbon Average	10.0		1.79		12.0	mg/L		102	(65%-120%)		03/08/23 23:02
Flow Injection A Batch	nalysis 2390159											
QC12053312 Cyanide, Total	66 612085004 DUP		U	ND	U	ND	ug/L	N/A			AXH3	02/28/23 08:38
QC12053312 Cyanide, Total	65 LCS	50.0				49.9	ug/L		99.8	(90%-110%)		02/28/23 08:32
QC12053312 Cyanide, Total	64 MB				U	ND	ug/L					02/28/23 08:31
QC12053312 Cyanide, Total	67 612085004 MS	100	U	ND		95.3	ug/L		95.3	(90%-110%)		02/28/23 08:39
QC12053312 Cyanide, Total	68 612085004 MSD	100	U	ND		98.6	ug/L	3.4	98.6	(0%-20%)		02/28/23 08:40

		$\mathcal{Q}\mathcal{C}$ S	ummur	у				
Workorder: 612189								Page 2 of 17
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	6 Range Anlst	Date Time
Ion ChromatographyBatch2392179								
QC1205334532 612640004 DUP Bromide		0.247	0.242	mg/L	2.21 ^		(+/-0.200) JLD1	03/02/23 05:45
Chloride		49.9	49.8	mg/L	0.12		(0%-20%)	03/02/23 13:01
Fluoride		0.457	0.447	mg/L	2.19 ^		(+/-0.100)	03/02/23 05:45
Sulfate		216	215	mg/L	0.253		(0%-20%)	03/02/23 13:01
QC1205334531 LCS Bromide	1.25		1.35	mg/L		108	(90%-110%)	03/02/23 04:41
Chloride	5.00		5.06	mg/L		101	(90%-110%)	
Fluoride	2.50		2.53	mg/L		101	(90%-110%)	
Sulfate	10.0		10.4	mg/L		104	(90%-110%)	
QC1205334530 MB Bromide		U	ND	mg/L				03/02/23 04:09
Chloride		U	ND	mg/L				
Fluoride		U	ND	mg/L	1.			
Sulfate		U	ND	mg/L				
QC1205334533 612640004 PS Bromide	1.25	0.247	1.39	mg/L		91.3	(90%-110%)	03/02/23 06:17
Chloride	5.00	1.99	7.26	mg/L		105	(90%-110%)	03/02/23 13:33

Workorder: 612189		ž		•	/					Page 3 of 1	17
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time	
Ion ChromatographyBatch2392179											_
Fluoride	2.50	0.457		2.69	mg/L		89.5*	(90%-110%)	JLD1	03/02/23 06:1	۲.
Sulfate	10.0	8.64		19.5	mg/L		109	(90%-110%)	I	03/02/23 13:3	33
Metals Analysis - ICPMS Batch 2390228											-
QC1205331491 612189001 DUP Antimony	U	ND	U	ND	ug/L	N/A			BAJ	03/01/23 22:5	50
Arsenic	U	ND	U	ND	ug/L	N/A					
Beryllium	U	ND	U	ND	ug/L	N/A					
Boron		36.7		36.4	ug/L	0.709 ^		(+/-15.0))		
Cadmium	U	ND	U	ND	ug/L	N/A					
Chromium	U	ND	U	ND	ug/L	N/A					
Copper	J	1.39	J	1.30	ug/L	6.33 ^		(+/-2.00))		
Lead	J	0.660	J	0.649	ug/L	1.68 ^		(+/-2.00))		
Nickel		2.02	J	1.99	ug/L	1.4 ^		(+/-2.00))		
Selenium	U	ND	U	ND	ug/L	N/A					
Silver	U	ND	U	ND	ug/L	N/A					
Thallium	U	ND	U	ND	ug/L	N/A					

QC Summary

		$\mathcal{Q}\mathcal{C}$ Si	ummur	у						
Workorder: 612189									Page	4 of 17
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMSBatch2390228										
Zinc		36.1	36.0	ug/L	. 0.247 ^		(+/-20.0)) BAJ	03/01/2	23 22:50
QC1205331490 LCS										
Antimony	50.0		51.6	ug/L		103	(85%-115%)		03/01/2	23 22:43
Arsenic	50.0		50.6	ug/L	,	101	(85%-115%))		
Beryllium	50.0		55.3	ug/L	i	111	(85%-115%)	1		
Boron	100		107	ug/L		107	(85%-115%))		
Ditti	100		10,	~ <i>B</i> =		10,	(00/0 110/17)			
Cadmium	50.0		51.4	ug/L		103	(85%-115%))		
Chromium	50.0		51.6	ug/L	I	103	(85%-115%)			
Copper	50.0		52.3	ug/L		105	(85%-115%))		
coff			~				(,			
Lead	50.0		51.3	ug/L	,	103	(85%-115%))		
Nickel	50.0		51.5	ug/L	r	103	(85%-115%)	1		
Selenium	50.0		51.5	ug/L		103	(85%-115%)	١		
Sciellium	20.0		0110	ч <i>6</i> , <u>–</u>		105	(00/0 110/0)			
Silver	50.0		51.8	ug/L	,	104	(85%-115%)	J		
Thallium	50.0		50.3	ug/L	,	101	(85%-115%)	1		
Zinc	50.0		51.2	ug/L		102	(85%-115%)	١		
	50.0		51.2	ug/L		102	(05/0 115/0)			

			Ŷ	yc Sun	""und	y						
Workorder: 612189											Page	5 of 17
Parmname	NO	M S	Sample (Qual	QC	Units	RPD/D%	REC%	6 Range	Anlst	Date	Time
Metals Analysis - ICPMS Batch 2390228												
QC1205331489 MB Antimony				U	ND	ug/L	,			BAJ	03/01/2	23 22:40
Arsenic				U	ND	ug/L	1					
Beryllium				U	ND	ug/L	r.					
Boron				U	ND	ug/L	1					
Cadmium				U	ND	ug/L	'					
Chromium				U	ND	ug/L	1					
Copper				U	ND	ug/L	1					
Lead				U	ND	ug/L	r.					
Nickel				U	ND	ug/L	r					
Selenium				U	ND	ug/L	1					
Silver				U	ND	ug/L	1					
Thallium				U	ND	ug/L	,					
Zinc				U	ND	ug/L	1					
QC1205331492 612189001 MS Antimony	50.0	U	ND		52.4	ug/L	,	104	(75%-125%	•)	03/01/2	23 22:54
Arsenic	50.0	U	ND		50.1	ug/L	,	100	(75%-125%			

Workorder: 612189		20~	•	,					Page 6 of 17
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS Batch 2390228									
Beryllium	50.0 U	ND	54.8	ug/L		110	(75%-125%)	BAJ	03/01/23 22:54
Boron	100	36.7	142	ug/L		105	(75%-125%)		
Cadmium	50.0 U	ND	52.7	ug/L		105	(75%-125%)		
Chromium	50.0 U	ND	51.2	ug/L		101	(75%-125%)		
Copper	50.0 J	1.39	53.2	ug/L		104	(75%-125%)		
Lead	50.0 J	0.660	52.4	ug/L		104	(75%-125%)		
Nickel	50.0	2.02	52.8	ug/L		102	(75%-125%)		
Selenium	50.0 U	ND	49.5	ug/L		99	(75%-125%)		
Silver	50.0 U	ND	52.0	ug/L		104	(75%-125%)		
Thallium	50.0 U	ND	50.6	ug/L		101	(75%-125%)		
Zinc	50.0	36.1	86.2	ug/L		100	(75%-125%)		
QC1205331493 612189001 SDILT Antimony	U	ND U	ND	ug/L	N/A		(0%-10%)		03/01/23 22:57
Arsenic	U	ND U	ND	ug/L	N/A		(0%-10%)		
Beryllium	U	ND U	ND	ug/L	N/A		(0%-10%)		
Boron		36.7 J	10.4	ug/L	41.7		(0%-10%)		

Workorder: 612189		~	,	•	,					Page 7 of 17
Parmname	NOM	Sample (Qual	QC	Units	RPD/D%	REC%	Range An	nlst	Date Time
Metals Analysis - ICPMSBatch2390228										_
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-10%)	BAJ	03/01/23 22:57
Chromium	U	ND	U	ND	ug/L	, N/A		(0%-10%)		
Copper	J	1.39	J	0.310	ug/L	11.9		(0%-10%)		
Lead	J	0.660	U	ND	ug/L	, N/A		(0%-10%)		
Nickel		2.02	U	ND	ug/L	, N/A		(0%-10%)		
Selenium	U	ND	U	ND	ug/L	, N/A		(0%-10%)		
Silver	U	ND	U	ND	ug/L	, N/A		(0%-10%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-10%)		
Zinc		36.1	J	6.86	ug/L	4.92		(0%-10%)		
Metals Analysis-Mercury Batch 2401391										
QC1205351468 611601001 DUP Mercury	UHh	ND U	UHh	ND	ug/L	, N/A			JP2	03/22/23 09:37
QC1205351467 LCS Mercury	2.00			2.02	ug/L		101	(85%-115%)		03/22/23 09:34
QC1205351466 MB Mercury			U	ND	ug/L					03/22/23 09:32
QC1205351469 611601001 MS Mercury	2.00 UHh	ND	Hh	1.42	ug/L		71.1*	(75%-125%)		03/22/23 09:39

Workorder: 612189				£ - ~	•	5					
											Page 8 of 17
Parmname		NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-MercuryBatch2401391											
QC1205351471 611601001 Mercury	PS	2.00 UHh	ND) Н	1.46	ug/L	,	72.8*	(80%-120%)	JP2	03/22/23 09:42
QC1205351470 611601001 Mercury	SDILT	UHh	ND) UHh	ND	ug/L	L N/A		(0%-10%))	03/22/23 09:40
Nutrient Analysis Batch 2393820											
QC1205337290 611728001 Nitrogen, Ammonia	DUP	U	ND) U	ND	mg/L	L N/A			KLP1	03/06/23 11:16
QC1205337289 LCS Nitrogen, Ammonia		1.00			0.970	mg/L	,	97	(90%-110%))	03/06/23 11:14
QC1205337288 MB Nitrogen, Ammonia				U	ND	mg/L	'				03/06/23 11:12
QC1205337291 611728001 Nitrogen, Ammonia	PS	1.00 U	ND	1	1.09	mg/L	1	109	(90%-110%))	03/06/23 11:18
Oil & Grease Analysis Batch 2395284											
QC1205339845 LCS Oil and Grease		40.0			36.5	mg/L	,	91.3	(78%-114%)	DXB7	03/09/23 05:44
QC1205339844 MB Oil and Grease				U	ND	mg/L					03/09/23 05:44
QC1205339847 612928001 Oil and Grease	MS	76.9 U	ND	I	74.8	mg/L		94.8	(78%-114%))	03/09/23 05:44
Semi-Volatile-GC/MS Batch 2388673											
QC1205329025 LCS 2,4,6-Trichlorophenol		50.0			26.9	ug/L		54	(50%-127%)) LL2	02/27/23 17:27

QC Summary

Workorder: 612189		~	•	·			Page 9 of 17
Parmname	NOM	Sample Qual	QC	Units RPD/D	0% REC%	Range Anlst	Date Time
Semi-Volatile-GC/MS Batch 2388673		~~	t				
2,4-Dichlorophenol	50.0		24.3	ug/L	49*	(50%-119%) LL2	2 02/27/23 17:27
2,4-Dimethylphenol	50.0		15.7	ug/L	31*	(46%-99%)	
2,4-Dinitrophenol	50.0		33.4	ug/L	67	(28%-151%)	
2-Chlorophenol	50.0		21.6	ug/L	43*	(46%-107%)	
2-Methyl-4,6-dinitrophenol	50.0		38.5	ug/L	77	(42%-149%)	
2-Nitrophenol	50.0		28.5	ug/L	57	(50%-115%)	
4-Chloro-3-methylphenol	50.0		24.7	ug/L	49*	(50%-118%)	
4-Nitrophenol	50.0	J	9.68	ug/L	19*	(21%-110%)	
Pentachlorophenol	50.0		22.7	ug/L	45	(42%-132%)	
Phenol	50.0		10.5	ug/L	21	(12%-90%)	
**2,4,6-Tribromophenol	100		51.2	ug/L	51	(37%-132%)	
**2-Fluorobiphenyl	50.0		24.0	ug/L	48	(39%-112%)	
**2-Fluorophenol	100		24.8	ug/L	25	(11%-79%)	
**Nitrobenzene-d5	50.0		24.1	ug/L	48	(39%-112%)	
**Phenol-d5	100		19.0	ug/L	19	(15%-85%)	

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Workorder: 612189		~	•	¥					_
	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Page 10 of 17 Date Time
<u>Parmname</u> Semi-Volatile-GC/MS		Sample Qual	ŲL	Ullits	Kr <i>D/D</i> 70	<u>KEU 70</u>	Kange	Allist	Date 1 mc
Batch 2388673									
**p-Terphenyl-d14	50.0		22.9	ug/L		46	(24%-129%)	LL2	02/27/23 17:27
QC1205329024 MB									
2,4,6-Trichlorophenol		U	ND	ug/L					02/27/23 16:59
2,4-Dichlorophenol		U	ND	ug/L					
2,4-Dimethylphenol		U	ND	ug/L					
2,4-Dinitrophenol		U	ND	ug/L					
2-Chlorophenol		U	ND	ug/L					
2-Methyl-4,6-dinitrophenol		U	ND	ug/L					
2-Nitrophenol		U	ND	ug/L					
4-Chloro-3-methylphenol		U	ND	ug/L					
				-					
4-Nitrophenol		U	ND	ug/L					
				-					
Pentachlorophenol		U	ND	ug/L					
				G					
Phenol		U	ND	ug/L					
				G					
**2,4,6-Tribromophenol	100		84.4	ug/L		84	(37%-132%))	
2,7,0 110101101	100		0	- <i>B</i> -			(0770 102.1)		
**2-Fluorobiphenyl	50.0		38.7	ug/L		77	(39%-112%)	١	
··· 2-Puolooipnenyi	50.0		50.7	ug/ 12			(3770-11270)		
• • • • • • • • • • • • • • • • • • •	100		40.1	ug/I		40	(110/ 700/)		
**2-Fluorophenol	100		40.1	ug/L		40	(11%-79%)		

Workorder: 612189		~	~	, ,			Page 11 of 17
Parmname	NOM	Sample Qual	QC	Units RPD/D%	REC%	Range Anlst	Date Time
Semi-Volatile-GC/MS Batch 2388673							
**Nitrobenzene-d5	50.0		38.6	ug/L	77	(39%-112%) LL2	02/27/23 16:59
**Phenol-d5	100		30.1	ug/L	30	(15%-85%)	
**p-Terphenyl-d14	50.0		41.1	ug/L	82	(24%-129%)	
QC1205329026 611883003 MS 2,4,6-Trichlorophenol	100 U	ND	41.4	ug/L	41*	(47%-130%)	02/27/23 19:43
2,4-Dichlorophenol	100 U	ND	39.7	ug/L	40*	(49%-119%)	
2,4-Dimethylphenol	100 U	ND	27.1	ug/L	27*	(40%-111%)	
2,4-Dinitrophenol	100 U	ND J	23.0	ug/L	23*	(25%-154%)	
2-Chlorophenol	100 U	ND	38.7	ug/L	39*	(42%-113%)	
2-Methyl-4,6-dinitrophenol	100 U	ND	25.7	ug/L	26*	(30%-145%)	
2-Nitrophenol	100 U	ND	43.3	ug/L	43	(42%-120%)	
4-Chloro-3-methylphenol	100 U	ND	43.3	ug/L	43	(42%-123%)	
4-Nitrophenol	100 U	ND J	16.8	ug/L	17*	(20%-98%)	
Pentachlorophenol	100 U	ND J	17.6	ug/L	18*	(36%-139%)	
Phenol	100 U	ND	25.4	ug/L	25	(23%-71%)	
**2,4,6-Tribromophenol	200	37.8	74.4	ug/L	37	(37%-132%)	

Workorder: 612189		~		~					
Parmname	NOM	Sample Q	oual QC	Units	RPD/D%	REC%	Range	Anlst	Page 12 of 17 Date Time
Semi-Volatile-GC/MS Batch 2388673		<u> </u>	<u>uai QC</u>		<u>KFD/D 70</u>	<u>KEC 70</u>	Kange	Amst	Date Time
**2-Fluorobiphenyl	100	19.4	36.3	ug/L		36*	(39%-112%)	LL2	02/27/23 19:43
**2-Fluorophenol	200	23.3	52.5	ug/L		26	(11%-79%)		
**Nitrobenzene-d5	100	20.3	36.6	ug/L		37*	(39%-112%)		
**Phenol-d5	200	17.2	45.1	ug/L		23	(15%-85%)		
**p-Terphenyl-d14	100	15.9	36.9	ug/L		37	(24%-129%)		
QC1205329027 611883003 MSD 2,4,6-Trichlorophenol	100 U	u ND	55.1	ug/L	28	55	(0%-79%)		02/27/23 20:11
2,4-Dichlorophenol	100 U	U ND	48.3	ug/L	20	48*	(0%-42%)		
2,4-Dimethylphenol	100 U	U ND	33.2	ug/L	20	33*	(0%-42%)		
2,4-Dinitrophenol	100 U	U ND	J 30.8	ug/L	29	31	(0%-106%)		
2-Chlorophenol	100 U	U ND	44.8	ug/L	15	45	(0%-78%)		
2-Methyl-4,6-dinitrophenol	100 U	U ND	40.9	ug/L	45	41	(0%-86%)		
2-Nitrophenol	100 U	U ND	51.7	ug/L	18	52	(0%-69%)		
4-Chloro-3-methylphenol	100 U	U ND	55.5	ug/L	25	56	(0%-41%)		
4-Nitrophenol	100 U	U ND	28.2	ug/L	51	28	(0%-110%)		
Pentachlorophenol	100 U	U ND	32.2	ug/L	58	32*	(0%-82%)		

	20 summary										
Workorder: 612189									Page 13 of 17		
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time		
Semi-Volatile-GC/MS Batch 2388673											
Phenol	100 U	ND	30.4	ug/L	18	30	(0%-42%)	LL2	02/27/23 20:11		
**2,4,6-Tribromophenol	200	37.8	104	ug/L		52	(37%-132%)				
**2-Fluorobiphenyl	100	19.4	44.5	ug/L		44	(39%-112%)				
**2-Fluorophenol	200	23.3	61.3	ug/L		31	(11%-79%)				
**Nitrobenzene-d5	100	20.3	41.3	ug/L		41	(39%-112%)				
**Phenol-d5	200	17.2	53.6	ug/L		27	(15%-85%)				
**p-Terphenyl-d14	100	15.9	48.6	ug/L		49	(24%-129%)				
Semi-Volatiles-PCB Batch 2391146 —											
QC1205333098 LCS Aroclor-1016	1.00		0.728	ug/L		73	(50%-101%)	YS1	03/01/23 15:54		
Aroclor-1260	1.00		0.718	ug/L		72	(46%-108%)				
**4cmx	0.200		0.125	ug/L		63	(33%-109%)				
**Decachlorobiphenyl	0.200		0.152	ug/L		76	(38%-133%)				
QC1205333097 MB Aroclor-1016		U	ND	ug/L					03/01/23 15:43		
Aroclor-1221		U	ND	ug/L							
Aroclor-1232		U	ND	ug/L							

QC Summary

Workorder: 612189				-							Page 14 of 17
Parmname	NO	М	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Semi-Volatiles-PCB											
Batch 2391146											
Aroclor-1242				U	ND	ug/L				YS1	03/01/23 15:43
Aroclor-1248				U	ND	ug/L					
						C					
4 1 1054				TI	ND	ua/I					
Aroclor-1254				U	ND	ug/L					
Aroclor-1260				U	ND	ug/L					
Aroclor-Total				U	ND	ug/L					
						-					
**4cmx	0.200				0.114	ug/L		57	(33%-109%))	
4cmx	0.200				0.114	ug/L		51	(33%-107/0)	
**Decachlorobiphenyl	0.200				0.136	ug/L		68	(38%-133%))	
QC1205333099 611557001 MS						~					
Aroclor-1016	1.00	Uh	ND	h	0.723	ug/L		72	(32%-112%))	03/01/23 16:38
Aroclor-1260	1.00	Uh	ND	h	0.783	ug/L		78	(32%-126%))	
**4cmx	0.200		0.123		0.125	ug/L		63	(33%-109%))	
	0.200		0.1.20		0.120	-B-		62	(00/0 102.0	,	
··· ··· ·· ·	c 2 00		0.150		0.167	π		22			
**Decachlorobiphenyl	0.200		0.152		0.167	ug/L		83	(38%-133%))	
QC1205333100 611557001 MSD	1.00	TIL	ND	Ъ	0.754	ua/I	4	75	(00/ 270/	`	02/01/22 16.50
Aroclor-1016	1.00	Un	ND	h	0.754	ug/L	4	75	(0%-27%))	03/01/23 16:50
Aroclor-1260	1.00	Uh	ND	h	0.821	ug/L	5	82	(0%-29%))	
**4cmx	0.200		0.123		0.129	ug/L		64	(33%-109%))	
						U					
44D 11 11 1	0.000		0.150		0 171	л		05	(200) 1220/	、 、	
**Decachlorobiphenyl	0.200		0.152		0.171	ug/L		85	(38%-133%))	

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QC Summary

		$\mathcal{L}\mathcal{C}$ Du	, iii iii ii	y						
Workorder: 612189									Page	15 of 17
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Solids Analysis Batch 2389994										
QC1205330865 612085003 DUP Total Suspended Solids	U	ND U	ND	mg/L	N/A			CH6	02/27/2	23 09:47
QC1205330861 LCS Total Suspended Solids	500		494	mg/L		98.8	(95%-105%)		02/27/2	23 09:47
QC1205330862 LCSD Total Suspended Solids	500		501	mg/L	1.41	100	(0%-5%)		02/27/2	23 09:47
QC1205330860 MB Total Suspended Solids		U	ND	mg/L					02/27/2	23 09:47
Spectrometric Analysis Batch 2390321										
QC1205331695 611601001 DUP COD		531	492	mg/L	7.74 ^		(+/-100)	HH2	02/27/2	23 14:44
QC1205331694 LCS COD	500		518	mg/L		104	(90%-110%)		02/27/2	23 14:44
QC1205331693 MB COD		J	18.1	mg/L					02/27/2	23 14:44
QC1205331696 611601001 MS COD	500	531	1140	mg/L		24.4*	(90%-110%)		02/27/2	23 14:44

Notes:

The Qualifiers in this report are defined as follows:

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

J Value is estimated

Р Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

С Analyte has been confirmed by GC/MS analysis

В The target analyte was detected in the associated blank.

Е Concentration of the target analyte exceeds the instrument calibration range

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Workor	rder: 612189 Page 16 of 1						
Parmna	me NOM Sample Qual QC Units RPD/D% REC% Range Anlst Date Time						
А	The TIC is a suspected aldol-condensation product						
Х	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier						
Ν	MetalsThe Matrix spike sample recovery is not within specified control limits						
N H	OrganicsPresumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor Analytical holding time was exceeded						
п **	Analytical holding time was exceeded Analyte is a surrogate compound						
<	Result is less than value reported						
	Result is greater than value reported						
> b	Preparation or preservation holding time was exceeded						
h R	Sample results are rejected						
к Z	Paint Filter TestParticulates passed through the filter, however no free liquids were observed.						
d	5-day BODThe 2:1 depletion requirement was not met for this sample						
u ^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.						
D							
	Results are reported from a diluted aliquot of the sample						
N/A ND	RPD or %Recovery limits do not apply. Analyte concentration is not detected above the detection limit						
E	% difference of sample and SD is >10%. Sample concentration must meet flagging criteria						
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier						
E	General ChemistryConcentration of the target analyte exceeds the instrument calibration range						
	Non Calibrated Compound						
UJ	Compound cannot be extracted						
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.						
FB N1	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies See case narrative						
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.						
Y	QC Samples were not spiked with this compound						
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.						
Ν	Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor						

- e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
- J See case narrative for an explanation

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QC Summary

Workorder:	612189									Page 17 of 17
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the

RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 612189

GC/MS Semivolatile

<u>Product:</u> Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry <u>Analytical Method:</u> EPA 625.1 <u>Analytical Procedure:</u> GL-OA-E-009 REV# 46 <u>Analytical Batch:</u> 2388673

Preparation Method: EPA 625.1 **Preparation Procedure:** GL-OA-E-013 REV# 35 **Preparation Batch:** 2388672

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612189001	Treated Water Tank A
1205329024	Method Blank (MB)
1205329025	Laboratory Control Sample (LCS)
1205329026	611883003(NonSDG) Matrix Spike (MS)
1205329027	611883003(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

CCV Requirements

Not all Calibration Verification Standards (CCV) met the acceptance criteria as outlined in Table 6 in Method 625.1. The target analyte 2-Methyl-4,6-dinitrophenol was outside the acceptance criteria. As the analyte was not detected in the associated client samples, the biased high response had no adverse impact on the reported data. All other analytes which failed on the included Continuing Calibration Summary report were within the %acceptance criteria for the respective analyte or within 60%-140% for analytes not listed in Table 6. The data were reported.

Quality Control (QC) Information

Surrogate Recoveries

The MS(See Below) did not meet surrogate recovery acceptance criteria. The parent sample and MSD were within surrogate recovery acceptance criteria. The parent sample for MS was re-extracted out of holding. The re-extraction batch LCS was within acceptance criteria for all spikes (with exception of one poor responder). The non-SDG MS and MSD were within surrogate/spike recovery acceptance criteria. There were no target analytes detected in either extraction. The PM was notified. The initial data were reported.

Sample	Value
1205329026 (Non SDG 611883003MS)	36* (39%-112%) and 37* (39%-112%)

Laboratory Control Sample (LCS) Recovery

The LCS(See Below) spike recoveries were not within the acceptance limits. The associated client samples were re-extracted.

Sample	Analyte	Value
1205329025 (LCS)	2, 4-Dichlorophenol	49* (50%-119%)
	2, 4-Dimethylphenol	31* (46%-99%)
	2-Chlorophenol	43* (46%-107%)
	4-Chloro-3-methylphenol	49* (50%-118%)
	4-Nitrophenol	19* (21%-110%)

Sample 612189001 (Treated Water Tank A) was re-extracted out of holding due to multiple spike failures. The initial extraction passed all surrogate recoveries as well as the re-extraction. The re-extraction batch LCS was within acceptance criteria for all spikes (with exception of one poor responder). The non-SDG MS and MSD were within spike recovery acceptance criteria. There were no target analytes detected in either extraction. The PM was notified. The initial data were reported.

Spike Recovery Statement

The MS and MSD(See Below) spike recoveries were not within the acceptance limits. The associated client samples were re-extracted.

Sample	Analyte	Value
1205329026 (Non SDG 611883003MS)	2, 4, 6-Trichlorophenol	41* (47%-130%)
	2, 4-Dichlorophenol	40* (49%-119%)
	2, 4-Dimethylphenol	27* (40%-111%)
	2, 4-Dinitrophenol	23* (25%-154%)
	2-Chlorophenol	39* (42%-113%)
	2-Methyl-4, 6-dinitrophenol	26* (30%-145%)
	4-Nitrophenol	17* (20%-98%)
	Pentachlorophenol	18* (36%-139%)
1205329027 (Non SDG 611883003MSD)	2, 4-Dichlorophenol	48* (49%-119%)
	2, 4-Dimethylphenol	33* (40%-111%)
	Pentachlorophenol	32* (36%-139%)

Miscellaneous Information

Additional Comments

Diphenylamine Statement

Diphenylamine has superseded the reporting of N-Nitroso-diphenylamine. As per the EPA,

N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine. Studies of these two compounds at GEL, both independent of each other and together, showed

that they not only co-elute, but also have similar mass spectra. N-Nitroso-diphenylamine and Diphenylamine are therefore reported as Diphenylamine on all reports and forms.

GC Semivolatile PCB

Product: Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD Analytical Method: EPA 608.3 Analytical Procedure: GL-OA-E-040 REV# 25 Analytical Batch: 2391146

Preparation Method: EPA 608.3 **Preparation Procedure:** GL-OA-E-070 REV# 11 **Preparation Batch:** 2391145

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612189001	Treated Water Tank A
1205333097	Method Blank (MB)
1205333098	Laboratory Control Sample (LCS)
1205333099	611557001(NonSDG) Matrix Spike (MS)
1205333100	611557001(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Time Specifications

Samples (See Below) were extracted out of holding.

Sample	Analyte	Value
1205333099 (Non SDG 611557001MS)		Received 21-FEB-23, within holding, prepped 01-MAR-23, out of holding 27-FEB-23
1205333100 (Non SDG 611557001MSD)		Received 21-FEB-23, within holding, prepped 01-MAR-23, out of holding 27-FEB-23

Preparation/Analytical Method Verification

All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Miscellaneous Information

Additional Comments

The column 1 has been chosen as the primary column. The data are reported from the column 1 for all samples in

<u>Metals</u>

Product: Determination of Metals by ICP-MS Analytical Method: EPA 200.8 Analytical Procedure: GL-MA-E-014 REV# 35 Analytical Batch: 2390228

Preparation Method: EPA 200.2 **Preparation Procedure:** GL-MA-E-016 REV# 18 **Preparation Batch:** 2390227

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612189001	Treated Water Tank A
1205331489	Method Blank (MB)ICP-MS
1205331490	Laboratory Control Sample (LCS)
1205331493	612189001(Treated Water Tank AL) Serial Dilution (SD)
1205331491	612189001(Treated Water Tank AD) Sample Duplicate (DUP)
1205331492	612189001(Treated Water Tank AS) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

ICSA/ICSAB Statement

For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Product: Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer Analytical Method: EPA 245.1/245.2 Analytical Procedure: GL-MA-E-010 REV# 39 Analytical Batch: 2401391

Preparation Method: EPA 245.1/245.2 Prep **Preparation Procedure:** GL-MA-E-010 REV# 39 **Preparation Batch:** 2401389

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#Client Sample Identification612189001Treated Water Tank A

1205351466	Method Blank (MB)CVAA
1205351467	Laboratory Control Sample (LCS)
1205351470	611601001(Intake L) Serial Dilution (SD)
1205351468	611601001(Intake D) Sample Duplicate (DUP)
1205351469	611601001(Intake S) Matrix Spike (MS)
1205351471	611601001(Intake PS) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS/MSD) Recovery Statement

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte. The post spike also did not meet the required control limits; thus, confirming matrix interferences and/or sample non-homogeneity.

Sample	Analyte	Value
1205351469 (Intake MS)	Mercury	71.1* (75%-125%)

Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the PS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The PS did not meet the recommended quality control acceptance criteria for percent recoveries for all applicable analytes and verifies the presence of matrix interferences.

Sample	Analyte	Value
1205351471 (Intake PS)	Mercury	72.8* (80%-120%)

Technical Information

Holding Time Specifications

GEL assigns holding times based on the associated methodology. Holding time is measured by comparison of the date and time of sample collection to the date and time of sample preparation and analysis. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. Samples (See Below) did not meet the specified holding time requirements. Samples were logged in beyond the required holding time.

Sample	Analyte	Value
1205351468 (Intake DUP)		Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23
		Received 21-FEB-23, within holding, prepped 21-MAR-23, out of holding 20-MAR-23

1205351469 (Intake MS)	Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23
	Received 21-FEB-23, within holding, prepped 21-MAR-23, out of holding 20-MAR-23
1205351470 (Intake SDILT)	Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23
	Received 21-FEB-23, within holding, prepped 21-MAR-23, out of holding 20-MAR-23
1205351471 (Intake PS)	Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23

General Chemistry

Product: Carbon, Total Organic <u>Analytical Method:</u> SM 5310 B <u>Analytical Procedure:</u> GL-GC-E-093 REV# 21 <u>Analytical Batch:</u> 2394337

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612189001	Treated Water Tank A
1205338212	Method Blank (MB)
1205338213	Laboratory Control Sample (LCS)
1205338214	613027001(NonSDG) Sample Duplicate (DUP)
1205338216	613027001(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: Cyanide, Total Analytical Method: EPA 335.4 Analytical Procedure: GL-GC-E-095 REV# 23 Analytical Batch: 2390159

Preparation Method: EPA 335.4 **Preparation Procedure:** GL-GC-E-067 REV# 24 **Preparation Batch:** 2390158 The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612189001	Treated Water Tank A
1205331264	Method Blank (MB)
1205331265	Laboratory Control Sample (LCS)
1205331266	612085004(NonSDG) Sample Duplicate (DUP)
1205331267	612085004(NonSDG) Matrix Spike (MS)
1205331268	612085004(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments

Daughter labels were missed during the scanning process. Samples were in analyst's custody during the time of analysis:

Sample	Analyte	Value
612189001 (Treated Water Tank A)		

Product: Ion Chromatography Analytical Method: SW846 9056 **Analytical Procedure:** GL-GC-E-086 REV# 30 **Analytical Batch:** 2392179

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612189001	Treated Water Tank A
1205334530	Method Blank (MB)
1205334531	Laboratory Control Sample (LCS)
1205334532	612640004(NonSDG) Sample Duplicate (DUP)
1205334533	612640004(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Fluoride	1205334533 (Non SDG 612640004PS)	89.5* (90%-110%)

Technical Information

Sample Dilutions

The following samples 1205334532 (Non SDG 612640004DUP) and 1205334533 (Non SDG 612640004PS) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Sample Re-analysis

Sample 612189001 (Treated Water Tank A) was re-analyzed due to (its) proximity to an overrange sample. The results from the reanalysis are reported. Sample 612189001 (Treated Water Tank A) was re-analyzed to verify the result.

<u>Product:</u> Ammonia Nitrogen <u>Preparation Method:</u> EPA 350.1 <u>Preparation Procedure:</u> GL-GC-E-106 REV# 10 <u>Preparation Batch:</u> 2393820

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612189001	Treated Water Tank A
1205337288	Method Blank (MB)
1205337289	Laboratory Control Sample (LCS)
1205337290	611728001(NonSDG) Sample Duplicate (DUP)
1205337291	611728001(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Re-analysis

Sample 612189001 (Treated Water Tank A) was re-analyzed due to (its) proximity to an overrange sample. The results from the reanalysis are reported.

Product: n-Hexane Extractable Material Analytical Method: EPA 1664A/1664B Analytical Procedure: GL-GC-E-094 REV# 18 Analytical Batch: 2395284

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612189001	Treated Water Tank A
1205339844	Method Blank (MB)
1205339845	Laboratory Control Sample (LCS)
1205339847	612928001(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

<u>Product:</u> Solids, Total Suspended <u>Analytical Method:</u> SM 2540D <u>Analytical Procedure:</u> GL-GC-E-012 REV# 18 <u>Analytical Batch:</u> 2389994

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612189001	Treated Water Tank A
1205330860	Method Blank (MB)
1205330861	Laboratory Control Sample (LCS)
1205330862	Laboratory Control Sample Duplicate (LCSD)
1205330865	612085003(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments

A reduced aliquot was used due to limited volume. The client did not provide an entire 1 liter aliquot. 1205330865 (Non SDG 612085003DUP).

Product: COD Analytical Method: EPA 410.4 Analytical Procedure: GL-GC-E-061 REV# 21

Analytical Batch: 2390321

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612189001	Treated Water Tank A
1205331693	Method Blank (MB)
1205331694	Laboratory Control Sample (LCS)
1205331695	611601001(Intake) Sample Duplicate (DUP)
1205331696	611601001(Intake) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
COD	1205331696 (Intake MS)	24.4* (90%-110%)

Technical Information

Sample Dilutions

The following samples 1205331695 (Intake DUP) and 1205331696 (Intake MS) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Project # GELOuote #:				abo themistry)ratioche	Laboratories LLC UN AN 2	Ichioassay	Specia	I C I	Specialty Analytics	-			2040 Savage Road Charleston, SC 294	2040 Savage Road Charleston, SC 29407	oad 29407				
COGNumber ⁽¹⁾ .	GEI Work Order Number		Chain of Custody and Analytical Request	Custod GEL	y and	y and Analytical Request	cal Rec	uest	ates					hone: (Phone: (843) 556-8171 Fax: (843) 766-1178	56-817				
ClieboName: Comprehensive Decommissioning International (CDI)	iternational (CDI)	Phone	Phone # (508)830-8184	-8184	•	0			Sample Analysis Requested ⁽⁵⁾	Analy	sis Re	queste		Fill in	the nu	nber o	f conta	iners fo	(Fill in the number of containers for each test)	est)
Proteod/Site Name: Pilgrim Station		Fax #				Shou	Should this	1.54	-	∀S	IN	∀S		∀S	IN	∀S	ЧH	A2	*	< Preservative Type (6)
Addess: 600 Rocky Hill Road, Plymouth, Ma 02360	60					sam	sample be considered:	tainer					0		-	-	98			
Collected By: Site Chemistry	Send Results To: 1.hageman@CDI-decom.com	geman@CD)	-decom.c	E				ı. ol con		22 22	tals	əbin	TCDI	C	suo	Binon	Greaz	slon	SA	Comments Note: extra sample is
* For commoniter - indicate start and stor date time	*Date Collected	*Time ected Collected (Military) vv) (hhmm)	e ry) QC n) Code ⁽²⁾	Field Filtered ⁽³⁾	Sample Matrix ⁽⁴⁾	E a final de la constructiva en la construcción de la construcción	10 πwonX (Γ) 256H oldizzoq	ədmun lstoT	SVOC/Pest		00004	буд	3 [°] 2 [°] 3			20 20-20	bns liO	əyd	C. Linda	required for sample specific QC
Treated Water Tank A		123	5	Z	M		7	23	x x	x	x	x	x	x x	×	x	x	x x		
Intake	2/20		8:00 N	z	M	Z	7	4										×		* Trizma Preservative Note: Shipment includes blank
																		1		
																-				
															THEY.					
															2-94-94					
					A DESCRIPTION OF			100 M 100 M				and the second		and the second	No.	1411	and the second		2	
Ē	Chain of Custody Signatures	tires								TA	TAT Requested:	lested:	Normal:	nal:		Rush:	X S	Specify:		
Refinitionished By (Simed) Date Time		Received by (signed)	Date	Time			Eav Daculte: [] Vac	ulte:	1 Vac	r vl No	- P									
rter LL	121	K	2	24/23	10	1000	Select I	Jelivera	Fax Nesults. [] 1 tes [x] 1 vo Select Deliverable: [] C of A [] QC Summary	C of A		C Sum	nary	[] level 1		[] Level 2		[] Level 3	3 [] Level 4	evel 4
international and						6	Additional Remarks.	nal Ren	narks:											
3 [3] 5 For somele shinning and delivery details, see Sample Receipt & Review form (SRR.)	3 amnle Receint & Review	form (SRR.)				Sample	For Lab Receiving Use Only: Cusi Sample Collection Time Zone: [X] Eastern	h Recei	For Lab Receiving Use Only: Custody Seal Intact? [] Yes ollection Time Zone: [X] Eastern [] Pacific [] Centr	se Only. [X] Ea	: Custo stern	tody Seal Intact? [] Yes [] Pacific [] Central	Intact	[] Cer		[] No	Cooler Temp: untain [] C	No Cooler Temp: Mountain Other:	her:	
 Chain of Custody Number = Client Determined Chain of Custody Number = Client Determined QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite 	r eld Duplicate, E B = Equipmen	Blank, MS = M	atrix Spike Sa	mple, MSD	= Matrix 5	Spike Duplica	ate Sample,	G = Gral	o, C = Cor	nposite										
 Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered. Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, ML=Misc Liquid, SO=Soil, SD=Soil, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal 	yes the sample was field filtere. W=Surface Water, WW=Waste	l or - N - for samp Water, W=Water	le was not fie , ML=Misc I	ld filtered. iquid, SO=9	soil, SD=S	Sediment, SL	,=Sludge, SS	-Solid V	Vaste, 0≕	Oil, F=Fi	lter, P=W	/ipe, U=l	Jrine, F=	Fecal, N⊧	-Nasal					
 Sample Analysis Requested: Analytical method requested (i.e. \$260B, 6010B/7470A) and number of containers provided for each (i.e. 6.) Desenveive Trans. HA = Hodrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX 	i.e. 8260B, 6010B/7470A) and id. SH = Sodium Hydroxide. S	number of contai A = Sulfuric Acid	ners provided , AA = Ascor	for each (i.e bic Acid, HD	. <i>8260B</i> - K = Hexan	8260B - 3, 6010B/7470A - 1). = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank	70.4 - 1). um Thiosul	ate, If no	preservat	ive is add	ed = leav	e field bl	ank							
0) Trestance type. IN a system of the system	Characteristic Hazards FL = Flammable/Ignitable CO ≡ ℃orrosive RE = Reactive	Is ble M(F)	Listed Waste LW-Listed Waste (F,K,P and U-listed wastes.) Waste code(s):	Naste Vaste -listed wa	stes.)		Other OT= O (<i>i.e.</i> : H misc. h	ther / U gh/low alth ha	Other OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)	n Sestos, l etc.)	beryllin	m, irrit	ants, o	her	Ple ha san	ase pro ndling n ple(s),	wide an md/or type of	ty addit disposa site co	ional det ' concern lected fr	Please provide any additional details below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)
Ba = Barium Se= Selenium Cd = Cadmium Ag= Silver Cr = Chromium MR= Misc. RCRA metals	TSCA Regulated PCB = Polychlorinated						Description	tion:												
Pb = Lead	biphenyls																			

Laboratories LLC				SAMPLE RECEIPT & REVIEW FORM
Client: CDT-TMG				AR/COC/Work Order: (P12189) (P12202
				Received: 2/24/23
Received By: Hey Almess			Date	Circle Applicable:
Carrier and Tracking Number				FedEx Express FedEx Ground UPS Field Services Courier Other 771375119640 771375719043
Suspected Hazard Information	Yes	No	*If N	et Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?			Haza	rd Class Shipped: UN#: 2710 ⁴ 5 If UN2910, Is the Radioactive Shipment Survey Compliant? Yes <u>No</u>
B) Did the client designate the samples are to be received as radioactive?				notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?	\checkmark		Maxi	innum Net Counts Observed* (Observed Counts - Area Background Counts): <u>120</u> CPM mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		/		C notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		1	nf D	or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
Sample Receipt Criteria	Yes	VN	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and scaled?	/			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?				Circle Applicable: Client contacted and provided COC COC created upon receipt Preservation Methods Wet Ice Ice Packs Dry ice None Other:
3 Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	/			*all temperatures are recorded in Celsius
4 Daily check performed and passed on IR temperature gun?	1			Temperature Device Serial #: <u>JL22-2/3</u> Secondary Temperature Device Serial # (If Applicable): Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Sample containers intact and sealed?	1	公正社		
6 Samples requiring chemical preservation at proper pH?	X			Sample ID's and Containers Affected: If Preservation added, Lot#: If Yes, are Encores or Soil Kits present for solids? Yes NA (If yes, take to VOA Freezer)
7 Do any samples require Volatile Analysis?)			Do liquid VOA vials contain acid preservation? Yes X No X NA (If unknown, select No) Are liquid VOA vials free of headspace? Yes No NA Sumple ID's and containers affected:
8 Samples received within holding time?	Х			1D's and tests affected:
9 Sample ID's on COC match ID's on bottles?	Y			1D's and containers affected:
10 Date & time on COC match date & time on bottles?	×	1		Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11 Number of containers received match number indicated on COC?		には、	Х	Circle Applicable: No container count on Coc Com. Contract, per Circle
I2 Are sample containers identifiable as GEL provided by use of GEL labels? 12 COC form is properly signed in	×		State State	Circle Applicable: Not relinquished Other (describe)
¹⁵ relinquished/received sections?	D			
Comments (Use Continuation Form if needed): Note: Missing cooler 3 Cares Hostin 2/04	ef 1/25	3.	af	this true.
PM (or P)	MA)	revie	w: In	itials Date 201103_ Page of 3 GL-CHL-SR-001 Rev 7

CEEE Laboratories LLC			5	SAMPLE RECEIPT & REVIEW FORM
Client: CDI Inc.			SDG/	AR/COC/Work Order: 012189 (912207
Received By: Alex Alues			Date	Received: 2/24/23
Carrier and Tracking Number			,	FedEx Express BedEx Ground UPS Field Services Courier Other 77713733836873 iDA2/24/23
Suspected Hazard Information	Yes	No	*If N	let Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?	1		Haza	If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
B) Did the client designate the samples are to be received as radioactive?	~	1		C notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?	1		Max	imura Net Counts Observed f (Observed Counts - Area Background Counts):CPM mR/Hr Classified as: Rad J Rad 2 Rad 3
D) Did the client designate samples are hazardous?		1		C notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		1		PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
Sample Receipt Criteria	Yes	VN	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	1			Circle Applicable: Seals broken Damaged container. Leaking container. Ciher (describe)
2 Chain of custody documents included with shipment?	V			Circle Applicable: Client contacted and provided COC. COC created upon receipt Preservation Method/ Wet log log Packs Dry ice None Other:
3 Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	1	1		Preservation Method, Wet los los Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 5°C Temperature Device Serial #: 76.3-723
A Daily check performed and passed on IR temperature gun?	~			Temperature Device Serial #:
5 Sample containers intact and sealed?	1			Sample ID's and Containers Affected:
6 Samples requiring chemical preservation at proper pH?	' `	1		If Preservation added, Lot#: If Yes, are Encores or Soil Kits present for solids? Yes No NA(If yes, take to VOA Freezer)
7 Do any samples require Volatile Analysis?			人口でいたが正規で	IT Tes, and Encodes of our final preservation? YesNoNA(If unknown, select No) /Do liquid VOA vials free of headspace? YesNoNA Sumple ID's and containers affected:
8 Samples received within holding time?	1	7		ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?				1D's and containers affected: Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10 Date & time on COC match date & time on bottles?		V,		Circle Applicable: No container count on COC Other (describe)
11 Number of containers received match number indicated on COC?				Circle Applicable: No container count on CCC Circle Applicable: No container count on CCC
Are sample containers identifiable as <u>GEL provided by use of GEL labels?</u> <u>COC form is properly signed in</u>	-			Circle Applicable: Not relinquished Other (describe)
13 relinquished/received sections? Comments (Use Continuation Form if needed):				
PM (or	PMA) rev	icw: 1	Initials MG Date 2/27/23 Page 2 of 3

1

लचा	Laboratories LLC				SAMPLE RECEIPT & REVIEW FORM
ent:	CDEC		s		DG/AR/COC/Work Order; (112184 / 612202
	1A				ate Received: 2125/23
ceived By:	HA		ſ	Juic	Circle Applicable: FedEx Express) FedEx Ground UPS Field Services Courier Other
					TOTA Explose Forther
Corriera	nd Tracking Number				7713 7511 9411
Carriera					7 / Le rott ried
spected Haz	ard Information	Yes	°Z	*1f1	If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
1		1	-	Haz	Hazard Class Shipped: UN#: 2410
	DOT Hannhun?	/			Hazard Class Shipped: UN#: K UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
	DOT Hazardous?	1	-	6	COC notation or radioactive stickers on containers equal client designation.
Did the clie cived as rad	nt designate the samples are to be				A
		1	1	Ma	Maximum Net Counts Observed (Observed Counts - Area Background Counts):
Did the RS	O classify the samples as				Classified ast Rad C Rad 2 Rad 5
			1	CC	COC notation or hazard labels on containers equal client designation.
Did the clie	ent designate samples are hazardous?		V		If D or E is yes, select Hazards below.
			1		PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
	O identify possible hazards?	Yes	X	Te	2 Comments/Qualifiers (Required for Non-Conforming Items)
	Sample Receipt Criteria	X	2		Z Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
1 Shippin scaled?	og containers received intact and	/			Click to the Click contacted and provided COC COC created upon receipt
Chain C	of custody documents included	1	T.		Circle Applicable: Client contacted and provided COC COC created upon receipt
2 with sh	ipment?	1	C		Preservation Method: Wet Ice Packs Dry ice None Other: TEMP: 50
3 Sample	es requiring cold preservation	1	1		*all temperatures are recorded in Celsius
within	(0 < 6 deg. C)?*	1	125	2	Temperature Device Serial #: 772-23
4 Daily	check performed and passed on IR rature gun?	1	1		Secondary Temperature Device Senal # (If Applicable).
temper			Z	ž,	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Sampl	e containers intact and sealed?	V	11-E	đ	Sample ID's and Containers Affected:
Sampl	es requiring chemical preservation		,		
6 at proj	per pH?	X		62	If Preservation added, Lot#: If Yes, are Encores or Soil Kits present for solids? Yes No NA (If yes, take to VOA Freezer) If Yes, are Encores or Soil Kits present for solids? Yes No NA (If unknown, select No)
			E.E.K		
7 0	o any samples require Volatile Analysis?		E. LU		Do liquid VOA viais contain and preserves
	Analysis		1.100	Q.	Sample to successful a
		1.	1		1D's and tests affected:
8 Samp	oles received within holding time?	0	X		D's and containers affected:
Sam	ple ID's on COC match ID's on		X		and comments
9 bottl	es?		4	45	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10 Date	& time on COC match date & tim	ne	X		COC Other (describe)
I I OU D	ottles? her of containers received match				Circle Applicable: No container count on COC Other (describe)
11	her indicated on COC?	-	X		
	mula containers identifiable as		×		Contraction of the Marginguished Other (describe)
14 CEI	L provided by use of GEL labers.	-			Circle Applicable: Not reinigent
1131	nquished/received sections?		ア		
Commen	its (Use Continuation Form if needed):	;	1	1	1 that was missing 2/24.
	There is	-	V	A	e cooler that the
	Inis Is	21	1	6	e cooler that was missing 2/24.
-					ab) shaps -
		-	8		(h)
L	РМ (с	nr PM	IA) I	revic	view: Initials Date GL-CHL-SR-001

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 22 March 2023



a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

March 08, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 612202

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 24, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Und Johnson Anna Johnson for

Anna Johnson for Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 612202 GEL Work Order: 612202

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

and Johnson

Reviewed by

Certificate of Analysis

Company : Address : Contact: Project:	HDI, Inc. 1 Holtec Blvd. Camden, New J Laura Hageman Pilgrim NPDE	L				F	eport Date:	March 8	, 2023	
	Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:		Treated Water Tank A 612202001 Water 22-FEB-23 08:15 24-FEB-23 Client			Proiect: Client ID:	CDEC0010 CDEC001	07		
Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analys	st Date	Time	Batch Mtd.
Micro-biology										
<i>SM 5210B BOD, 5DAY</i> BOD, 5 DAY	"As Received" dUH	ND	1.00	2.00	mg/L		JW2	02/24/	23 1553	23892211
Spectrometric Analysis										
SM4500CL_G Total Res Chlorine, Residual	idual Chlorine ". HJ	As Received 0.0449		0.0500	mg/L		1 HH2	02/27/	23 1139	23903202
Titration and Ion Analys	is									
EPA 150.1 pH "As Rece										
pH at Temp 14.0C	Н	6.87	0.0100	0.100	SU		1 JW2	03/01/	23 1546	23920323
Volatile Organics										
EPA 624.1 Volatiles Met	thod List "As Red	eived"								
1,1,1-Trichloroethane 71-55-6	U	ND	0.333	1.00	ug/L		1 JM6	02/27/	23 1121	23903404
1,1,2,2-Tetrachloroethan 79-34-5	ie U	ND	0.333	1.00	ug/L		1			
1,1,2-Trichloroethane 79-00-5	U	ND	0.333	1.00	ug/L		1			
1,1-Dichloroethane 75-34-3	U	ND	0.333	1.00	ug/L		1			
1,1-Dichloroethylene 75-35-4	U	ND	0.333	1.00	ug/L		1			
1,2-Dichloroethane 107-06-2	U	ND	0.333	1.00	ug/L		1			
1,2-Dichloropropane 78-87-5	U	ND	0.333	1.00	ug/L		1			
1,3-Dichloropropylene 542-75-6	U	ND	0.500	2.00	ug/L		1			
2-Chloroethylvinyl ether 110-75-8	U	ND	1.67	5.00	ug/L		1			
Acrolein 107-02-8	HU	ND	1.67	5.00	ug/L		1			
Acrylonitrile 107-13-1	HU	ND	1.67	5.00	ug/L		1			

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

Report Date: March 8, 2023

_	Client Sample Sample ID:	e ID:	Treated Water Tank A 612202001			Proiect: Client ID:	CDEC00107 CDEC001		
Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time	Batch Mtd.
Volatile Organics									
EPA 624.1 Volatiles Met	hod List "As Red	ceived"							
Benzene 71-43-2	U	ND	0.333	1.00	ug/L		1		
Bromodichloromethane 75-27-4	U	ND	0.333	1.00	ug/L		1		
Bromoform 75-25-2	U	ND	0.333	1.00	ug/L		1		
Bromomethane 74-83-9	U	ND	0.337	1.00	ug/L		1		
Carbon tetrachloride 56-23-5	U	ND	0.333	1.00	ug/L		1		
Chlorobenzene 108-90-7	U	ND	0.333	1.00	ug/L		1		
Chloroethane 75-00-3	U	ND	0.333	1.00	ug/L		1		
Chloroform 67-66-3	U	ND	0.333	1.00	ug/L		1		
Chloromethane 74-87-3	U	ND	0.333	1.00	ug/L		1		
Dibromochloromethane 124-48-1	U	ND	0.333	1.00	ug/L		1		
Ethylbenzene 100-41-4	U	ND	0.333	1.00	ug/L		1		
Methylene chloride 75-09-2	J	0.580	0.500	2.00	ug/L		1		
Tetrachloroethylene 127-18-4	U	ND	0.333	1.00	ug/L		1		
Toluene 108-88-3	U	ND	0.333	1.00	ug/L		1		
Trichloroethylene 79-01-6	U	ND	0.333	1.00	ug/L		1		
Vinyl chloride 75-01-4	U	ND	0.333	1.00	ug/L		1		
trans-1,2-Dichloroethyler 156-60-5	ne U	ND	0.333	1.00	ug/L		1		
The following Analytical		performe	<u>l:</u>						
Method	Description				Analyst Cor	nments			
1	SM 5210B								
2	SM 4500-Cl C	5							

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

	Company : Address :	HDI, Inc. 1 Holtec Blvd. Camden, New J	ersey 081	04			г	Report Date: March 8	2023	
	Contact:	Laura Hageman	L				Г	Report Date. March 8	, 2023	
	Project:	Pilgrim NPDE	S Permit I	Modification						
		Client Sample Sample ID:	e ID:	Treated Water Tank A 612202001			Project: Client ID:	CDEC00107 CDEC001		
Parameter		Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time	Batch Mtd.
3		EPA 150.1								
4		EPA 624.1								

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Bromofluorobenzene	EPA 624.1 Volatiles Method List "As Received"	48.4 ug/L	50.0	97	(72%-125%)
1,2-Dichloroethane-d4	EPA 624.1 Volatiles Method List "As Received"	55.8 ug/L	50.0	112	(73%-129%)
Toluene-d8	EPA 624.1 Volatiles Method List "As Received"	50.9 ug/L	50.0	102	(75%-123%)

						QCS	Summar	y		Donort D	ate: March 8, 2	0022		
Contact:	HDI, Inc. 1 Holtec Blv Camden, Ne Laura Hage	ew Jersey							1	kedort D	ate: March 8, 2	2023	Page 1	of 12
Workorder:	612202													
Parmname			NON	A	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date T	'ime
Micro-biology Batch 2	2389221													
QC120533000 BOD, 5 DAY	05 612040002	DUP			305		305	mg/L	0 ^		(+/-120)	JW2	02/24/23	13:15
QC120532997 BOD, 5 DAY	71 LCS		198				195	mg/L		98.4	(85%-115%)		02/24/23	13:30
QC120532997 BOD, 5 DAY	70 MB						0.165	mg/L					02/24/23	13:30
QC120532997 BOD, 5 DAY	72 SEED						0.688	mg/L					02/24/23	13:30
Spectrometric An Batch 2	alysis 2390320													
QC120533169 Chlorine, Residu	91 612202001 ual	DUP		HJ	0.0449	Н	0.0544	mg/L	19 ^		(+/-0.0500)	HH2	02/27/23	11:39
QC120533169 Chlorine, Residu		(0.500				0.554	mg/L		111	(74%-112%)		02/27/23	11:39
QC120533168 Chlorine, Residu						U	ND	mg/L					02/27/23	11:39
QC120533169 Chlorine, Residu	92 612202001 ual		0.500	HJ	0.0449	Н	0.638	mg/L		119	(67%-128%)		02/27/23	11:39
Titration and Ion Batch 2	Analysis 2392032													
QC120533435 pH	612158001	DUP		Н	8.10	Н	8.10	SU	0		(0%-5%)	JW2	03/01/23	15:37

Workorder: 612202		20.50		J					Dama	2 .6 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	2 of 12 Time
Titration and Ion AnalysisBatch2392032QC1205334357LCSpH	7.00	Sampit Quar	7.00	SU		100	(99%-101%)		03/01/2	
Volatile-GC/MSBatch2390340										
QC1205331722 LCS 1,1,1-Trichloroethane	50.0		50.5	ug/L		101	(75%-136%)	JM6	02/27/2	3 08:38
1,1,2,2-Tetrachloroethane	50.0		44.6	ug/L		89	(68%-126%)	1		
1,1,2-Trichloroethane	50.0		47.0	ug/L		94	(73%-120%)	I		
1,1-Dichloroethane	50.0		52.0	ug/L		104	(76%-123%)	I		
1,1-Dichloroethylene	50.0		51.8	ug/L		104	(67%-133%)	I		
1,2-Dichloroethane	50.0		50.8	ug/L		102	(68%-124%)	I		
1,2-Dichloropropane	50.0		50.7	ug/L		101	(74%-121%)	I		
1,3-Dichloropropylene	100		92.9	ug/L		93	(75%-129%)	I		
2-Chloroethylvinyl ether	250		206	ug/L		82	(62%-126%)	I		
Benzene	50.0		54.1	ug/L		108	(74%-118%)	I		
Bromodichloromethane	50.0		50.7	ug/L		101	(73%-133%)	I		
Bromoform	50.0		44.7	ug/L		89	(69%-130%)	I		
Bromomethane	50.0		66.5	ug/L		133	(68%-140%)	1		

QC Summary

Workorder: 612202		~	•	~					Page 3 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Volatile-GC/MS Batch 2390340			X -						
Carbon tetrachloride	50.0		49.6	ug/L		99	(73%-140%)) JM6	02/27/23 08:38
Chlorobenzene	50.0		47.3	ug/L		95	(76%-120%))	
Chloroethane	50.0		64.9	ug/L		130	(70%-131%))	
Chloroform	50.0		51.3	ug/L		103	(77%-126%))	
Chloromethane	50.0		53.8	ug/L		108	(60%-139%))	
Dibromochloromethane	50.0		46.6	ug/L		93	(75%-133%))	
Ethylbenzene	50.0		45.8	ug/L		92	(75%-121%))	
Methylene chloride	50.0		47.5	ug/L		95	(69%-120%))	
Tetrachloroethylene	50.0		48.3	ug/L		97	(74%-124%))	
Toluene	50.0		47.4	ug/L		95	(74%-118%))	
Trichloroethylene	50.0		50.6	ug/L		101	(76%-124%))	
Vinyl chloride	50.0		60.5	ug/L		121	(67%-134%))	
trans-1,2-Dichloroethylene	50.0		49.4	ug/L		99	(71%-127%))	
**1,2-Dichloroethane-d4	50.0		53.0	ug/L		106	(73%-129%))	
**Bromofluorobenzene	50.0		48.4	ug/L		97	(72%-125%))	

Workorder: 612202		~	•	~					Page 4 of	12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time	
Volatile-GC/MSBatch2390340						10070			2000 1111	
**Toluene-d8	50.0		49.4	ug/L		99	(75%-123%)	JM6	02/27/23 08:	38
QC1205331723 LCS Acrolein	250		184	ug/L		74	(63%-141%)	1	02/27/23 09:	32
Acrylonitrile	250		286	ug/L		114	(67%-128%)	1		
**1,2-Dichloroethane-d4	50.0		54.3	ug/L		109	(73%-129%)	1		
**Bromofluorobenzene	50.0		49.6	ug/L		99	(72%-125%)	1		
**Toluene-d8	50.0		49.0	ug/L		98	(75%-123%)	1		
QC1205331724 MB 1,1,1-Trichloroethane		U	ND	ug/L					02/27/23 09:	59
1,1,2,2-Tetrachloroethane		U	ND	ug/L						
1,1,2-Trichloroethane		U	ND	ug/L						
1,1-Dichloroethane		U	ND	ug/L						
1,1-Dichloroethylene		U	ND	ug/L						
1,2-Dichloroethane		U	ND	ug/L						
1,2-Dichloropropane		U	ND	ug/L						
1,3-Dichloropropylene		U	ND	ug/L						

QC Summary

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Workorder: 612202									Page 5	of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date T	ime
Volatile-GC/MSBatch2390340										
2-Chloroethylvinyl ether		U	ND	ug/L				JM6	02/27/23	09:59
Acrolein		U	ND	ug/L						
Acrylonitrile		U	ND	ug/L						
Actyloniune		0	ND	ug/L						
Benzene		U	ND	ug/L						
Bromodichloromethane		U	ND	ug/L						
Bromoform		U	ND	ug/L						
Bromomethane		U	ND	ug/L						
Carbon tetrachloride		U	ND	ug/L						
Carbon tetrachionde		0	ND	ug/L						
Chlorobenzene		U	ND	ug/L						
				U						
Chloroethane		U	ND	ug/L						
Chloroform		U	ND	ug/L						
Chloromethane		U	ND	ug/L						
				_						
Dibromochloromethane		U	ND	ug/L						
Ethylbenzene		U	ND	ug/L						
Luyiochizene		6	ND	ug/L						
Methylene chloride		U	ND	ug/L						
				C						

QC Summary

Workorder: 612202		~	-					Page 6 of 12
Parmname	NOM	Sample Qual	QC	Units 1	RPD/D% REC%	% Range	Anlst	Date Time
Volatile-GC/MSBatch2390340								
Tetrachloroethylene		U	ND	ug/L			JM6	02/27/23 09:59
Toluene		U	ND	ug/L				
Trichloroethylene		U	ND	ug/L				
Vinyl chloride		U	ND	ug/L				
trans-1,2-Dichloroethylene		U	ND	ug/L				
**1,2-Dichloroethane-d4	50.0		54.6	ug/L	109	(73%-129%)	
**Bromofluorobenzene	50.0		49.5	ug/L	99	(72%-125%)	
**Toluene-d8	50.0		50.2	ug/L	100	(75%-123%)	
QC1205331725 611447003 PS 1,1,1-Trichloroethane	50.0 U	ND	53.1	ug/L	106	(67%-135%)	02/27/23 16:50
1,1,2,2-Tetrachloroethane	50.0 U	ND	49.3	ug/L	99	(58%-138%)	
1,1,2-Trichloroethane	50.0 U	ND	50.6	ug/L	101	(70%-126%)	
1,1-Dichloroethane	50.0 U	ND	55.0	ug/L	110	(70%-126%)	
1,1-Dichloroethylene	50.0 U	ND	55.9	ug/L	112	(61%-137%)	
1,2-Dichloroethane	50.0 U	ND	54.6	ug/L	109	(64%-129%)	
1,2-Dichloropropane	50.0 U	ND	53.2	ug/L	106	(68%-127%)	

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Workorder: 612202		~	•	, ,			Page 7 of 12
Parmname	NOM	Sample Qual	QC	Units RPD/D%	REC%	Range Anlst	Date Time
Volatile-GC/MSBatch2390340							
1,3-Dichloropropylene	100		95.6	ug/L	96	(74%-123%) JM6	02/27/23 16:50
2-Chloroethylvinyl ether	250 U	ND U	ND	ug/L	0*	(64%-123%)	
Benzene	50.0 U	ND	55.1	ug/L	110	(65%-122%)	
Bromodichloromethane	50.0 U	ND	53.7	ug/L	107	(68%-137%)	
Bromoform	50.0 U	ND	47.3	ug/L	95	(62%-138%)	
Bromomethane	50.0 U	ND	71.6	ug/L	143*	(61%-142%)	
Carbon tetrachloride	50.0 U	ND	52.8	ug/L	106	(63%-144%)	
Chlorobenzene	50.0 U	ND	50.5	ug/L	101	(63%-123%)	
Chloroethane	50.0 U	ND	71.4	ug/L	143*	(64%-134%)	
Chloroform	50.0 U	ND	54.6	ug/L	109	(69%-133%)	
Chloromethane	50.0 U	ND	60.2	ug/L	120	(45%-142%)	
Dibromochloromethane	50.0 U	ND	49.5	ug/L	99	(68%-142%)	
Ethylbenzene	50.0 U	ND	48.5	ug/L	97	(65%-124%)	
Methylene chloride	50.0 J	0.720	50.8	ug/L	100	(62%-125%)	
Tetrachloroethylene	50.0 U	ND	49.9	ug/L	100	(64%-129%)	

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Workorder: 612202	NOM	formula Orial	00	Unita DD	D/D% REC%	Dongo A	Page 8 of 12
Parmname Volatile-GC/MS Batch 2390340	NOM	Sample Qual	QC	<u>Units</u> RPI	D/D% REC%	Range A	<u>nlst Date Time</u>
Toluene	50.0 U	ND	50.0	ug/L	100	(63%-121%)	JM6 02/27/23 16:50
Trichloroethylene	50.0 U	ND	52.3	ug/L	105	(66%-126%)	
Vinyl chloride	50.0 U	ND	66.7	ug/L	133	(58%-139%)	
trans-1,2-Dichloroethylene	50.0 U	ND	52.3	ug/L	105	(65%-130%)	
**1,2-Dichloroethane-d4	50.0	55.7	54.3	ug/L	109	(73%-129%)	
**Bromofluorobenzene	50.0	50.5	49.8	ug/L	100	(72%-125%)	
**Toluene-d8	50.0	50.6	50.7	ug/L	101	(75%-123%)	
QC1205331726 612202001 PS Acrolein	250 HU	ND H	153	ug/L	61	(51%-142%)	02/27/23 17:44
Acrylonitrile	250 HU	ND H	273	ug/L	109	(60%-135%)	
**1,2-Dichloroethane-d4	50.0	55.8	55.9	ug/L	112	(73%-129%)	
**Bromofluorobenzene	50.0	48.4	51.7	ug/L	103	(72%-125%)	
**Toluene-d8	50.0	50.9	50.6	ug/L	101	(75%-123%)	
QC1205331727 611447003 PSD 1,1,1-Trichloroethane	50.0 U	ND	51.6	ug/L	3 103	(0%-20%)	02/27/23 17:17
1,1,2,2-Tetrachloroethane	50.0 U	ND	46.3	ug/L	6 93	(0%-20%)	
1,1,2-Trichloroethane	50.0 U	ND	49.4	ug/L	2 99	(0%-20%)	

Workorder: 612202		~	•	,				Page 9 of 12
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Anlst	Date Time
Volatile-GC/MSBatch2390340								
1,1-Dichloroethane	50.0 U	ND	52.6	ug/L	5	105	(0%-20%) JM6	02/27/23 17:17
1,1-Dichloroethylene	50.0 U	ND	55.4	ug/L	1	111	(0%-20%)	
1,2-Dichloroethane	50.0 U	ND	53.2	ug/L	3	106	(0%-20%)	
1,2-Dichloropropane	50.0 U	ND	51.4	ug/L	3	103	(0%-20%)	
1,3-Dichloropropylene	100		93.8	ug/L	2	94	(0%-20%)	
2-Chloroethylvinyl ether	250 U	ND U	ND	ug/L	N/A	0*	(0%-20%)	
Benzene	50.0 U	ND	54.4	ug/L	1	109	(0%-20%)	
Bromodichloromethane	50.0 U	ND	51.9	ug/L	3	104	(0%-20%)	
Bromoform	50.0 U	ND	45.5	ug/L	4	91	(0%-20%)	
Bromomethane	50.0 U	ND	68.5	ug/L	4	137	(0%-20%)	
Carbon tetrachloride	50.0 U	ND	50.7	ug/L	4	101	(0%-20%)	
Chlorobenzene	50.0 U	ND	48.7	ug/L	4	97	(0%-20%)	
Chloroethane	50.0 U	ND	68.6	ug/L	4	137*	(0%-20%)	
Chloroform	50.0 U	ND	52.1	ug/L	5	104	(0%-20%)	
Chloromethane	50.0 U	ND	56.7	ug/L	6	113	(0%-20%)	

QC Summary

Workorder: 612202		\mathcal{L}^{-1}	•	0				
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Anls	Page 10 of 12 Date Time
Volatile-GC/MS Batch 2390340	NOM	Sample Quar	QC	Omts	<u> </u>	<u>KEC 70</u>	Kange Ams	
Dibromochloromethane	50.0 U	ND	48.1	ug/L	3	96	(0%-20%) JN	46 02/27/23 17:17
Ethylbenzene	50.0 U	ND	46.7	ug/L	4	93	(0%-20%)	
Methylene chloride	50.0 J	0.720	49.7	ug/L	2	98	(0%-20%)	
Tetrachloroethylene	50.0 U	ND	48.7	ug/L	3	97	(0%-20%)	
Toluene	50.0 U	ND	48.7	ug/L	3	97	(0%-20%)	
Trichloroethylene	50.0 U	ND	51.3	ug/L	2	103	(0%-20%)	
Vinyl chloride	50.0 U	ND	63.6	ug/L	5	127	(0%-20%)	
trans-1,2-Dichloroethylene	50.0 U	ND	50.6	ug/L	3	101	(0%-20%)	
**1,2-Dichloroethane-d4	50.0	55.7	54.4	ug/L		109	(73%-129%)	
**Bromofluorobenzene	50.0	50.5	48.5	ug/L		97	(72%-125%)	
**Toluene-d8	50.0	50.6	50.1	ug/L		100	(75%-123%)	
QC1205331728 612202001 PSD Acrolein	250 HU	ND H	137	ug/L	11	55	(0%-20%)	02/27/23 18:11
Acrylonitrile	250 HU	ND H	257	ug/L	6	103	(0%-20%)	
**1,2-Dichloroethane-d4	50.0	55.8	55.3	ug/L		111	(73%-129%)	
**Bromofluorobenzene	50.0	48.4	50.3	ug/L		101	(72%-125%)	

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QC Summary

Workorder:	612202									Page 11	l of 12
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date 7	Time
Volatile-GC/MS	5										
Batch	2390340										
**Toluene-d8		50.0	50.9	49.5	ug/L		99	(75%-123%)	JM6	02/27/23	3 18:11

Notes:

The Qualifiers in this report are defined as follows:

.....

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- C Analyte has been confirmed by GC/MS analysis
- B The target analyte was detected in the associated blank.
- E Concentration of the target analyte exceeds the instrument calibration range
- A The TIC is a suspected aldol-condensation product
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- H Analytical holding time was exceeded
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- D Results are reported from a diluted aliquot of the sample
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- JNX Non Calibrated Compound
- UJ Compound cannot be extracted
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- N1 See case narrative
- Y QC Samples were not spiked with this compound

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QC Summary

Worko	rder: 612202										Page	12 of 12
Parmna	ame		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
R	Per section 9.3.4	1 of Method 166	4 Revision E	3, due to matrix spike	recovery iss	ues, this re	sult may not b	be reported of	or used for	regulatory	v complia	ince
N	purposes.		(11	:h		1	6.1 1					

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

J See case narrative for an explanation

......

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 612202

GC/MS Volatile

<u>Product:</u> Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer <u>Analytical Method:</u> EPA 624.1 <u>Analytical Procedure:</u> GL-OA-E-026 REV# 29 <u>Analytical Batch:</u> 2390340

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612202001	Treated Water Tank A
1205331722	Laboratory Control Sample (LCS)
1205331723	Laboratory Control Sample (LCS)
1205331724	Method Blank (MB)
1205331725	611447003(NonSDG) Post Spike (PS)
1205331726	612202001(Treated Water Tank A) Post Spike (PS)
1205331727	611447003(NonSDG) Post Spike Duplicate (PSD)
1205331728	612202001(Treated Water Tank A) Post Spike Duplicate (PSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike/Matrix Spike Duplicate Recovery Statement

Preservation by acidification causes 2-Chloroethylvinyl ether to degrade resulting in poor recoveries in samples (See Below).

Sample	Analyte	Value
1205331725 (Non SDG 611447003PS)	2-Chloroethylvinyl ether	0* (64%-123%)
1205331727 (Non SDG 611447003PSD)	2-Chloroethylvinyl ether	0* (64%-123%)

The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The recoveries were similar. It is believed possible matrix interference has been demonstrated.

Sample	Analyte	Value
1205331725 (Non SDG 611447003PS)	Chloroethane	143* (64%-134%)
1205331727 (Non SDG 611447003PSD)	Chloroethane	137* (64%-134%)

The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The

associated spike and/or spike duplicate passed recoveries near the lower/upper end of the limits.

Sample	Analyte	Value
1205331725 (Non SDG 611447003PS)	Bromomethane	143* (61%-142%)

Technical Information

Holding Time Specifications

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection or sample receipt. Those holding times expressed in hours are calculated in the ALPHALIMS system. Those holding times expressed as days expire at midnight on the day of expiration. Samples (See Below) were not analyzed within holding because greater than 50% of the holding time had expired upon receipt of the samples. The results are qualified accordingly.

Sample	Analyte	Value
1205331726 (Treated Water Tank APS)		Received 24-FEB-23, within holding, analyzed 27-FEB-23, out of holding 25-FEB-23
1205331728 (Treated Water Tank APSD)		Received 24-FEB-23, within holding, analyzed 27-FEB-23, out of holding 25-FEB-23
612202001 (Treated Water Tank A)		Received 24-FEB-23, within holding, analyzed 27-FEB-23, out of holding 25-FEB-23

General Chemistry

Product: Biochemical Oxygen Demand <u>Analytical Method:</u> SM 5210B <u>Analytical Procedure:</u> GL-GC-E-045 REV# 28 <u>Analytical Batch:</u> 2389221

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612202001	Treated Water Tank A
1205329970	Method Blank (MB)
1205329971	Laboratory Control Sample (LCS)
1205329972	BOD Seed (SEED)
1205330005	612040002(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Sample (See Below) was received by the laboratory outside of the method specified holding time. The data is qualified.

Sample	Analyte	Value
612202001 (Treated Water Tank A)		Received 24-FEB-23, out of holding 24-FEB-23

2:1 Depletion Requirement

The following samples in this batch did not meet the 2:1 depletion requirement. 612202001 (Treated Water Tank A).

<u>Product:</u> Total Residual Chlorine

<u>Analytical Method:</u> SM 4500-Cl G <u>Analytical Procedure:</u> GL-GC-E-076 REV# 17 <u>Analytical Batch:</u> 2390320

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
612202001	Treated Water Tank A
1205331689	Method Blank (MB)
1205331690	Laboratory Control Sample (LCS)
1205331691	612202001(Treated Water Tank A) Sample Duplicate (DUP)
1205331692	612202001(Treated Water Tank A) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Samples (See Below) were received by the laboratory outside of the method specified holding time. The data is qualified.

Sample	Analyte	Value
1205331691 (Treated Water Tank ADUP)		Received 24-FEB-23, out of holding 22-FEB-23
1205331692 (Treated Water Tank APS)		Received 24-FEB-23, out of holding 22-FEB-23
612202001 (Treated Water Tank A)		Received 24-FEB-23, out of holding 22-FEB-23

Product: pH Analytical Method: EPA 150.1

<u>Analytical Procedure:</u> GL-GC-E-008 REV# 26 <u>Analytical Batch:</u> 2392032

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
612202001	Treated Water Tank A
1205334357	Laboratory Control Sample (LCS)
1205334358	612158001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Times

Samples (See Below) were received by the laboratory outside of the method specified holding time. The data is qualified.

Sample	Analyte	Value
1205334358 (Non SDG 612158001DUP)		Received 24-FEB-23, out of holding 21-FEB-23
612202001 (Treated Water Tank A)		Received 24-FEB-23, out of holding 22-FEB-23

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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-SUB	GEL Work Order Number:			GEL	Project A	GEL Project Manager: Katherine Cates	Katherin	e Cates					Fax	:: (843)	Fax: (843) 766-1178	8		
Click Name: Comprehensive Decommissioning International (CDI)	rnational (CDI)	Phone # (508)83	08)830-	0-8184			Sam	Sample Analysis Requested ⁽⁵⁾	alysis	Requ	ested (in the 1	numbe	r of cont	(Fill in the number of containers for each test)	each test)	
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Laboratories LLC			5	SAMPLE RECEIPT & REVIEW FORM
Client: CDI Inc.				/AR/COC/Work Order: (2289)(912202
14 11			-	Received: 2/24/23
Carrier and Tracking Number			<i>Date</i>	Circle Applicable: FedEx Express BedEx Ground UPS Field Services Courier Other 7713737776573 iDA2/24/23
Suspected Hazard Information	Ycs	Na	°lf N	Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?	1		Hazar	ard Class Shipped: UN#: 2910 If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
B) Did the client designate the samples are to be received as radioactive?	~			C notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?	1		Maxi	climurn Net Counts Observed f (Observed Counts - Area Background Counts):CPM mR/Hr Classified as: Rad U Rad 2 Rad 3
D) Did the elient designate samples are hazardous?		1		C notation or hazard labels on containers equal client designation. or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
E) Did the RSO identify possible hazards?	-	V		
	Yes	NN	No	Comments/Qualifiers (Required for Non-Conforming Items) Circle Applicable: Seals broken Damaged container Leaking container Giber (describe)
1 Shipping containers received intact and sealed?	1			Circle Applicable: Sents broken Damager container - Leaving container - Corrig (calender)
2 Chain of custody documents included with shipment?	1		1	Preservation Methody Wet les les Packs Dry ice None Other:
3 Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	1	1955		*all temperatures we recorded in Celsius
Daily check performed and passed on IR temperature gun?	~			Secondary Temperature Device Serial # (If Applicable): Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Sample containers intact and sealed?	1	·····································		Sample ID's and Containers Affected:
6 Samples requiring chemical preservation at proper pH?	<u>`</u>	1	28	If Preservation added. Lot#: If Yes, are Encores or Soil Kits present for solids? Yes No NA(If yes, take to VOA Freezer)
Do any samples require Volatile Anulysis?		EXTENSE		Do liquid VOA vials contain acid preservation? Yes No NA (If unknown, select No) Are liquid VOA vials free of headspace? Yes No NA Sample ID's and containers affected:
8 Samples received within holding time?	1	7		1D's and tests affected:
9 Sample ID's on COC match ID's on bottles?				1D's and containers affected: Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10 Date & time on COC match date & time on bottles?	e	V,		Circle Applicable: No container count on COC Other (describe)
11 Number of containers received match number indicated on COC?				
Are sample containers identifiable as GEL provided by use of GEL labels? COC form is properly signed in	-			Circle Applicable: Not relinquished Other (describe)
13 relinquished/received sections? Comments (Use Continuation Form if needed):				
PM (or	PMA) rev	iew: li	Initials MG Date 2/27/23 Page 2 of 3 GL-CHL-SR-001 F

CEE Laboratories LLC			SA	AMPLE RECEIPT & REVIEW FORM
nt: CDEC		s	SDG/AI	R/COC/Work Order; (12189/ 612202
A A			Date R	leceived: 2125/23
eived By:				AredEx Express) FedEx Ground UPS Field Services Courier Other
Carrier and Tracking Number				7713 7511 9411
				112-11-11
				n n Vice Reference for higher investigation
pected Hazard Information	Yes	°N	*If Net	Counts > 100epm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
		7	Hazard	I Class Shipped: UN#: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
Shipped as a DOT Hazardous?				If UN2910, Is the Radioactive Shipment Survey Compitance Tes
Did the client designate the samples are to be		T	COC r	notation or radioactive stickers on containers equal client designation.
Did the client designate the samples are to ac ceived as radioactive?		_		a
Did the RSO classify the samples as	1	1	Maxin	num Net Counts Observed (Observed Counts - Area Background Counts):CPM / mR/Hr Classified as Rad 1 Rad 2 Rad 3
bloactive?	V	-		
) Did the client designate samples are hazardo	us?	1		notation or hazard labels on containers equal client designation.
) Did the client designate samples are inizial		1	If D o	rr E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
) Did the RSO identify possible hazards?		1		
Sample Receipt Criteria	Ves	X	No	Comments/Qualifiers (Required for Non-Conforming Items) Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
Shipping containers received intact a	nd			Circle Applicable: Seals bloken Dannigee entering
scaled?	4			Circle Applicable: Client contacted and provided COC COC created upon receipt
2 Chain of custody documents included with shipment?	/			
	-	1		Preservation Method: Wet lee Tice Packs Dry ice None Other: TEMP:
3 Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	1			The Davies Seriel #: 732-23
Daily check performed and passed o	n IR	1		Secondary Temperature Device Senal # (If Applicable).
4 temperature gun?	V		11 11	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Sample containers intact and sealed?	V	E S	278 278	100-und
Samples requiring chemical preserve	tion			Sample ID's and Containers Affected:
6 at proper pH?		X L	707	If Preservation added, Lot#: If Yes, are Encores or Soil Kits present for solids? YesNoNA(If yes, take to VOA Freezer) If Yes, are Encores or Soil Kits present for solids? YesNoNA(If unknown, select No)
		EX	X	De liquid VOA vials contain acid preservation? YesNoNo(II and the second se
7 Do any samples require Volatil Analysis?			¥Χ	Are liquid VOA vials free of headspace? Yes No NA Sample ID's and containers affected:
2 1101 / 1101				
La tutta haldina li	110?	V		1D's and tests affected:
8 Samples received within holding the		X	憲—	ID's and containers affected:
Sample ID's on COC match ID's or		X		
bottles?	time			Circle Applicable: No dates on containers No times on containers COC missing info Other (desenbe)
10 Date & time on COC match date of on bottles?		X		Circle Applicable: No container count on COC Other (describe)
Number of containers received ma	tch	X		Circle Applicable. No container
11 number indicated on COC?		\cap		
12 Are sample containers identifiable GEL provided by use of GEL lab	ils?	X		Circle Applicable: Not relinquished Other (describe)
		×		Circle 11
13 relinquished/received sections? Comments (Use Continuation Form if nee	ded):	P_	JE SIS	111 11111111111111111111111111111111111
Comments (Use Continuant		11	1	and that was missing yar.
This	is	PP.	R	cooler that was missing 2/24.
1100				
				(h) 2/20/23 Page 3_03_
	M (or P	MA)	review:	Initials Date Charles Fage 0 _ 4 0 _ 4 GL-CHL-SR-00

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 08 March 2023



a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

March 22, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 611601

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 21, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. The following additional comments were noted at receipt: (insert text box).. Sample was preserved upon arrival. Client was notified via email..

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Price & Trent

Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 611601 GEL Work Order: 611601

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- h Preparation or preservation holding time was exceeded

Vie & Trent

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Reviewed by

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

F	Company : Address : Contact:	HDI, Inc. 1 Holtec Blv Camden, Ne Laura Hager	w Jersey 081	04				I	Report Date: N	March 2	2, 2023	
	Project:		DES Permit N	Aodification								
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector:	te:	Intake 611601001 Water 20-FEB-23 21-FEB-23 Client	08:00			Proiect: Client ID:	CDEC0010 CDEC001	7		
Parameter		Qualifie	r Result		DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.
Carbon Analy	ysis											
<i>SM 5310 B 1</i> Total Organi		<i>ic/Inorganic</i> (verage J	Carbon "As Re 0.509	eceived"	0.330	1.00	mg/L		1 TSM	02/23/2	23 0639	23877281
Flow Injection	n Analysis											
EPA 335.4 C	Cyanide, Toi	al "As Receiv	ed"									
Cyanide, Tot 57-12-5	tal	U	ND		1.67	5.00	ug/L	1.00	1 AXH3	02/28/2	23 0956	23907532
		ls "As Receive										
Total Phenol	l	J	4.04		1.67	5.00	ug/L	1.00	1 AXH3	02/28/2	23 0707	23843153
Ion Chromato	ography											
		uid "As Rece	ived"									
Bromide 24959-67-9			63.9	+/-4.95	13.4	40.0	mg/L		200 LXA2	02/21/2	23 1959	23875704
Sulfate			2470	+/-82.8	26.6	80.0	mg/L		200			
14808-79-8 Chloride 16887-00-6			19100	+/-643	268	800	mg/L		4000 LXA2	02/22/2	23 0158	23875705
Fluoride 16984-48-8		U	ND	+/-0.550	1.65	5.00	mg/L		50 LXA2	02/22/2	23 0128	23875706
Mercury Ana	lysis-CVA	1										
EPA 245 Me	rcury "As F	leceived"										
Mercury 7439-97-6		UHh	ND	+/-0.0223	0.0670	0.200	ug/L	1.00	1 JP2	03/22/2	23 0935	24013917
Metals Analys	sis-ICP-MS	1										
	Priority Po	llutant "As Re										
Selenium 7782-49-2		U	ND		30.0	100	ug/L		20 SKJ	02/24/2	23 2136	23874278
Zinc 7440-66-6		U	ND	+/-22.0	66.0	400	ug/L	1.00	20			
7440-66-6 Arsenic 7440-38-2		U	ND	+/-13.4	40.0	100	ug/L	1.00	20 SKJ	02/27/2	23 1338	23874279
Boron 7440-42-8			4290	+/-231	260	750	ug/L	1.00	50 SKJ	02/27/2	23 1122	238742710
								1.00				

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Certificate of Analysis

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	Pilgrim NPDES Permit Modification

Report Date: March 22, 2023

Project: CDEC00107 Client Sample ID: Intake 611601001 Client ID: CDEC001 Sample ID: Parameter Qualifier PF Result DL RL Units **DF** Analyst Date Time Batch Mtd. Metals Analysis-ICP-MS 200.8/200.2 Priority Pollutant "As Received" Antimony ND 5.00 15.0 5 SKJ 02/24/23 2157 238742711 +/-1.67 ug/L U 7440-36-0 Beryllium ND +/-0.333 1.00 2.50 ug/L 1.00 5 U 7440-41-7 1.00 Cadmium ND +/-0.5001.50 5.00 5 ug/L U 7440-43-9 Chromium ND +/-5.0015.0 50.0 1.00 5 ug/L U 7440-47-3 Copper 1.69 +/-0.507 1.50 10.0 ug/L 1.00 5 J 7440-50-8 +/-0.833 2.50 10.0 5 Lead ND ug/L 1.00 U 7439-92-1 Nickel ND +/-1.00 3.00 10.0 5 ug/L 1.00 U 7440-02-0 Silver ND +/-0.5001.50 5.00 ug/L 1.00 5 U 7440-22-4 Thallium ND +/-1.003.00 10.0 ug/L 1.00 5 U 7440-28-0 **Nutrient Analysis** EPA 350.1 Nitrogen, Ammonia "As Received" Nitrogen, Ammonia 0.196 +/-0.00865 0.0170 0.0500 1 KLP1 03/01/23 1527 239058912 mg/L 1.00 7664-41-7 **Oil & Grease Analysis** EPA 1664A/B n-Hexane Extractable Material (O&G) "As Received" Oil and Grease ND 1.11 3.97 mg/L DXB7 03/02/23 0524 239176313 U **Solids Analysis** SM 2540D Total Suspended Solids (TSS) "As Received" **Total Suspended Solids** 4.100.570 2.50 mg/L CH6 02/22/23 0759 238764514 Spectrometric Analysis EPA 410.4 Chemical Oxygen Demand "As Received" 100 COD 531 44.8 mg/L 5 HH2 02/27/23 1444 239032115

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 335.4	EPA 335.4 Total Cyanide	ES2	02/28/23	0733	2390752

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : HDI, Inc. Address : 1 Holtec Blvd. Camden, New Jersey 08104 Contact: Laura Hageman Project. Difference in the life

Report Date: March 22, 2023

Project:	Pilgrim NPDES Permit Modification

	Client Sample ID: Intake Sample ID: 611601001		Project: CDEC00107 Client ID: CDEC001
Parameter	Qualifier Result	DL RL	Units PF DF Analyst Date Time Batch Mto
EPA 420.4	EPA 420.4 Phenols, Total in liquid PREP	ES2	02/27/23 1205 2384314
EPA 350.1 Prep	EPA 350.1 Ammonia Nitrogen Prep	ES2	03/01/23 1331 2390587
EPA 200.2	ICP-MS 200.2 PREP	EM2	02/21/23 1555 2387426
EPA 245.1/245.2 Prep	EPA 245 Mercury	RM4	03/21/23 1134 2401389

The following Analytical Methods were performed:

lethod	Description	Analyst Comments	
	SM 5310 B		
	EPA 335.4		
	EPA 420.4		
	SW846 9056		
	SW846 9056		
	SW846 9056		
	EPA 245.1/245.2		
	EPA 200.8		
	EPA 200.8		
)	EPA 200.8		
l	EPA 200.8		
2	EPA 350.1		
3	EPA 1664A/1664B		
1	SM 2540D		
5	EPA 410.4		

	HDI, Inc. 1 Holtec Blvd.	QC Summary						Report Date: March 22, 2023				Page 1 of 11	
Contact:	Camden, New Jersey Laura Hageman												
Workorder:	611601												
Parmname		NO	М	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time	
Carbon Analysis Batch	2387728												
QC12053276 Total Organic C	06 611282002 DUP Carbon Average			3.66		3.60	mg/L	1.57 ^		(+/-1.00)	TSM	02/23/23 00:27	
QC12053276 Total Organic C		10.0				9.89	mg/L		98.9	(80%-120%)		02/22/23 23:56	
QC12053276 Total Organic C					U	ND	mg/L					02/22/23 23:46	
QC12053276 Total Organic C	08 611282002 PS Carbon Average	10.0		3.66		9.11	mg/L		54.5*	(65%-120%)		02/23/23 00:47	
Flow Injection An Batch	nalysis 2384315 ————												
QC12053217 Total Phenol	59 LCS	50.0				47.3	ug/L		94.7	(90%-110%)	AXH3	02/28/23 08:19	
QC12053217 Total Phenol	58 MB				U	ND	ug/L					02/28/23 06:54	
QC12053217 Total Phenol	60 610757003 MS	50.0	U	ND		48.9	ug/L		97.8	(90%-110%)		02/28/23 06:57	
QC12053217 Total Phenol	61 610757003 MSD	50.0	U	ND		51.1	ug/L	4.39	102	(0%-20%)		02/28/23 06:58	
	2390753												
QC12053324 Cyanide, Total	75 612160012 DUP		U	ND	U	ND	ug/L	N/A			AXH3	02/28/23 09:58	

Workorder: 611601		~						Page 2 of 11
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Anlst	Date Time
Flow Injection AnalysisBatch2390753	_	_	_	_	_	_	_	
QC1205332474 LCS Cyanide, Total	50.0		52.0	ug/L		104	(90%-110%) AXH3	02/28/23 09:55
QC1205332473 MB Cyanide, Total		U	ND	ug/L				02/28/23 10:04
QC1205332476 612160012 MS Cyanide, Total	100 U	ND	104	ug/L		104	(90%-110%)	02/28/23 10:05
QC1205332477 612160012 MSD Cyanide, Total	D 100 U	ND	104	ug/L	0	104	(0%-20%)	02/28/23 10:06
Ion Chromatography Batch 2387570 —								
QC1205327353 610979003 DUP Bromide	U	ND U	ND	mg/L	N/A		LXA2	02/21/23 20:29
Chloride		250	252	mg/L	0.446		(0%-20%)	
Fluoride		1.30	1.34	mg/L	2.62 ^		(+/-0.500)	02/21/23 23:28
Sulfate		1870	1840	mg/L	1.39		(0%-20%)	02/21/23 20:29
QC1205327352 LCS Bromide	1.25		1.28	mg/L		103	(90%-110%)	02/21/23 16:30
Chloride	5.00		4.91	mg/L		98.1	(90%-110%)	
Fluoride	2.50		2.64	mg/L		106	(90%-110%)	
Sulfate	10.0		10.2	mg/L		102	(90%-110%)	

Workorder: 611601		~	2	2						Page	e 3 of 11
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst		Time
Ion Chromatography Batch 2387570											
QC1205327351 MB Bromide			U	ND	mg/L				LXA2	02/21/2	23 16:01
Chloride			U	ND	mg/L						
Fluoride			U	ND	mg/L						
Sulfate			U	ND	mg/L						
QC1205327354 610979003 PS Bromide	1.25 U	ND		1.28	mg/L		102	(90%-110%)	1	02/21/2	23 22:29
Chloride	5.00	1.25		6.22	mg/L		99.3	(90%-110%)			
Fluoride	2.50	0.260		2.81	mg/L		102	(90%-110%)		02/21/2	23 23:58
Sulfate	10.0	9.33		19.9	mg/L		105	(90%-110%)	,	02/21/2	23 22:29
Metals Analysis - ICPMS Batch 2387427											
QC1205327141 611601001 DUP Antimony	U	ND	U	ND	ug/L	N/A			SKJ	02/24/.	23 22:01
Arsenic	U	ND	U	ND	ug/L	N/A				02/27/.	23 13:41
Beryllium	U	ND	U	ND	ug/L	N/A				02/24/2	23 22:01
Boron		4290		4260	ug/L	0.733		(0%-20%)	1	02/27/2	23 11:25
Cadmium	U	ND	U	ND	ug/L	N/A				02/24/2	23 22:01
Chromium	U	ND	U	ND	ug/L	N/A					

Workorder: 611601			~	•	/					Page	4 of 11
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	6 Range	Anlst		Time
Metals Analysis - ICPMS Batch 2387427											
Copper	J	1.69	U	ND	ug/L	200 ^			SKJ	02/24/2	3 22:01
Lead	U	ND) U	ND	ug/L	L N/A					
Nickel	U	ND) U	ND	ug/L	. N/A					
Selenium	U	ND) U	ND	ug/L	L N/A				02/24/2	23 21:40
Silver	U	ND) U	ND	ug/L	L N/A				02/24/2	23 22:01
Thallium	U	ND) U	ND	ug/L	L N/A					
Zinc	U	ND) U	ND	ug/L	L N/A				02/24/2	23 21:40
QC1205327140 LCS Antimony	50.0			51.9	ug/L	,	104	(85%-115%))	02/24/2	23 21:33
Arsenic	50.0			52.3	ug/L		105	(85%-115%	,)	02/27/2	23 13:35
Beryllium	50.0			53.2	ug/L	1	106	(85%-115%	,)	02/24/2	23 21:33
Boron	100			101	ug/L	1	101	(85%-115%	,)	02/27/2	23 11:20
Cadmium	50.0			53.2	ug/L	,	106	(85%-115%))	02/24/2	23 21:33
Chromium	50.0			53.3	ug/L	1	107	(85%-115%	,)		
Copper	50.0			55.8	ug/L	,	112	(85%-115%	,)		
Lead	50.0			53.9	ug/L	1	108	(85%-115%))		

Workorder: 611601			~	•						Page	5 of 11
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMSBatch2387427											
Nickel	50.0			54.0	ug/L		108	(85%-115%) SKJ	02/24/2	23 21:33
Selenium	50.0			52.6	ug/L		105	(85%-115%)		
Silver	50.0			52.4	ug/L		105	(85%-115%)		
Thallium	50.0			52.2	ug/L		104	(85%-115%)		
Zinc	50.0			52.3	ug/L		105	(85%-115%)		
QC1205327139 MB Antimony			U	ND	ug/L					02/24/2	23 21:29
Arsenic			U	ND	ug/L					02/27/2	23 13:32
Beryllium			U	ND	ug/L					02/24/2	23 21:29
Boron			U	ND	ug/L					02/27/2	23 11:17
Cadmium			U	ND	ug/L					02/24/2	23 21:29
Chromium			U	ND	ug/L						
Copper			U	ND	ug/L						
Lead			U	ND	ug/L						
Nickel			U	ND	ug/L						
Selenium			U	ND	ug/L						

Workorder: 611601		-	•	2						Page	e 6 of 11
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS Batch 2387427											
Silver			U	ND	ug/L				SKJ	02/24/2	23 21:29
Thallium			U	ND	ug/L						
Zinc			U	ND	ug/L						
QC1205327142 611601001 MS Antimony	50.0 U	U ND		47.2	ug/L		93.3	(75%-125%))	02/24/:	/23 22:04
Arsenic	50.0 U	U ND		51.9	ug/L		104	(75%-125%))	02/27/.	/23 13:43
Beryllium	50.0 U	U ND		44.7	ug/L		89.4	(75%-125%))	02/24/.	23 22:04
Boron	100	4290		4500	ug/L		N/A	(75%-125%))	02/27/.	23 11:27
Cadmium	50.0 U	U ND		40.2	ug/L		80.3	(75%-125%))	02/24/.	23 22:04
Chromium	50.0 U	U ND		47.9	ug/L		95.8	(75%-125%))		
Copper	50.0	J 1.69		41.2	ug/L		79.1	(75%-125%))		
Lead	50.0 U	U ND		43.3	ug/L		86.2	(75%-125%))		
Nickel	50.0 U	U ND		41.4	ug/L		80.2	(75%-125%))		
Selenium	50.0 U	U ND		47.3	ug/L		88.8	(75%-125%))	02/24/.	23 21:43
Silver	50.0 U	U ND		39.1	ug/L		78.1	(75%-125%))	02/24/.	23 22:04
Thallium	50.0 U	U ND		44.3	ug/L		88.3	(75%-125%))		

Workorder: 611601		~	-	-	0					Page	7 of 11
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMSBatch2387427											
Zinc	50.0 U	ND	U	ND	ug/L		0*	(75%-125%)	SKJ	02/24/23	3 21:43
QC1205327143 611601001 SDILT Antimony	U	ND	U	ND	ug/L	N/A		(0%-10%)	I	02/24/23	.3 22:08
Arsenic	U	ND	U	ND	ug/L	N/A		(0%-10%)	į	02/27/23	.3 13:46
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-10%)	J	02/24/23	.3 22:08
Boron		85.8		19.5	ug/L	13.5		(0%-10%)	J	02/27/23	.3 11:29
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-10%)	1	02/24/23	.3 22:08
Chromium	U	ND	U	ND	ug/L	N/A		(0%-10%)	ļ		
Copper	J	0.338	U	ND	ug/L	N/A		(0%-10%)	1		
Lead	U	ND	U	ND	ug/L	N/A		(0%-10%)	ļ		
Nickel	U	ND	U	ND	ug/L	N/A		(0%-10%)	I		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-10%)	I	02/24/23	.3 21:47
Silver	U	ND	U	ND	ug/L	N/A		(0%-10%)	I	02/24/23	.3 22:08
Thallium	U	ND	U	ND	ug/L	N/A		(0%-10%)	I		
Zinc	U	ND	U	ND	ug/L	N/A		(0%-10%)	1	02/24/23	.3 21:47

					2U V	Junnu	y						
Workorder:	611601											Page	8 of 11
Parmname			NOM	Sample	Qual	QC	Units	RPD/D%	REC%	6 Range	Anlst	Date	Time
Metals Analysis-M Batch 2	Aercury 2401391												
QC120535146 Mercury	611601001	DUP	UHh	ND	UHh	ND	ug/L	. N/A			JP2	03/22/2	23 09:37
QC120535146 Mercury	57 LCS		2.00			2.02	ug/L		101	(85%-115%)		03/22/2	23 09:34
QC120535146 Mercury	56 MB				U	ND	ug/L					03/22/2	23 09:32
QC120535146 Mercury	59 611601001	MS	2.00 UHh	ND	Hh	1.42	ug/L	<i>,</i>	71.1*	(75%-125%)		03/22/2	23 09:39
QC120535147 Mercury	71 611601001	PS	2.00 UHh	ND	Н	1.46	ug/L	,	72.8*	(80%-120%)		03/22/2	23 09:42
QC120535147 Mercury	0 611601001	SDILT	UHh	ND	UHh	ND	ug/L	. N/A		(0%-10%)		03/22/2	23 09:40
Nutrient Analysis Batch 2	2390589												
	611005022	DUP		0.0549		0.128	mg/L	, 79.9*^		(+/-0.0500)	KLP1	03/01/2	23 15:15
QC120533224 Nitrogen, Ammo			1.00			0.962	mg/L	,	96.2	(90%-110%)	1	03/01/2	23 14:45
QC120533224 Nitrogen, Ammo					J	0.0177	mg/L	,				03/01/2	23 14:44
QC120533225 Nitrogen, Ammo	50 611005022 onia	MS	1.00	0.0549		1.05	mg/L	1	99.5	(90%-110%)	J	03/01/2	23 15:16

Workorder: 611601		-	•	-						Page	9 of 11
Parmname	NON	M Sample	Qual	QC	Units	RPD/D%	REC%	Range A	Anlst	Date	Time
Oil & Grease Analysis Batch 2391763											i
QC1205334078 LCS Oil and Grease	40.0			37.7	mg/L		94.3	(78%-114%)	DXB7	03/02/2	3 05:24
QC1205334079 LCSD Oil and Grease	40.0			36.4	mg/L	3.51	91	(0%-18%)		03/02/23	.3 05:24
QC1205334077 MB Oil and Grease			U	ND	mg/L					03/02/23	:3 05:24
QC1205334080 610507001 Oil and Grease	MS 38.8	U ND		30.5	mg/L		76*	(78%-114%)		03/02/23	:3 05:24
Solids Analysis Batch 2387645											
QC1205327461 611553001 Total Suspended Solids	DUP	U ND	U	ND	mg/L	N/A			CH6	02/22/23	.3 07:59
QC1205327459 LCS Total Suspended Solids	500			501	mg/L		100	(95%-105%)		02/22/23	.3 07:59
QC1205327460 LCSD Total Suspended Solids	500			504	mg/L	0.597	101	(0%-5%)		02/22/23	.3 07:59
QC1205327458 MB Total Suspended Solids			U	ND	mg/L					02/22/23	.3 07:59
Spectrometric Analysis Batch 2390321											
QC1205331695 611601001 1 COD	DUP	531		492	mg/L	7.74 ^		(+/-100)	HH2	02/27/23	.3 14:44
QC1205331694 LCS COD	500			518	mg/L		104	(90%-110%)		02/27/23	:3 14:44

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QC Summary

Workorder: 611601									Page 10 o	of 11
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Ti	me
Spectrometric AnalysisBatch2390321										
QC1205331693 MB COD		1	18.1	mg/L				HH2	02/27/23 1	4:44
QC1205331696 611601001 MS COD	500	531	1140	mg/L		24.4*	(90%-110%)		02/27/23 1	4:44

Notes:

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Metals--The Matrix spike sample recovery is not within specified control limits
- H Analytical holding time was exceeded
- < Result is less than value reported
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- N1 See case narrative
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- R Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
- B The target analyte was detected in the associated blank.
- e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
- J See case narrative for an explanation

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QC Summary

Workorder:	611601									Page 11 of 11
Parmname		NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the

RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 611601

Metals

<u>Product:</u> Determination of Metals by ICP-MS <u>Analytical Method:</u> EPA 200.8 <u>Analytical Procedure:</u> GL-MA-E-014 REV# 35 <u>Analytical Batch:</u> 2387427

<u>Preparation Method:</u> EPA 200.2 <u>Preparation Procedure:</u> GL-MA-E-016 REV# 18 <u>Preparation Batch:</u> 2387426

The following samples were analyzed using the above methods and analytical procedure(s).

P)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

ICSA/ICSAB Statement

For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Quality Control (QC) Information

Matrix Spike (MS/MSD) Recovery Statement

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte.

Sample	Analyte	Value
1205327142 (Intake MS)	Zinc	0* (75%-125%)

Technical Information

Sample Dilutions

Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Sample 611601001 (Intake) was diluted to ensure that the analyte concentration was within the linear calibration range of the instrument. Per the SOP, sample 611601001 (Intake) was diluted due to internal standard recoveries outside the acceptable control limits.

Analyte	611601
Analyte	001
Antimony	5X
Arsenic	20X
Beryllium	5X
Boron	50X
Cadmium	5X
Chromium	5X
Copper	5X
Lead	5X
Nickel	5X
Selenium	20X
Silver	5X
Thallium	5X
Zinc	20X

<u>Product:</u> Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer <u>Analytical Method:</u> EPA 245.1/245.2 <u>Analytical Procedure:</u> GL-MA-E-010 REV# 39 <u>Analytical Batch:</u> 2401391

Preparation Method: EPA 245.1/245.2 Prep **Preparation Procedure:** GL-MA-E-010 REV# 39 **Preparation Batch:** 2401389

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
611601001	Intake
1205351466	Method Blank (MB)CVAA
1205351467	Laboratory Control Sample (LCS)
1205351470	611601001(Intake L) Serial Dilution (SD)
1205351468	611601001(Intake D) Sample Duplicate (DUP)
1205351469	611601001(Intake S) Matrix Spike (MS)
1205351471	611601001(Intake PS) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS/MSD) Recovery Statement

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte. The post spike also did not meet the required control limits; thus, confirming matrix interferences and/or sample non-homogeneity.

Sample	Analyte	Value
1205351469 (Intake MS)	Mercury	71.1* (75%-125%)

Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the PS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The PS did not meet the recommended quality control acceptance criteria for percent recoveries for all applicable analytes and verifies the presence of matrix interferences.

Sample	Analyte	Value
1205351471 (Intake PS)	Mercury	72.8* (80%-120%)

Technical Information

Holding Time Specifications

GEL assigns holding times based on the associated methodology. Holding time is measured by comparison of the date and time of sample collection to the date and time of sample preparation and analysis. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. Samples (See Below) did not meet the specified holding time requirements. Samples were logged in beyond the required holding time.

Sample	Analyte	Value
1205351468 (Intake DUP)		Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23
		Received 21-FEB-23, within holding, prepped 21-MAR-23, out of holding 20-MAR-23
1205351469 (Intake MS)		Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23
		Received 21-FEB-23, within holding, prepped 21-MAR-23, out of holding 20-MAR-23
1205351470 (Intake SDILT)		Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23
		Received 21-FEB-23, within holding, prepped 21-MAR-23, out of holding 20-MAR-23

1205351471 (Intake PS)	Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23
611601001 (Intake)	Received 21-FEB-23, within holding, analyzed 22-MAR-23, out of holding 20-MAR-23
	Received 21-FEB-23, within holding, prepped 21-MAR-23, out of holding 20-MAR-23

General Chemistry

Product: Carbon, Total Organic Analytical Method: SM 5310 B Analytical Procedure: GL-GC-E-093 REV# 21 Analytical Batch: 2387728

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
611601001	Intake
1205327604	Method Blank (MB)
1205327605	Laboratory Control Sample (LCS)
1205327606	611282002(NonSDG) Sample Duplicate (DUP)
1205327608	611282002(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Total Organic Carbon Average	1205327608 (Non SDG 611282002PS)	54.5* (65%-120%)

Technical Information

Sample Re-analysis

Samples 1205327606 (Non SDG 611282002DUP) and 1205327608 (Non SDG 611282002PS) were reanalyzed due to PS failure. The reanalysis data was reported. The following sample with QC's was re-analyzed to verify matrix interference caused Post Spike failure, however one of the check standards failed on the reanalysis and the spike recovery also failed, therefore the first run results are being reported. 1205327606 (Non SDG

<u>Product:</u> Total Phenols <u>Analytical Method:</u> EPA 420.4 <u>Analytical Procedure:</u> GL-GC-E-102 REV# 10 <u>Analytical Batches:</u> 2384315 and 2384314

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
611601001	Intake
1205321758	Method Blank (MB)
1205321759	Laboratory Control Sample (LCS)
1205321760	610757003(NonSDG) Matrix Spike (MS)
1205321761	610757003(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Re-analysis Sample 1205321759 (LCS) was re-analyzed to verify the result.

Product: Cyanide, Total Analytical Method: EPA 335.4 Analytical Procedure: GL-GC-E-095 REV# 23 Analytical Batch: 2390753

Preparation Method: EPA 335.4 **Preparation Procedure:** GL-GC-E-067 REV# 24 **Preparation Batch:** 2390752

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
611601001	Intake
1205332473	Method Blank (MB)
1205332474	Laboratory Control Sample (LCS)
1205332475	612160012(NonSDG) Sample Duplicate (DUP)
1205332476	612160012(NonSDG) Matrix Spike (MS)
1205332477	612160012(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Re-analysis

Sample 1205332473 (MB) was re-analyzed due to instrument failure. The results from the reanalysis are reported.

Miscellaneous Information

Additional Comments

Sample was missed during the scanning process. The sample was in the analyst's custody at the time of analysis: 611601001 (Intake).

<u>Product:</u> Ion Chromatography <u>Analytical Method:</u> SW846 9056 <u>Analytical Procedure:</u> GL-GC-E-086 REV# 30 <u>Analytical Batch:</u> 2387570

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
611601001	Intake
1205327351	Method Blank (MB)
1205327352	Laboratory Control Sample (LCS)
1205327353	610979003(NonSDG) Sample Duplicate (DUP)
1205327354	610979003(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions

The following samples 1205327353 (Non SDG 610979003DUP), 1205327354 (Non SDG 610979003PS) and 611601001 (Intake) were diluted because target analyte concentrations exceeded the calibration range. Samples 1205327353 (Non SDG 610979003DUP), 1205327354 (Non SDG 610979003PS) and 611601001 (Intake) were diluted to minimize matrix effects on instrument performance. Samples 1205327353 (Non SDG 610979003DUP), 1205327354 (Non SDG 610979003PS) and 611601001 (Intake) were diluted to minimize matrix effects on instrument performance. Samples 1205327353 (Non SDG 610979003DUP), 1205327354 (Non SDG 610979003PS) and 611601001 (Intake) were diluted based on historical data. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	611601
	001

Bromide	200X
Chloride	4000X
Fluoride	50X
Sulfate	200X

Miscellaneous Information

Manual Integrations

Samples 1205327353 (Non SDG 610979003DUP) and 1205327354 (Non SDG 610979003PS) were manually integrated to correctly position the baseline as set in the calibration standards.

<u>Product:</u> Ammonia Nitrogen <u>Analytical Method:</u> EPA 350.1 <u>Analytical Procedure:</u> GL-GC-E-106 REV# 10 <u>Analytical Batch:</u> 2390589

<u>Preparation Method:</u> EPA 350.1 Prep <u>Preparation Procedure:</u> GL-GC-E-072 REV# 18 <u>Preparation Batch:</u> 2390587

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
611601001	Intake
1205332245	Method Blank (MB)
1205332246	Laboratory Control Sample (LCS)
1205332249	611005022(NonSDG) Sample Duplicate (DUP)
1205332250	611005022(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplicate Relative Percent Difference (RPD) Statement

The Relative Percent Difference (RPD) between the sample and duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Analyte	Sample	Value
Nitrogen, Ammonia	1205332249 (Non SDG 611005022DUP)	abs(.1280549)* (+/05 mg/L)

Technical Information

Sample Re-analysis

Samples 1205332245 (MB) and 1205332246 (LCS) were re-analyzed due to instrument failure. The results from the reanalysis are reported. Samples 1205332245 (MB), 1205332246 (LCS), 1205332249 (Non SDG 611005022DUP) and 1205332250 (Non SDG 611005022MS) were re-analyzed due to CCV failure. The reanalysis data with passing instrument QC was reported.

<u>Product:</u> n-Hexane Extractable Material

<u>Analytical Method:</u> EPA 1664A/1664B <u>Analytical Procedure:</u> GL-GC-E-094 REV# 18 <u>Analytical Batch:</u> 2391763

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
611601001	Intake
1205334077	Method Blank (MB)
1205334078	Laboratory Control Sample (LCS)
1205334079	Laboratory Control Sample Duplicate (LCSD)
1205334080	610507001(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Oil and Grease	1205334080 (Non SDG 610507001MS)	76* (78%-114%)

As specified in EPA Method 1664A/1664B, this data is considered rejected if it is being used for Regulatory Reporting. Please contact your PM to establish a recollection, if required. 1205334080 (Non SDG 610507001MS).

Technical Information

Sample Re-analysis

Sample was reanalyzed due to MS failure. The reanalysis data was reported. 1205334080 (Non SDG 610507001MS).

Miscellaneous Information

Additional Comments

Sample had some sediment in the bottom of the container, therefore two speedisks had to be used in order to

filter the whole amount. 1205334080 (Non SDG 610507001MS).

<u>Product:</u> Solids, Total Suspended <u>Analytical Method:</u> SM 2540D <u>Analytical Procedure:</u> GL-GC-E-012 REV# 18 <u>Analytical Batch:</u> 2387645

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
611601001	Intake
1205327458	Method Blank (MB)
1205327459	Laboratory Control Sample (LCS)
1205327460	Laboratory Control Sample Duplicate (LCSD)
1205327461	611553001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments

A reduced aliquot was used due to limited volume. The client did not provide an entire 1 liter aliquot. 1205327461 (Non SDG 611553001DUP).

Product: COD Analytical Method: EPA 410.4 **Analytical Procedure:** GL-GC-E-061 REV# 21 **Analytical Batch:** 2390321

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
611601001	Intake
1205331693	Method Blank (MB)
1205331694	Laboratory Control Sample (LCS)
1205331695	611601001(Intake) Sample Duplicate (DUP)
1205331696	611601001(Intake) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
COD	1205331696 (Intake MS)	24.4* (90%-110%)

Technical Information

Sample Dilutions

The following samples 1205331695 (Intake DUP), 1205331696 (Intake MS) and 611601001 (Intake) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Apolyto	611601
Analyte	001
COD	5X

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Page of	GEL Work Order Number:	洪	0	abo mistry I R GEL	rato adiochem	Laboratories LLC chain of Custody and Analytical Request GEL Project Manger: Katherine Cates	Requ	Specialty lest ine Ca	/ Analyt	C C	1	.9	0	GEL 1 2040 Charle Phone Fax: (GEL Laboratories, LLC 2040 Savage Road Charleston, SC 29407 Phone: (843) 556-8171 Fax: (843) 766-1178	GEL Laboratories, LLC 2040 Savage Road Charleston, SC 29407 Phone: (843) 556-8171 Fax: (843) 766-1178	LLC 07 171 8				
ClictonName: Comprehensive Decommissioning International (CDI)	(CDI)	Phone # (508)830-8184	\$)830-8	84				Sam	ple Ar	nalysi	Sample Analysis Requested ⁽⁵⁾	lested		ill in t	he nur	nber o	f cont	iners	for ea	(Fill in the number of containers for each test)	
Project/Site Name: Pilgrim Station		Fax #				Should this	iis	s.	∀S	VC	IN	٧S		٧S		IN	VS	AR AR	VC	< Preservative Type (6)	
Addes: 600 Rocky Hill Road, Plymouth, Ma 02360						sample be considered:	a :b	Law 1	87												
Coloreted By: Site Chemistry Send Re.	Send Results To: 1.hageman@CDI-decom.com	n@CDI-deco	om.con			رآلا آلا	L ds			6.9940		əbi	LCDD	С	suc	uo		34 	510	Comments Note: extra sample is	
1001 Sample ID * For composites - indicate start and stop date time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code ⁽²⁾	Field Filtered (3)	Sample Matrix ⁽⁴⁾	Radioactive yes, please sur isotopic info.)	ro nwonX (7) possible Haza	Total number	CO SVOC/Pesti	ST	Meta	Суап	5'3'4'8	OT	oinA	Bord	ommA) bns liO		required for sample specific QC	-
Intake	2/20/2023	8:00	Z	N	W	N		19	x x	×	×	×	x	×	×	x x	×	×			
																			$\left \right $		
	3										2										
												1.									
										$\left \right $						+					
										-										245	
									1										-		
Chain of Cu	Chain of Custody Signatures									TAT	TAT Requested:		Normal:	liX		Rush:	S	Specify:			
Relinquished By Signed) Date Time	Received by (signed	ned) Date		Time		Fa	Fax Results: [] Yes	ts: []		[x] No	.0										
D Will 2/20/23 1/00		R	3	10	g	R	Select Deliverable: [] C of A	iverable	e:[]0	CofA	[] QC Summary	C Sum	mary	[] level]		[] Level 2		[] Level 3		[] Level 4	
	7 5					Fo	Additional Remarks: For Lab Receiving Use Only: Custody Seal Intact? [] Yes	Reman	ks: In Use	Only:	Custor	to Sea	Intact	(L] 6		N L J	Cool	Cooler Temn.		٥	
 For sample shipping and delivery details, see Sample Receipt & Review form (SRR.) 	ipt & Review form ((SRR.)				Sample Collection Time Zone: [X] Eastern [] Pacific [] Central	ection 1	Time Z) : aud	X] Eas	tern	[] Pa	cific		ntral	W[]	ountai	[] Mountain [] Other:	Other	1	
 Chain of Custody Number = Client Determined C Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite 	, EB = Equipment Blank	c, MS = Matrix S	spike Sarr	ple, MSD	= Matrix	Spike Duplicate	Sample,	G = Gral	o, C = C	omposit	9										
 Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered. Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, WU=Water, ML=Miquid, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal 	e was field filtered or - N ater, WW=Waste Water	 4 - for sample wa W=Water, ML 	s not field =Misc Lid	filtered. puid, SO=S	Soil, SD=S	Sediment, SL=S	udge, SS	=Solid W	/aste, O	=Oil, F=	Filter, P	=Wipe,	U=Urine	e, F=Fec	al, N=N	asal					
 Sample Analysis Requested: Analytical method requested (i.e. 82608, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1). Deservative Twae: HA = Hydrochloric Acid NI = Nitric Acid SH = Sodium Hydroxide SA = Sulfinic Acid AA = Ascorbic Acid HX = Hexane ST = Sodium Thiosulfate If no meservative is added = leave field blank 	110B/7470A) and numbe num Hvdroxide SA = Su	er of containers p	rovided fo = Ascorbi	or each (i.e c Acid. H7	. 8260B - X = Hexan	3, 6010B/7470. e ST = Sodium	f - 1). Thiosulf	ate If no	Dreserv	ative is	added =	eave fie	ld blank								
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Characteristic Hazards FL = Flammable/Ignitable CO = Corrosive RE = Reactive RE = Reagulated PCB = Polychlorinated biphenyls	Listed Waste LW= Listed Waste (F,K,P and U-listed wastes.) Waste code(s):	aste ted Was d U-lisi de(s):	ed waste	('s;	010 010 Dee	Other Other / Unknown OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:	r / Unka Now pH h hazan n:	l, asber	stos, b	erylliu	n, irrit	ants, o	ther	P 10 28	Please p handliny sample(s etc.)	rovide g and/ s), type	any ao or disp of site	ldition osal co collec	Please provide any additional details below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)	00

					611601								
	GEL Laboratories LLC				SAMPLE RECEIPT & REVIEW FORMET								
Cli				SD	DG/AR/COC/Work Order:								
Rec	Received By: MVH				te Received: D. J. V. DODB								
					Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other								
	Carrier and Tracking Number			-	771350256632-5.0								
				-	771350255978-6771350255614-3								
Sus	pected Hazard Information	Yes	ź	*If	Ket Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.								
					zard Class Shipped: UN#:								
	hipped as a DOT Hazardous?	-			If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No								
	Did the client designate the samples are to be ived as radioactive?		V	CO	XC notation or radioactive stickers on containers equal client designation.								
	Did the RSO classify the samples as pactive?		√	Ma	aximum Net Counts Observed* (Observed Counts - Area Background Counts):CPM/pR/Hr Classified as: Rad 1 Rad 2 Rad 3								
D) I	Did the client designate samples are hazardous?		\checkmark	со	C notation or hazard labels on containers equal client designation.								
E) I	bid the RSO identify possible hazards?		\checkmark	IfC	D or B is yes, select Hazards bolow. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:								
	Sample Receipt Criteria	Yes	NA	1 2	Comments/Qualifiers (Required for Non-Conforming Items)								
1	Shipping containers received intact and scaled?	V	I		Circle Applicable: Seals broken Damaged container Leaking container Other (describe)								
2	Chain of custody documents included with shipment?	\checkmark			Circle Applicable: Client contacted and provided COC COC created upon receipt								
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	V	7	ĺ	Preservation Method Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Colsius TEMP:								
4	Daily check performed and passed on IR temperature gun?	V			Temperature Device Serial #: <u>IR2-21</u> Secondary Temperature Device Serial # (If Applicable):								
5	Sample containers intact and sealed?	V			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)								
	Samples requiring chemical preservation at proper pH?				Sample ID's and Containers Affected. EATURE COACH								
					If Yes, are Encores or Soil Kits present for solids? Yes No NA (If yes, take to VOA Freezer)								
7	Do any samples require Volatile Analysis?			$\overline{\mathbf{v}}$	Do liquid VOA vials contain acid preservation? Yes No NA(If unknown, select No) Are liquid VOA vials free of headspace? Yes No NA Sample ID's and containers affected:								
8	Samples received within holding time?				ID's and tests affected:								
9	Sample ID's on COC match ID's on			-	ID's and containers affected:								
10	bottles? Date & time on COC match date & time		/	_	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)								
	on bottles? Number of containers received match				Circle Applicable: No container count on COC Other (describe)								
11	number indicated on COC? Are sample containers identifiable as												
12	GEL provided by use of GEL labels? COC form is properly signed in				Circle Applicable: Not retinquished Other (describe)								

GL-CHL-SR-001 Rev 7

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 22 March 2023



a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

March 30, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 615639

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 24, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Price & Trent

Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



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Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 615639 GEL Work Order: 615639

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Vie & Trent

Reviewed by

Certificate of Analysis

Address :	HDI, Inc. 1 Holtec Blvd. Camden, New J	ersey 0810)4					R	eport Date: 1	March 30	0, 2023	
Contact:	Laura Hageman										,	
Project:	Pilgrim NPDE	8 Permit N	Iodification									
	Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:		Intake 615639001 Water 23-MAR-23 12:35 24-MAR-23 Client				Projec Client		CDEC0010 CDEC001	7		
Parameter	Qualifier	Result	D	L	RL	Units	PF		DF Analys	t Date	Time	Batch Mtd.
Semi-Volatile-GC/MS												
EPA 625.1 SVOA, Liquid	l "As Received"											
2,4,6-Trichlorophenol 88-06-2	U	ND	2.	.78	9.26	ug/I	0.0009	026	1 EG2	03/29/2	23 2205	24050601
2,4-Dichlorophenol 120-83-2	U	ND	2.	.78	9.26	-	.0.0009		1			
2,4-Dimethylphenol 105-67-9	U	ND	2.	.78	9.26	-	.0.0009		1			
2,4-Dinitrophenol 51-28-5	U	ND	4.	.63	18.5	ug/I	.0.0009	26	1			
2-Chlorophenol 95-57-8	U	ND	2.	.78	9.26	-	.0.009		1			
2-Methyl-4,6-dinitropher 534-52-1	nol U	ND	2.	.78	9.26	-	20.009		1			
2-Nitrophenol 88-75-5	U	ND	2.	.78	9.26	-	20.009		1			
4-Chloro-3-methylpheno 59-50-7	l U	ND		.78	9.26	-	.0.009		1			
4-Nitrophenol 100-02-7	U	ND		.78	9.26	-	.0.009		1			
Pentachlorophenol 87-86-5	U	ND		.78	9.26	-	.0.009		1			
Phenol 108-95-2	U	ND	2.	.78	9.26	ug/I	.0.009	026	1			
The following Prep Meth	ods were perfo	rmed:		_								
Method	Description			A	nalyst	Date		Tim	e Prep Ba	tch		
EPA 625.1	BNA Liq. Prep	-EPA 625	Analysis]	DG3	03/29/	23	1143	3 2405059			
<u>The following Analytical</u> Method	Methods were Description	performed	<u>l:</u>		A	nalyst C	ommer	nts				
1	EPA 625.1					•						
Surrogate/Tracer recover	ry Test				Result		Nomii	nal I	Recovery%	Acce	eptable I	Limits
Nitrobenzene-d5	EPA 625.	1 SVOA, I	Liquid "As Received"		36.1	ug/L	4	46.3	78	(3	9%-112	%)
2-Fluorobiphenyl	EPA 625.	1 SVOA, I	Liquid "As Received"		39.0) ug/L	2	46.3	84	(3	9%-112	%)

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Certificate of Analysis

Report Date: March 30, 2023

Company :	HDI, Inc.
Address :	1 Holtec Blvd.
	Camden, New Jersey 08104
Contact:	Laura Hageman
Project:	D'I
I IUICCI.	Pilgrim NPDES Permit Modification

	Client Sample ID: Sample ID:	Intake 615639001			Proiect: Client ID:	CDEC0010 CDEC001	7
Parameter	Qualifier Result	DL	RL	Units	PF	DF Analys	t Date Time Batch Mtd.
p-Terphenyl-d14	EPA 625.1 SVOA	, Liquid "As Received"	26.	1 ug/L	46.3	56	(24%-129%)
2,4,6-Tribromophenol	EPA 625.1 SVOA	, Liquid "As Received"	75.	9 ug/L	92.6	82	(37%-132%)
Phenol-d5	EPA 625.1 SVOA	, Liquid "As Received"	40.	3 ug/L	92.6	44	(15%-85%)
2-Fluorophenol	EPA 625.1 SVOA	, Liquid "As Received"	45.	1 ug/L	92.6	49	(11%-79%)

Certificate of Analysis

Company Address :	 HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 081 	04				Pa	port Date: March 3	0 2023	
Contact:	Laura Hageman					0, 2023			
Project:	Pilgrim NPDES Permit N	Aodification							
	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector:	TWT A 615639002 Water 23-MAR-23 24-MAR-23 Client	14:00				CDEC00107 CDEC001		
Parameter	Qualifier Result		DL	RL	Units	PF	DF Analyst Date	Time	Batch Mtd.
Flow Injection Analysi	s								
EPA 420.4 Total Pher	ols "As Received"								
Total Phenol	U ND		1.67	5.00	ug/L	1.00	1 AXH3 03/28/	23 0737	24039561
The following Prep M	ethods were performed:								
Method	Description		A	analyst	Date	Time	Prep Batch		
EPA 420.4	EPA 420.4 Phenols, Tota	l in liquid PREP)	ES2	03/27/23	3 1340	2403955		
The following Analyti	cal Methods were performe	<u>d:</u>							
Method	Description				Analyst Cor	nments			_
1	EPA 420.4								

QC	Summary
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Report Date: March 30, 2023

Page 1 of 5

1 Holtec Blvd. Camden, New Jersey **Contact:** Laura Hageman

HDI, Inc.

Workorder: 615639

Parmname	NOM	Sample Qual	QC	Units H	RPD/D%	REC%	Range	Anlst	Date T	ime
Flow Injection Analysis Batch 2403956										
QC1205356496 LCS Total Phenol	50.0		48.0	ug/L		96	(90%-110%)	AXH3	03/28/23	07:36
QC1205356495 MB Total Phenol		U	ND	ug/L					03/28/23	07:35
QC1205356497 615639002 MS Total Phenol	50.0 U	ND	46.2	ug/L		92.3	(90%-110%)		03/28/23	07:38
QC1205356498 615639002 MSD Total Phenol	50.0 U	ND	63.8	ug/L	32.1*	128*	(0%-20%)		03/28/23	07:39
Semi-Volatile-GC/MS Batch 2405060										
QC1205358686 LCS 2,4,6-Trichlorophenol	50.0		40.3	ug/L		81	(50%-127%)	EG2	03/29/23	21:05
2,4-Dichlorophenol	50.0		35.5	ug/L		71	(50%-119%)			
2,4-Dimethylphenol	50.0		28.9	ug/L		58	(46%-99%)			
2,4-Dinitrophenol	50.0		36.6	ug/L		73	(28%-151%)			
2-Chlorophenol	50.0		31.5	ug/L		63	(46%-107%)			
2-Methyl-4,6-dinitrophenol	50.0		44.4	ug/L		89	(42%-149%)			
2-Nitrophenol	50.0		38.3	ug/L		77	(50%-115%)			
4-Chloro-3-methylphenol	50.0		35.9	ug/L		72	(50%-118%)			

QC Summary

Workorder: 615639		\sim	•						
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Page 2 of 5 Date Time
Semi-Volatile-GC/MS Batch 2405060			<u>v</u> c		<u> </u>	<u>KEC 70</u>	Kange	Amst	Date Time
4-Nitrophenol	50.0		18.1	ug/L		36	(21%-110%)	EG2	03/29/23 21:05
Pentachlorophenol	50.0		37.8	ug/L		76	(42%-132%))	
Phenol	50.0		17.3	ug/L		35	(12%-90%))	
**2,4,6-Tribromophenol	100		78.1	ug/L		78	(37%-132%))	
**2-Fluorobiphenyl	50.0		44.1	ug/L		88	(39%-112%))	
**2-Fluorophenol	100		39.3	ug/L		39	(11%-79%))	
**Nitrobenzene-d5	50.0		40.9	ug/L		82	(39%-112%))	
**Phenol-d5	100		29.8	ug/L		30	(15%-85%))	
**p-Terphenyl-d14	50.0		32.8	ug/L		66	(24%-129%))	
QC1205358687 LCSD 2,4,6-Trichlorophenol	50.0		48.2	ug/L	18	96	(0%-28%))	03/29/23 21:35
2,4-Dichlorophenol	50.0		43.5	ug/L	20	87	(0%-30%))	
2,4-Dimethylphenol	50.0		33.3	ug/L	14	67	(0%-30%))	
2,4-Dinitrophenol	50.0		44.3	ug/L	19	89	(0%-30%))	
2-Chlorophenol	50.0		40.1	ug/L	24	80	(0%-30%))	
2-Methyl-4,6-dinitrophenol	50.0		49.4	ug/L	11	99	(0%-30%))	

QC Summary

Workorder: 615639		\sim	•	<i>x</i>					_
									Page 3 of 5
Parmname Semi-Volatile-GC/MS	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Ar	nlst	Date Time
Batch 2405060	50.0		42.2	ug/I	12	96	(00/ 200/)	ECI	02/20/22 21.25
2-Nitrophenol	50.0		43.2	ug/L	. 12	86	(0%-30%)	EG2	03/29/23 21:35
4-Chloro-3-methylphenol	50.0		44.9	ug/L	. 22	90	(0%-30%)		
4-Nitrophenol	50.0		20.4	ug/L	. 12	41	(0%-30%)		
Pentachlorophenol	50.0		41.6	ug/L	. 9	83	(0%-33%)		
Phenol	50.0		19.3	ug/L	. 11	39	(0%-30%)		
**2,4,6-Tribromophenol	100		88.0	ug/L		88	(37%-132%)		
**2-Fluorobiphenyl	50.0		46.1	ug/L		92	(39%-112%)		
**2-Fluorophenol	100		47.4	ug/L		47	(11%-79%)		
**Nitrobenzene-d5	50.0		41.5	ug/L		83	(39%-112%)		
**Phenol-d5	100		34.9	ug/L		35	(15%-85%)		
**p-Terphenyl-d14	50.0		42.4	ug/L		85	(24%-129%)		
QC1205358685 MB 2,4,6-Trichlorophenol		U	ND	ug/L					03/29/23 20:35
2,4-Dichlorophenol		U	ND	ug/L					
2,4-Dimethylphenol		U	ND	ug/L					
2,4-Dinitrophenol		U	ND	ug/L					

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QC Summary

Workorder: 615639		~	-	-					Page 4 of 5
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS Batch 2405060									
2-Chlorophenol		U	ND	ug/L				EG2	03/29/23 20:35
2-Methyl-4,6-dinitrophenol		U	ND	ug/L					
2-Nitrophenol		U	ND	ug/L					
4-Chloro-3-methylphenol		U	ND	ug/L					
4-Nitrophenol		U	ND	ug/L					
Pentachlorophenol		U	ND	ug/L					
Phenol		U	ND	ug/L					
**2,4,6-Tribromophenol	100		79.7	ug/L		80	(37%-132%))	
**2-Fluorobiphenyl	50.0		42.9	ug/L		86	(39%-112%))	
**2-Fluorophenol	100		47.3	ug/L		47	(11%-79%))	
**Nitrobenzene-d5	50.0		39.4	ug/L		79	(39%-112%)	I	
**Phenol-d5	100		32.2	ug/L		32	(15%-85%)	I	
**p-Terphenyl-d14	50.0		37.0	ug/L		74	(24%-129%)	1	

Notes:

The Qualifiers in this report are defined as follows:

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

J Value is estimated

Р Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

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QC Summary

Workor	der: 615639				-					Pag	ge 5 of 5
Parmna	me	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
С	Analyte has been o	confirmed by GC/MS analysis									
В	The target analyte	was detected in the associated	l blank.								
Е	Concentration of the	he target analyte exceeds the i	nstrument calibration	range							
А	The TIC is a suspe	ected aldol-condensation produ	ıct								
Х	Consult Case Narr	ative, Data Summary package	e, or Project Manager c	oncerning	this qualif	ier					
N	on nearest internal	ptive evidence based on mass standard response factor	spectral library search	to make a	tentative i	dentification of	of the analy	e (TIC). Q	uantitatio	on is base	d
Н	•	time was exceeded									
**	Analyte is a surrog	-									
<	Result is less than	•									
>	Result is greater th	-									
h		servation holding time was ex-	ceeded								
R	Sample results are	5									
Z		Particulates passed through the		-	vere observ	ved.					
d		2:1 depletion requirement was									
۸		d duplicate evaluated using +/		are <5X the	e RL. Qua	lifier Not App	olicable for	Radiochem	istry.		
D	Results are reporte	ed from a diluted aliquot of the	e sample								
N/A	RPD or %Recover	y limits do not apply.									
ND	Analyte concentrat	tion is not detected above the	detection limit								
NJ	Consult Case Narr	ative, Data Summary package	e, or Project Manager c	oncerning	this qualif	ier					
Е	General Chemistry	Concentration of the target	analyte exceeds the ins	strument ca	alibration r	ange					
JNX	Non Calibrated Co	ompound									
UJ	Compound cannot	be extracted									
Q	One or more quality	ty control criteria have not bee	en met. Refer to the ap	plicable na	arrative or 1	DER.					
N1	See case narrative										
Y	QC Samples were	not spiked with this compoun	d								
R	purposes.	of Method 1664 Revision B,	-	-			-			-	
Ν	internal standard re	-	•			-		-			
e	reporting purposes		% difference between h	nigh and lo	w values.	The data is qu	alified per t	he method	and can b	e used fo	r
J	See case narrative	for an explanation									

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 615639

GC/MS Semivolatile

<u>Product:</u> Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry <u>Analytical Method:</u> EPA 625.1 <u>Analytical Procedure:</u> GL-OA-E-009 REV# 46 <u>Analytical Batch:</u> 2405060

Preparation Method: EPA 625.1 **Preparation Procedure:** GL-OA-E-013 REV# 35 **Preparation Batch:** 2405059

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
615639001	Intake
1205358685	Method Blank (MB)
1205358686	Laboratory Control Sample (LCS)
1205358687	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Laboratory Control Sample Duplicate (LCSD)

An LCSD was used in place of matrix QC due to limited sample volume.

Miscellaneous Information

Additional Comments

Diphenylamine Statement

Diphenylamine has superseded the reporting of N-Nitroso-diphenylamine. As per the EPA,

N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine. Studies of these two compounds at GEL, both independent of each other and together, showed that they not only co-elute, but also have similar mass spectra. N-Nitroso-diphenylamine and Diphenylamine are therefore reported as Diphenylamine on all reports and forms.

General Chemistry

Product: Total Phenols Analytical Method: EPA 420.4

Analytical Procedure: GL-GC-E-102 REV# 10 Analytical Batches: 2403956 and 2403955

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
615639002	TWT A
1205356495	Method Blank (MB)
1205356496	Laboratory Control Sample (LCS)
1205356497	615639002(TWT A) Matrix Spike (MS)
1205356498	615639002(TWT A) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Total Phenol	1205356498 (TWT AMSD)	128* (90%-110%)

MS/MSD Relative Percent Difference (RPD) Statement

The Relative Percent Difference (RPD) between the spike and spike duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Sample	Analyte	Value
1205356497MS and 1205356498MSD (TWT A)	Total Phenol	32.1* (0%-20%)

<u>Certification Statement</u>

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Paged of Drawed and Dr	Ц Ц Ц	I ahc	ratc	oratoriesuic		PE01210,	(0)	5	GEL 2040	GEL Laboratories, LLC 2040 Savage Road	ries, LLC toad				
GEPQuote #:	gel.com Chain	of Custor	Radiochen	percent Chemistry Hadiochemistry (Radiobioassay Specially Analytics Chain of Curstrody and Analyticsal Regulact		Analytics)		Charl	Charleston, SC 29407 Phone: (843) 556-8171	29407				
PO@umber: EPA-SUB GEL Work Order Number:		CEL	Project	GEL Project Manager: Katherine Cates	therine Cat	Sa			Fax: (Fax: (843) 766-1178	-1178				
Client Name: Comprehensive Decommissioning International (CDI)	Phone # (508)830-8184	830-8184			Sa	Sample Analysis Requested (5)	alysis Re	quested		n the nu	mber of	contain	ers for e	(Fill in the number of containers for each test))
Project/Site Name: Pilgrim Station	Fax #			Should this	s	¥S								1	< Preservative Type (6)
Adocess: 600 Rocky Hill Road, Plymouth, Ma 02360				sample be considered:											
Coldected By: Site Chemistry Send Results To: I.h	Send Results To: I.hageman@CDI-decom.com	n.com				slor	C							No	Comments Note: extra sample is
Sample ID *For composites - indicate start and stop date/time (mm-4d-3y)	*Time Collected (Military) (hhmm)	QC Field Code ⁽³⁾ Filtered ⁽³⁾	3) Matrix ⁽⁴⁾	Radioactive yes, please sur isotopic info.) (7) Known or	possible Haza Total number	Ърег	DAS							IG	required for sample specific QC
	12:35	NN	M	N	2		X								
TWT A 3/2	3/23/2023 14:00	Z Z	M	Y	1	×									
													53		
		and the second					and the second			1000	121				
											-				
Chain of Custody Signatures	natures					T	TAT Requested:		Normal:	Rı	Rush:	X_Spe	Specify:		
Relinduistication (Surged) Date Time Receive	Received by (signed) Date	F.		1	Fax Results: [] Yes	Yes [x	[x] No								
THORY CHERTE AN IN	170-31	24123	0	5	Select Deliverable: [] C of A [] QC Summary	e: [] C of	A []Q	C Summa	ry []level1		[] Level 2		[] Level 3	[] Level 4	14
2 2 3				For	Additional Remarks: For Lab Receiving Use Only: Custody Seal Intact? [] Yes	ks: ug Use On	ly: Custo	dv Seal In	tact? []		[] No C	Cooler Temp:	:du	ŝ	
> For sample shipping and delivery details, see Sample Receipt & Review form (SRR)	w form (SRR.)			Sample Collection Time Zone: [X] Eastern [] Pacific [] Central	ction Time Z	ne: [X]	Eastern	[] Pacifi	c []C	1000.00	[] Mou	[] Mountain [] Other:] Other		
 Chain of Custody Number = Client Determined Chain of Custody Number = Client Determined P(Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite P(eld Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered. 	ent Blank, MS = Matrix Spik red or - N - for sample was no	e Sample, MSD t field filtered.	= Matrix Sp	ike Duplicate Sam	ple, G = Grab, C	= Composite	۵								
 Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Sufface Water, WW=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1). Preservative FIVE: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfaric Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank. 	ste Water, W=Water, ML=Mi nd number of containers provi SA = Sulfuric Acid, AA = A	isc Liquid, SO=5 ided for each (i. e scorbic Acid, HD	ioil, SD=See 8260B - 3, 4 = Hexane,	D=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Unn. (i.e. 8260B - 3, 6010B/7470A - 1). HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank	, SS=Solid Wast). Sulfate, If no pre	e, O=Oil, F= servative is a	=Filter, P =W added = leav	ipe, U=Urin e field blank	e, F=Fecal,	N=Nasal					
7.) KNOWN OR POSSIBLE HAZARDS Characteristic Hazards 7.) KCRA Metals Characteristic Hazards RCRA Metals FL = Flammable/Ignitable RCRA Metals CO = Corrosive As = Arsenic Hg= Mercury Ba = Barium See Selenium Cd = Cadmium Ag= Silver Cr = Chromium MR= Mise. RCRA metals Pb = Lead biphenyls	table Listed Waste (F, K, P and U-listee Waste code(s): ed	Listed Waste LW= Listed Waste (F,K,P and U-listed wa Waste code(s):	wastes.)	Other OT= C fi.e.: H misc. h Descri	Other OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:	nown I, asbestos rds, etc.)	s, berylliu	n, irritant	s, other	Ple san	ndling an mple(s), 1	ide any ide any of si	addition posal co te collec	al details mcerns. sted from.	Please provide any additional details below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)

Laboratories LLC			SAM	PLE RECEIPT & REVIEW FORM
ient: CDEC		SI	GAR/C	OCAVork Order: $(215/0.54)$
eccived By: AA + GA		D	ate Rece	ived: 3/24/23 Circle Applicable:
Carrier and Tracking Number				FO (Fedex Express) FedEx Ground UPS Field Services County Units
inspected Hazard Information	ទ			unts > 100cpm on samples not marked "nulloactive", contact the Rudiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?	4			iss Shipped: UN#: 2910 If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
B) Did the client designate the samples are to be received as radioactive?		_		tion or radioactive stickers on containers equal client designation. I Net Counts Observed* (Observed Counts - Area Background Counts): Cheefied as: Rad 1 DRad 2 Rad 3
C) Did the RSO classify the samples as radioactive?				
D) Did the client designate samples are hazardous?			16D or E	ntion or hazard labels on containors equal client designation. Is yes, sciect Hazards below. 28's Flammable Foreign Soil RCRA Asbastos Beryllium Other:
E) Did the RSO identify possible hazards?		Ľ	<u></u>	2
Sample Receipt Criteria	KC.	12 No.	2 Cire	Comments/Quarters (conjunct (conjunct) Re Applicuble: Seals broken Damaged conjunct Leaking conjunct Other (describe)
1 Shipping containers received intact and scaled?	4			te Applicable: Client contacted and provided COC COC created upon receipt
2 Chain of custody documents included with shipment?	ľ		Pre	servation Method: Wet los Ree Packs Dry ice None Other: TEMP: 2°
3 Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?*	ľ			1 Cash 1 182-23
Daily check performed and passed on IR temperature gun?	1			mperature Device Solution,
5 Sample containers intact and sealed?	V		Si Si	imple 1D's and Containers Affected;
6 Samples requiring chemical preservation at proper pH?	ין 	1	11 11	Preservation added, 1.ot/f: Yes, are Encores or Soil Kits present for solids? Yes No NA (If yes, take to VOA Freezer) No NA (If unknown, select No)
Do any samples require Volatile 7 Analysis?		1999 1997 1997 1997 1997 1997 1997 1997	劉上	Yes, are Encores or Soil Kits present for solids? Yes No NA(If unknown, select No) Do liquid VOA vials contain acid preservation? Yes No NA(If unknown, select No) are liquid VOA vials free of headspace? Yes No NA arapple ID's and containers affected:
		Å		D's and tests affected:
8 Samples received within holding time?			藏——	D's and containers affected:
9 Sample ID's on COC match ID's on 9 bottles?			≊	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10 Date & time on COC match date & tim 10 on bottles?	_	\square		Circle Applicable: No container count on COC Other (describe)
Image: Image and the second				
Are sample containers identifiable as 12 Are sample containers identifiable as GEL provided by use of GEL labels? COC form is properly signed in 13 COC form is properly signed in				Circle Applicable: Not relinquished Other (describe)
13 COC form is property and sections? Comments (Use Continuation Form if needed)):		<u></u>	
				initials Dute 32423 Page GL-CHL-SR-001
PM ((or P	MA)	review: In	initials DHIO GL-CHL-SR-001

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 30 March 2023



a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

March 30, 2023

Laura Hageman HDI, Inc. 1 Holtec Blvd. Camden, New Jersey 08104

Re: Pilgrim NPDES Permit Modification Work Order: 615647

Dear Laura Hageman:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 21, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Price & Trent

Erin Trent Project Manager

Purchase Order: 98000918 Enclosures



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Certificate of Analysis Report for

CDEC001 Holtec Decommissioning International, LLC

Client SDG: 615647 GEL Work Order: 615647

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- h Preparation or preservation holding time was exceeded

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Vie & Trent

Reviewed by

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Compar Address	ny : HDI, Inc. s : 1 Holtec Blvd. Camden, New J	ersey 0810)4				F	Report Date: 1	March 3() 2023	
Contact	: Laura Hageman	L					1	teport Dute.	viaren 50	, 2025	
Project	e		Iodification								
	Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:		Intake 615647001 Water 20-FEB-23 08 21-FEB-23 Client	3:00			Proiect: Client ID:	CDEC0010 CDEC001)7		
Parameter	Qualifier	Result		DL	RL	Units	PF	DF Analys	t Date	Time	Batch Mtd.
Semi-Volatiles-PCB											
EPA 608.3 PCB, Li	quid (SPE) "As Recei	ved"									
Aroclor-1016 12674-11-2	hU	ND		0.0309	0.0928	ug/L	0.000928	1 YS1	03/29/2	23 1724	24050701
Aroclor-1221 11104-28-2	hU	ND		0.0309	0.0928	ug/L	0.000928	1			
Aroclor-1232 11141-16-5	hU	ND		0.0309	0.0928	ug/L	0.000928	1			
Aroclor-1242 53469-21-9	hU	ND		0.0309	0.0928	ug/L	0.000928	1			
Aroclor-1248 12672-29-6	hJ	0.0455		0.0309	0.0928	ug/L	0.000928	1			
Aroclor-1254 11097-69-1	hU	ND		0.0309	0.0928	ug/L	.0.000928	1			
Aroclor-1260 11096-82-5	hU	ND		0.0309	0.0928	ug/L	.0.000928	1			
Aroclor-Total PCBTOT	hJ	0.0455		0.0309	0.0928	ug/L	.0.000928	1			
The following Prep	Methods were perfo	rmed:									
Method	Description				Analyst	Date	Tim	e Prep Ba	tch		
EPA 608.3	EPA 608.3 PC	B Prep Liq	uid (SPE)		JM12	03/29/	23 100	0 2405069)		
The following Anal	ytical Methods were	performed	<u>l:</u>								
Method	Description					Analyst C	omments				
1	EPA 608.3										
Surrogate/Tracer re	covery Test				Result		Nominal	Recovery%	Acce	ptable l	Limits
Decachlorobiphenyl	EPA 608 Received		quid (SPE) "As		0.1	83 ug/L	0.186	99	(3	8%-133	%)
4cmx	EPA 608 Received		quid (SPE) "As		0.1	07 ug/L	0.186	57	(3	3%-109	%)

QC	Summary
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Report Date: March 30, 2023

Page 1 of 3

	HDI, Inc.
	1 Holtec Blvd.
	Camden, New Jersey
Contact:	Laura Hageman

Workorder: 615647

Parmname	NOM	Sample Qual	QC	Units R	RPD/D% REC%	Range	Anlst	Date Time
Semi-Volatiles-PCB Batch 2405070								
QC1205358695 LC Aroclor-1016	2S 1.00		0.696	ug/L	70	(50%-101%)	YS1	03/29/23 17:13
Aroclor-1260	1.00		0.750	ug/L	75	(46%-108%)		
**4cmx	0.200		0.116	ug/L	58	(33%-109%)		
**Decachlorobiphenyl	0.200		0.172	ug/L	86	(38%-133%)		
QC1205358694 MH Aroclor-1016	В	U	ND	ug/L				03/29/23 17:02
Aroclor-1221		U	ND	ug/L				
Aroclor-1232		U	ND	ug/L				
Aroclor-1242		U	ND	ug/L				
Aroclor-1248		U	ND	ug/L				
Aroclor-1254		U	ND	ug/L				
Aroclor-1260		U	ND	ug/L				
Aroclor-Total		U	ND	ug/L				
**4cmx	0.200		0.112	ug/L	56	(33%-109%)		

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QC Summary

Workorder: 615647									Page 2 of 3
Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Semi-Volatiles-PCB Batch 2405070									
**Decachlorobiphenyl	0.200		0.156	ug/L		78	(38%-133%)	YS1	03/29/23 17:02
QC1205358696 615835001 MS Aroclor-1016	1.00 U	ND	0.720	ug/L		72	(32%-112%)		03/29/23 18:10
Aroclor-1260	1.00 U	ND	0.823	ug/L		82	(32%-126%)		
**4cmx	0.200	0.119	0.123	ug/L		62	(33%-109%)		
**Decachlorobiphenyl	0.200	0.193	0.195	ug/L		98	(38%-133%)		
QC1205358697 615835001 MSD Aroclor-1016	1.00 U	ND	0.696	ug/L	3	70	(0%-27%)		03/29/23 18:22
Aroclor-1260	1.00 U	ND	0.782	ug/L	5	78	(0%-29%)		
**4cmx	0.200	0.119	0.119	ug/L		59	(33%-109%)		
**Decachlorobiphenyl	0.200	0.193	0.184	ug/L		92	(38%-133%)		

Notes:

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- C Analyte has been confirmed by GC/MS analysis
- B The target analyte was detected in the associated blank.
- E Concentration of the target analyte exceeds the instrument calibration range
- A The TIC is a suspected aldol-condensation product
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

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QC Summary

					~								
Workor	der: 615647	1										Page	e 3 of 3
Parmnar	ne		NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Н	Analytical hold	ing time was exc	ceeded										
**	Analyte is a sur	rogate compoun	d										
<	Result is less th	an value reported	d										
>	Result is greate	r than value repo	orted										
h	Preparation or p	preservation hold	ling time was ex	ceeded									
R	Sample results	are rejected											
^	RPD of sample	and duplicate ev	valuated using +	-RL. Conce	entrations a	re <5X the	RL. Qual	lifier Not App	licable for I	Radiochemi	istry.		
D	Results are repo	orted from a dilut	ted aliquot of th	e sample									
N/A	RPD or %Reco	very limits do no	ot apply.										
ND	Analyte concen	tration is not det	ected above the	detection lin	nit								
NJ	Consult Case N	larrative, Data Su	ummary packag	e, or Project	Manager c	oncerning	his qualifi	er					
JNX	Non Calibrated	Compound											
UJ	Compound can	not be extracted											
Q	One or more qu	ality control crit	eria have not be	en met. Refe	r to the ap	plicable na	rative or I	DER.					
N1	See case narrati	ive											
Y	QC Samples we	ere not spiked wi	th this compour	nd									
Ν	•	idence based on d response factor	•	brary search	to make a	tentative id	entificatio	n of the analy	te (TIC). Q	uantitation	is based o	on neares	t
J		ive for an explan											
^ The Re	elative Percent D	recovery limits of Difference (RPD)	obtained from	the sample d	uplicate (I	OUP) is eva	luated aga	ainst the accept	otance criter	ia when the	e sample is	s greater	

five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications. For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the

requirements of the NELAC standard unless qualified on the QC Summary.

GC Semivolatile PCB Technical Case Narrative Holtec Decommissioning International, LLC SDG #: 615647

<u>Product:</u> Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD <u>Analytical Method:</u> EPA 608.3 <u>Analytical Procedure:</u> GL-OA-E-040 REV# 25 <u>Analytical Batch:</u> 2405070

Preparation Method: EPA 608.3 **Preparation Procedure:** GL-OA-E-070 REV# 11 **Preparation Batch:** 2405069

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
615647001	Intake
1205358694	Method Blank (MB)
1205358695	Laboratory Control Sample (LCS)
1205358696	615835001(NonSDG) Matrix Spike (MS)
1205358697	615835001(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Time Specifications

Sample (See Below) was logged for PCB analysis after holding time expired. The data were reported with proper qualifier.

Sample	Analyte	Value
615647001 (Intake)		Logged 24-MAR-23, out of holding 27-FEB-23

Preparation/Analytical Method Verification

All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Miscellaneous Information

Additional Comments

The column 1 has been chosen as the primary column. The data are reported from the column 1 for all samples in this batch.

<u>Certification Statement</u>

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Page of Propert #	GEL Work Order Number:		o	abo mistry IR ustody	rato and multiple	Laboratories LLC chain of Custody and Analytical Request GEL Project Manager: Katherine Cates	LC oassay Requ	Specialt Lest <i>ine Cu</i>	y Analyt	c (C		.9	20	GEL 1 2040 Charle Phone Fax: (GEL Laboratories, 2040 Savage Road Charleston, SC 292 Phone: (843) 556-8 Fax: (843) 766-117	GEL Laboratories, LLC 2040 Savage Road Charleston, SC 29407 Phone: (843) 556-8171 Fax: (843) 766-1178	LLC 107 1171 8				1
Client Name: Comprehensive Decommissioning International (CDI)	ational (CDI)	Phone # (508)830-8184	3)830-8	184				Sam	ple A	nalysi	Sample Analysis Requested (5)	lested		ill in t	he nur	nber o	of cont	ainers	for ea	(Fill in the number of containers for each test)	
Project/Site Name: Pilgrim Station		Fax #				Should this	his	s.	v 5	∀S	IN	VS		٧S		IN	VS	AH	٧S	< Preservative Type (6)	
Addess: 600 Rocky Hill Road, Plymouth, Ma 02360						sample be considered:	be ed:	Law 1	8.2				3					6			
Colfected By: Site Chemistry Se	Send Results To: 1.hageman@CDI-decom.com	m@CDI-dec	om.con			bbly (If	sp.u			0.000		əpii	LCDD	Э	suc	uo	sino	70 10	SIO	Comments Note: extra sample is	
249 Sample ID * For composites - indicate start and stop date time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code ⁽²⁾	Field Filtered (3)	Sample Matrix ⁽⁴⁾	Radioactive yes, please sur isotopic info.)	ro nwonX (7) psseH əldizzoq	Total number	CO SVOC/Pesti	ST	Meta	Суап	5'3'4'8	OT	oinA	Bore	ommA) bns liO	uəqə	required for sample specific QC	
Intake	2/20/2023	8:00	Z	Ν	W	N		19	x x	×	×	×	x	×	×	x	×	×			
				10 M																	
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									$\left \right $										$\left \right $		
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			1																		
	Chain of Custody Signatures									LAT	TAT Requested:		Normal:	II: X		Rush:	8	Specify:			
Relinquined By Signed) Date Time	Received by (signed	med Date	· R	Time	X	H Fa	Fax Results: [] Yes	ts: []	Yes	[x] No	0	5							-		
and and a contract of			3	5	Į	2	Additional Pamarks	l Pama	C. L. J.	N IO		line o	mary			Tevel 2		c laval []	vel o	[] Level 4	
3 1	1 m		C. Street of Control o	Contraction of the second	開発される日本の	FC	For Lab Receiving Use Only: Custody Seal Intact? [] Yes	Receivin	ng Use	Only:	Custo	dy Sea	I Intact	[]]	es [[] No	Cool	Cooler Temp:	:di	л.	
> For sample shipping and delivery details, see Sample Receipt & Review Jorm (SRR.) 1.) Chain of Custody Number = Client Determined 2.) Of Codes: N = Normal Sample TB = Tria Black FD = Field Durlicede FB = Faultiment Black MS = Matrix Sales Sample MSD = Matrix Sales Sample MSD = Matrix Sales Sample Ge (Section Codes)	e Receipt & Review form	(SRR.) Matrix (inite Sam	MSD alm	= Matrix	Sumple Collection 1 the Zone : [X] Eastern [] Pacific [] Central Sule Dudicate Samule G = Grah C = Connosite	Cample Sample	Lime Z	one:	X] Eas	stern	La la	cific		ntral		lounta	[] Mountain [] Other:	Othe	H	
 Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered. 	the sample was field filtered or - I	N - for sample wa	s not field	l filtered.			Siding:	5	2	readino	z										
 Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, WU=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Fitter, P=Wipe, U=Urine, F=Fecal, N=Nasal Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1). 	urface Water, WW=Waste Wate 260B, 6010B/7470A) and numb	r, W=Water, ML er of containers p	=Misc Lie rovided fi	quid, SO=9 or each (i.e	Soil, SD=S s. 8260B -	sediment, SL=S 3, 6010B/7470	lludge, SS A - 1).	=Solid V	Vaste, O	=0il, F	Filter, P	'=Wipe,	U=Urine	e, F=Fec	al, N=N	asal					
= Nitric Ac	H = Sodium Hydroxide, SA = St	Ifuric Acid, AA	= Ascorbi	c Acid, H	X = Hexan	ie, ST = Sodiun	n Thiosul	fate, If nc	preserv	ative is	added =	leave fie	eld blank		ľ						
7) ANUWN UK FUSSIBLE HALAKUS CD RCRA Metals FL RCRA Metals FL As = Arsenic Hg= Mercury As = Barium Se= Selenium Cd = Cadmium Ag= Silver Cd = Cadmium MR= Misc. RCRA metals Pb = Lead PC	Characteristic Hazards FL = Flammable/Ignitable CO = Corrosive RE = Reactive TSCA Regulated PCB = Polychlorinated biphenyls	Lusted waste LW= Listed Waste (F,K,P and U-listed wastes.) Waste code(s):	aste ted Was <i>de(s):</i>	ite ed waste		000 <u>1</u> <u>1</u>	Other / Unknown OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:	r / Unk /low pH th haza n:	nown I, asbe rds, etc	L stos, b	erylliu	n, irrii	ants, o	ther	444	Please place plac	orovid g and s), typ	or disp or disp e of site	ddition osal c colle	Please provide any additional details below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)	

					611601
	GEL Laboratories LLC				SAMPLE RECEIPT & REVIEW FORME
Clien	CDFC			SE	DC/AR/COC/Work Order:
Recei	ved By: MVH			1	ate Received D: 2023
					Circle Applicable: FodEx Express FedEx Ground UPS Field Services Courier Other
C	Carrier and Tracking Number				771350256632-5.0
	••••			-	1320255978-677135025614-3
Suspec	cted Hazard Information	Yes	v	*If	f Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Ship	oped as a DOT Hazardous?		v	Ha	zard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
	the client designate the samples are to be as radioactive?		V	CC	C notation or radioactive stickers on containers equal client designation.
C) Did radioac	the RSO classify the samples as tive?		~	Ma	aximum Net Counts Observed* (Observed Counts - Area Background Counts):CPM/DrR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did	the client designate samples are hazardous?		\	800	C notation or hazard labels on containers equal client designation.
E) Did	the RSO identify possible hazards?		\checkmark		D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
	Sample Receipt Criteria	Yes	NA	1 2	Comments/Qualifiers (Required for Non-Conforming Items)
	hipping containers received intact and calcd?	V			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
	hain of custody documents included ith shipment?	\checkmark			Circle Applicable: Client contacted and provided COC COC created upon receipt
	amples requiring cold preservation ($0 \le 6$ deg. C)?*	V			Preservation Method Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:
	aily check performed and passed on IR mperature gun?	V		/	Temperature Device Serial #: <u>IR2-21</u> Secondary Temperature Device Serial # (If Applicable):
5 St	ample containers intact and sealed?	V	•		Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
	amples requiring chemical preservation proper pH?				Sample ID's and Containers Affected EAAAASe Mach
7	Do any samplos require Volatile Analysis?			V	If Yes, are Encores or Soil Kits present for solids? YesNoNA(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? YesNoNA(If unknown, select No) Are liquid VOA vials free of headspace? YesNoNA Sample ID's and containers affected:
8 Sa	amples received within holding time?	V			ID's and tests affected:
	ample ID's on COC match ID's on ottles?	~			ID's and containers affected:
	ate & time on COC match date & time 1 bottles?	\checkmark			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11 11	umber of containers received match mber indicated on COC?	V			Circle Applicable: No container count on COC Other (describe)
14 GI	re sample containers identifiable as EL provided by use of GEL labels? OC form is properly signed in	$\overline{\mathbf{A}}$			Circle Applicables - Not plinguided - Other (1 - ")
13	linquished/received sections?				Circle Applicable: Not refinquished Other (describe)

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 30 March 2023