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ENVIRONMENT

Subject:
Groundwater Investigation Report and Proposed RAS Expansion Plan
General Electric Company Hickory Facility
EPA ID# - NCD003237948
Conover, North Carolina

Date:
July 22, 2021

Contact:
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Our ref:
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Dear Ms. Bari:

This letter has been prepared by Arcadis G&M of North Carolina, Inc. (Arcadis) on behalf of the General Electric Company (GE) to provide details of the recent voluntary groundwater investigative activities conducted at GE's Hickory facility in Conover, North Carolina (the Site, **Figure 1**). The activities were conducted to further evaluate the distribution of dissolved volatile organic compounds (VOCs) in groundwater at the Site that may be discharging to the unnamed creek on the western boundary of the Site (western creek). The objective of the investigation was to identify areas of higher mass distribution to support an expansion to the groundwater remedial action system (RAS), namely, the design of additional extraction wells. Design details and a plan for installation of additional extraction wells is also provided.

Elevated VOC concentrations in surface water downgradient of recovery wells installed in 2010 (R-21, R-22, and R-23) suggests insufficient volatile organic compounds (VOC) plume capture in that area of the Site. The 2010 expansion recovery wells have limited productivity and are also spaced further apart than the remaining recovery well network (R-1 through R-19). Therefore, additional recovery wells in that area are proposed to reduce VOC flux into the stream.

A pre-design investigation was completed between January and March of 2021 for preliminary plume definition to select locations and screen intervals for additional wells along the northern portion of western creek. Residuum/saprolite investigation activities were completed between January and February 2021 using a

combination of direct-push technology (DPT) Geoprobe® screen-point sampling and solid-stem auger drilling for the installation of temporary-wells to characterize discrete depth intervals in unconsolidated material and partially weathered rock (PWR). Packer-testing investigation activities were completed in March 2021 to characterize discrete depth intervals in competent bedrock. Supplemental surface water sampling and existing-recovery well sampling was also conducted in January 2021 to correlate current surface water conditions with the groundwater profiling data. **Figure 2** presents the groundwater locations, recovery wells, and surface water locations sampled during investigation activities.

Analytical results and hydrogeologic characterization were used to identify the lateral and vertical extent of the additional proposed recovery points. Drilling, sampling, and evaluation activities are described further below.

Sealed-Screen and Temporary Well Drilling and Sampling Activities

Groundwater sampling and soil-logging activities occurred between January and February 2021 at eleven (11) locations HP-01A and HP-01 through HP-10. The HP locations were hand-cleared to 5 feet (ft) below ground surface (bgs) using a hand auger before being advanced using a combination of DPT and auger drilling methods.

DPT groundwater sampling included the advancement of a sealed-screen sampler (Geoprobe Screen Point 16 Water Sampler). Upon advancing the sealed-screen sampler to the target sampling depth, a protective outer rod-casing was retracted, exposing the 4-foot screen to groundwater. Groundwater was then purged using a stainless-steel check-valve and tubing combination for each sample interval; new tubing was used and the check valve was properly decontaminated between each sample interval. Sealed-screen groundwater samples were collected in consecutive 4-foot intervals spanning from the water-table to DPT termination depth.

DPT drilling activities also included split-spoon soil characterization using a Geoprobe MC5 soil sampler. Split spoon soil-cores were collected and logged for lithologic characterization; noting the color, grainsize, moisture content, etc. Each location was slightly offset between paired sealed-screen locations and lithologic characterization (split-spoon) locations.

All reusable sampling/logging drilling equipment was decontaminated between locations using a combination of steam-cleaning and brushing.

During initial DPT logging and sealed-screen sampling activities, it was noted that DPT termination depths were shallower than the expected PWR and bedrock interface due to the limitation of DPT to unconsolidated soils and very-soft rock. DPT refusal was interpreted as a distinct interface/transition from highly weathered-unconsolidated material (residuum) into PWR.

Each HP location was re-drilled/widened using a four (4) inch solid-stem auger. All HP locations (with the exception of HP-04) were advanced an additional 5-15 ft beyond DPT termination. Termination depth of auger drilling is interpreted as the interface between PWR and competent bedrock. This zone, between DPT and auger terminations, represents the extent of the interpreted PWR. Upon the advancement of augers at each HP location to refusal, the entire auger-string was removed to gain access to the bottom of the borehole and then a temporary 1-inch well was placed, spanning the depth of the PWR. Each 1-inch well was completed using slotted-screen PVC and a combination of traditional sand-filter pack spanning

the length of screen. The remaining column was filled with bentonite and then grouted to ground surface. Temporary wells were developed and sampled the following week using a tubing and check valve assembly with both manual/hand surging and use of a Waterra pump.

The interpreted hydrogeologic zones and drilling approach used to collect samples from the residuum and PWR are presented in **Table 1**, along with their respective extent- and sampling-depth intervals. Soil boring and groundwater sampling logs are contained in **Attachments 1** and **2**, respectively. All samples were submitted for the analysis of select-list VOCs by Environmental Protection Agency (EPA) Method 8260. The most current version of each analytical method was used.

Bedrock Drilling and Packer-Testing Sampling Activities

In March 2021, three (3) bedrock drilling locations BR-01 through BR-03 were advanced using a combination for hollow-stem auger and air-rotary methods to a termination depth of 100 ft, to assess groundwater concentrations flowing through fractures in shallow bedrock. Each location was initially advanced using an 8.25” inner diameter hollow-stem auger to refusal and drilled with 8” air hammer until competent rock was encountered and would sufficiently seat the surface-casing. A PVC surface-casing was placed and grouted and allowed time to cure for at least 24 hours. Each boring was then advanced to a target depth of 100 ft using air-rotary. The well casing, when installed was grouted in place and extended at least 2.5 ft above the ground-surface.

Competent rock was encountered at BR-02 and BR-03 between 36-39 ft, respectively, which was consistent with the interpreted depth to bedrock observed at nearby HP locations. At BR-01, however, material from 30-36 ft bgs was competent (hard) rock. Below that was a deeper, discrete zone of partially weathered (soft) rock encountered between 36-56 ft bgs. Competent bedrock was again encountered at 56 ft bgs and a surface-casing was set at 58 ft bgs. Due to the zone of PWR observed at BR-01, the surface casing was set nearly 20 ft deeper than the other two locations, BR-02 and BR-03.

A downhole camera was utilized to identify apparent-fractures (at depth) at each bedrock location, however, a limited number of fractures were observed. Those that were observed were generally (either) high-angle or horizontal features, potentially-transmissive fractures. The depth and occurrence of features/fractures were noted during downhole camera review. The frequency of observed fractures (or lack thereof) would govern water entering the borehole in competent rock. There were some notable correlations between particular fracture zones and packer test intervals with adequate recharge, meaning that during packer testing, a particular interval produced sufficient water to allow for a three packer interval purge without going dry. Notably, intervals showing good recharge in BR-01 and BR-03 correlated with the observed features and fractures at depth; this was less so in BR-02.

The week following drilling and casing installation activities, samples were collected from bedrock locations using a dual-packer assembly from consecutive/discrete-intervals in bedrock down to 100 ft bgs. Each packer testing interval (between the inflated packers) was about 20 ft; with the exception of the 36-60 foot interval from BR-03. A stainless-steel submersible pump was used to purge each interval of three (3) packer-interval volumes, or until the packer interval was purged dry, whichever occurred first. During purging activities, sufficient continuous flow rates were achieved to allow for a 3-volume purge between BR-01 packer intervals 60-80 and 80-100 ft bgs, BR-02 packer interval 60-80 ft bgs, and BR-03 packer interval 80-100 ft bgs, suggesting productive fracture-flow within these intervals. Packer testing interval for BR-02 from 39-59 ft bgs had little to no recharge and an insufficient amount of water for sample collection.

The remaining packer intervals (BR-02 packer interval 80-100 ft bgs, BR-03 packer intervals 36 – 60 and 60 – 80 ft bgs) were purged dry during packer testing procedures and were sampled following recharge of the test interval.

Reusable drilling and packer testing equipment was decontaminated between locations using a combination of steam cleaning and brushing.

Hydrogeologic depth regimes (the interface between PWR and bedrock) for BR-01 through BR-03 are presented in **Table 2**, along with sample/packer depth intervals, and notable commentary regarding construction, flow, and fractures. Packer testing sampling logs are included in **Attachment 3**. All samples were submitted for the analysis of select-list VOCs by EPA Method 8260.

Sealed-Screen and Temporary Well Hydrogeology and Results

Hydrogeologic zones observed at each location indicated a graded sequence/transition from residuum, to PWR, to BR. The hydrogeologic sequence observed at HP locations HP-01A and HP-01 through HP-09 indicated an undulating bedrock/PWR interface between 23 and 37 ft bgs. A PWR zone was observed at each HP location, with exception of HP-04 due to a termination depth of 23 ft bgs for both DPT and auger drilling methods. PWR (difference between DPT and auger drilling methods) ranged from 0 to 15 ft in thickness, with an average thickness of approximately 10 ft.

The vertical-transition from residuum to PWR to BR observed at the HP locations were generally more shallow compared to those observed in the pre-expansion recovery well network logs for R-1 through R-19. The depth to bedrock at HP-10, in contrast, was nearly 20 ft deeper than the remaining HP locations. HP-10 more-closely resembled the relative depths seen in pre-expansion recovery wells R-1 through R19, where depth to bedrock ranges from 50-80 ft bgs.

Forty-nine samples were collected from sealed-screen (residuum) and temporary well (PWR) sampling intervals amongst the eleven HP locations. One PWR sample was collected from each location. With the exception of HP-03, HP-04, and HP-05, the highest tetrachloroethene (PCE) concentrations at each respective HP location were observed in the PWR. PCE was the primary VOC detected in the groundwater samples, with concentrations higher roughly in the middle of the north-south alignment of the investigation areas and generally declining north of HP-02 and south of HP-05. Daughter/degradation-products trichloroethene (TCE) and cis-1,2,-dichloroethene (cis-1,2-DCE) were detected at lesser concentrations compared to the corresponding PCE result. Locations and samples collected further away from the central portion of the investigation area showed variability with respect to PCE or TCE prominence, but were all reflective of a singular plume and indicative of VOC degradation processes affecting the outer extents of the plume.

Analytical data was compared to relevant screening values (NCAC 2L standards for groundwater). A summary of detected constituents for sealed-screen and temporary well investigation locations are provided in **Table 3**, and laboratory analytical reports are included as **Attachment 4**. The transect through the investigation locations is shown in **Figure 3** that is the basis of subsequent geologic cross-section figures. The maximum groundwater concentration at each location for PCE, TCE, and cis-1,2-DCE are presented on **Figures 4A**, **5A**, and **6A**, respectively. Geologic cross-sections showing the PCE, TCE, and cis-1,2-DCE concentrations at each vertical locations against the interpreted geologic layers are presented in **Figures 4B**, **5B**, and **6B**, respectively.

The highest concentrations in the residuum and PWR are associated with locations HP-02 through HP-04. PCE concentrations ranged from 10,200 to 17,300 ug/L in the temporary well sampling depth-intervals for HP-02 through HP-04. HP-03 had concentrations of 22,200 ug/L and 22,100 ug/L at the residuum depth-intervals of 13 - 17 and 18 - 22 ft bgs, respectively, which represent the highest concentrations analyzed as part of this investigation. HP-03 is located, laterally, closer to the creek compared to other HP locations and CVOC mass was observed shallower in the hydrogeologic-sequence, which may indicate vertical-upward flow and mass-discharge to the creek in this area.

Location HP-01A represents the northern extent of the investigative borings and was installed based on the results of the initial event that occurred in January 2021. At the time, it was determined that an additional location north of the planned HP-01 through -10 locations would further delineate the extents of PCE in groundwater. It was also noted by field personnel that HP-01A represents the furthest north access available to a drill rig due to the terrain becoming increasingly steep sloping upwards to the site access road north of this location. Detected PCE concentrations observed in HP-01A ranged from 1.1 to 1.2 ug/L in the residuum and was 186 ug/L in the PWR. While this location was not below the groundwater standard, there is significant decrease in concentration versus more southernly borings. Observed surface water locations north of the site access road have historically been non-detect, further confirming that delineation north of the access road is not necessary.

Bedrock Hydrogeology and Results

Bedrock concentrations for PCE measured in the packer test ranged from 97.2 to 3,070 ug/L. The highest concentration in the bedrock was nearly one order of magnitude lower than the (shallower) sealed screen and temporary well sample results. Relative concentration profiles for PCE, TCE, and cis-1,2-DCE were generally similar to the relative profile in the shallower hydrogeologic sequences, with PCE being the major constituent and lower concentrations of daughter products. The nature of purging/recharge observations, magnitude of concentrations, and apparent fractures observed during drilling and downhole camera activities indicate a limited hydraulic connection between groundwater in the shallow bedrock and the overlying PWR.

Analytical data was compared to relevant screening values (NCAC 2L standards for groundwater). A summary of detected constituents for bedrock investigation (packer testing) locations is provided in **Table 3**, and laboratory analytical reports are included as **Attachment 4**.

Surface Water

Surface water samples were collected from select routinely monitored locations A, B, C, D, and E; as well as five additional locations between locations B and D: B-1, B-2, B-3, C-2, C-4 as shown on Figure 2.

The highest VOC concentrations in the creek are potentiometrically down-gradient of HP-02 through HP-04, which suggests a higher discharge rate of VOCs to the creek between locations D and C and (to a potentially lesser extent) between locations C and B. The sharp increase in PCE-prominence and TCE concentrations between surface water samples D through C-2 persists (central-plume discharge is occurring) until down-gradient locations B-3 and B-2, respectively. This suggests that dilution and plume influence of surface water concentrations is occurring between surface water locations B-2 and B-1. Analytical data was compared to relevant screening values (North Carolina (NC) 2B standards.

Concentrations of PCE and TCE gradually diminish (downgradient of this area) to levels close to or below the surface water standards and approaching non-detect near the southwest corner of the GE property. A summary of detected constituents is provided in **Table 4**, and laboratory analytical reports are included as **Attachment 4.**

Recovery Well Network

Each existing recovery well in the network (R-1 through R-19 and R-21 through R-23) was sampled to provide current groundwater quality data to further refine understanding of plume extents and for use in the redistribution of pumping rates across the network with the pending addition of the new recovery wells.

Analytical data was compared to relevant screening values (NCAC 2L standards for groundwater). A summary of detected constituents is provided in **Table 5**, and laboratory analytical reports are included as **Attachment 4.**

Investigative Derived Waste

Investigative derived purge water was treated by the onsite remedial action system. Soil and rock cuttings, and fluids from decontamination of drilling equipment, were stored in 55-gallon drums and staged in a secure location at the Site. Upon confirmation of waste characterization and profiling, HAZ-MAT Environmental Services, LLC picked up forty-one (41) drums of IDW for nonhazardous waste disposal on April 22, 2021.

RAS Expansion

Commissioning and Permitting

The RAS system discharge (effluent) into the western creek is permitted under National Pollutant Discharge Elimination System (NPDES) permit number NC0076643, which expires on July 31, 2025. Once the RAS expansion design has been approved by the NC DEQ Waste Management Division (WMD), GE will submit any needed revisions to the NPDES permit application to the NC DEQ Division of Water Resources (DWR) to incorporate the new wells. A recovery well installation permit will be obtained from the DWR prior to installation of the new wells.

Following approval of the design by DEQ, and issuance of the well permit, GE will contract with a driller for the installation of the wells, as well as mechanical/electrical contractors for the required RAS system installations/connections. All necessary local permits will be obtained prior to starting work. The proposed new wells locations are shown on **Figure 7**. Well construction will include a screen spanning the residuum/PWR and placed with a termination depth approximately 10 ft into competent bedrock. Based on preliminary data collected during the investigation; and the observed yield of similarly constructed extraction wells in this area, it is anticipated that the new wells will yield between 0.5 and 3.0 gallons per minute (gpm) each once they are connected to the RAS, resulting in an additional 1.5 to 9 gpm added to the total RAS inflow. **Figure 8** presents the proposed well construction for the new extraction wells, including the targeted screen extent in relation to the hydrogeologic zones. Preliminary design drawings providing other details of the RAS expansion, specifically tie in of the new wells to the existing RAS, are included in **Attachment 5**.

Startup Monitoring

Testing and performance monitoring will be performed during the start-up phase of the RAS expansion and will include system and individual well flow-rate monitoring; daily for the first week, then weekly to ensure total system flow does not exceed NPDES permit limits. Startup will also include new expansion well analytical (VOC) monitoring; once after installation and development, and again after at least 1 week of continuous operation.

Operation, Inspections, and Monitoring

The expansion wells will be incorporated into the routine operation, inspection, and monitoring currently prescribed by the RCRA Post-Closure Care Permit NCD 003 237 948 (RCRA Permit), for the existing RAS. Because the RAS system components and operation are not changing, and only additional extraction wells are being added, the following requirements listed in Appendix C of the RCRA permit are not expected to require any updates and GE will continue to implement operation, maintenance, inspections and training at the same frequencies currently being performed:

- RAS maintenance plan;
- Training programs related to the operation and monitoring of the RAS system;
- Contingency plan for the RAS system; and
- Abandonment plan for the RAS system

Summary and Recommendations

VOC mass identified in residuum and PWR near the expansion recovery wells (R-21, R-22, and R-23), and elevated concentrations in surface water downgradient of the investigative groundwater sampling locations, suggests ongoing discharge of groundwater containing VOCs into the surface water. GE plans to install three new recovery wells along the existing expansion network, between and in-line with R-21, R-22, and R-23, to improve groundwater plume capture in that area of the Site. Placement of new recovery wells between existing recovery wells and targeting the central-southern extent of the plume will increase mass recovery in this area and reduce VOC discharge to the western creek. GE will continue to monitor surrounding groundwater and the creek during annual sampling events to determine if additional recovery wells are needed.

Please do not hesitate to contact either myself or Bob Witsell (GE) with any questions.

Sincerely,

Arcadis G&M of North Carolina, Inc.

Matthew T. Pelton, P.E.
Principal Environmental Engineer

Copies:
Bob Witsell (GE)

Enclosures:

Table 1 – Hydrogeologic Zone, Drilling and Sampling Method Summary
Table 2 – Bedrock (Packer Testing) Drilling, Sampling, and Observations Summary
Table 3 – Concentration of Target VOCs for Groundwater Sampling Locations
Table 4 – Concentration of Target VOCs in Surface Water Samples
Table 5 – Groundwater Analytical Results for Recovery Wells R-1 through R-23

Figure 1 – Site Location Map
Figure 2 – Groundwater and Surface Water Sampling Location Map
Figure 3 – Groundwater and Recovery Well Geologic Cross Section Location Map
Figure 4A – Groundwater and Surface Water Sampling Results for PCE
Figure 4B – Geologic Cross Section A-A' – Groundwater Results for PCE
Figure 5A – Groundwater and Surface Water Sampling Results for TCE
Figure 5B – Geologic Cross Section A-A' – Groundwater Results for TCE
Figure 6A – Groundwater and Surface Water Sampling Results for Cis-1,2-DCE
Figure 6B – Geologic Cross Section A-A' – Groundwater Results for Cis-1,2-DCE
Figure 7 – Proposed Recovery Well Location Map
Figure 8 – Proposed Recovery Well Construction Diagram

Attachment 1 – Soil Boring Logs
Attachment 2 – Groundwater Sampling Logs
Attachment 3 – Bedrock Packer Testing Logs
Attachment 4 – Laboratory Analytical Reports
Attachment 5 – RAS Expansion Design Drawings

TABLES

Location ID	Hydrogeologic Zone	Depth Intervals (ft bgs)	Equipment/Method		Sample/Screen Intervals (ft bgs)
			Drilling	Sampling	
Sealed-Screen and Temporary Well Investigation Locations					
HP-01A	Residuum	0 - 26	DPT	Sealed-Screen Sampler	11 - 25
	PWR	26 - 37	Auger	1-inch temp. Well	27 - 37
	BR	37 --	--	--	-- --
HP-01	Residuum	0 - 24	DPT	Sealed-Screen Sampler	5 - 23.5
	PWR	24 - 31	Auger	1-inch temp. Well	21 - 31
	BR	31 --	--	--	-- --
HP-02	Residuum	0 - 15	DPT	Sealed-Screen Sampler	7 - 15
	PWR	15 - 24	Auger	1-inch temp. Well	14 - 24
	BR	24 --	--	--	-- --
HP-03	Residuum	0 - 22	DPT	Sealed-Screen Sampler	8 - 22
	PWR	22 - 27	Auger	1-inch temp. Well	17 - 27
	BR	27 --	--	--	-- --
HP-04	Residuum	0 - 23	DPT[1]	Sealed-Screen Sampler	9 - 23
	~~PWR~~	-- --	Auger[1]	1-inch temp. Well	18 - 23
	BR	23 --	--	--	-- --
HP-05	Residuum	0 - 22	DPT	Sealed-Screen Sampler	8 - 22
	PWR	22 - 35	Auger	1-inch temp. Well	20 - 35
	BR	35 --	--	--	-- --
HP-06	Residuum	0 - 18	DPT	Sealed-Screen Sampler	6 - 18
	PWR	18 - 30	Auger	1-inch temp. Well	15 - 30
	BR	30 --	--	--	-- --
HP-07	Residuum	0 - 25	DPT	Sealed-Screen Sampler	7 - 23
	PWR	22 - 37	Auger	1-inch temp. Well	22 - 37
	BR	37 --	--	--	-- --
HP-08	Residuum	0 - 20	DPT	Sealed-Screen Sampler	5 - 19
	PWR	20 - 34	Auger	1-inch temp. Well	19 - 34
	BR	34 --	--	--	-- --
HP-09	Residuum	0 - 17	DPT	Sealed-Screen Sampler	4 - 17
	PWR	17 - 28	Auger	1-inch temp. Well	18 - 28
	BR	28 --	--	--	-- --
HP-10	Residuum	0 - 39	DPT	Sealed-Screen Sampler	6 - 39
	PWR	39 - 54	Auger	1-inch temp. Well	39 - 54
	BR	54 --	--	--	-- --

Notes:
Residuum - unconsolidated material including fill/deposition/regolith/saprolite
PWR - Partially Weathered Rock
BR - Bedrock
DPT - Direct Push Technology
Auger - 4-inch (diameter) solid-stem auger
Sealed-Screen Sampler - 4 foot intervals from water-table to bedrock. One sample was collected per advance of the sample
1-inch well was installed at each location, screening the PWR; using a combination of 5 foot PVC screen segments;
5, 10, or 15 foot screens. Each location was developed and sampled for select-VOCs (8260)
ft bgs - All depth intervals presented in feet (ft) below ground surface (bgs)
* - Bedrock coordinates are approximate, not surveyed

Table 2 - Bedrock (Packer Testing) Drilling, Sampling, and Observations Summary
NCD003237948 - General Electric (Conover)
Groundwater Investigation Report

Location ID	Hydrogeologic Zone & Rock Type	Depth Intervals (ft bgs)	Equipment/Method		Sampling/Screen/ Packer-Testing Intervals (ft bgs)	Comments		
			Drilling	Sampling		Purging and Sampling	Observations During Drilling	Downhole Camera Review
Bedrock Investigation (Packer Testing) Locations								
BR-01	Rock	30 - 36	Air-Rotary	- -	- - - -	- -	<5 ft of competent rock	- -
	PWR	36 - 56		- -	- - - -	- -	PWR-BR transition; soft-gray	- -
	BR (Amphibolite)	56 - 100		Packer Testing	60 - 80 80 - 100	Good Recharge Good Recharge	Competent rock at 56' Surface Casing set at 58' Air-hammer/Open-hole 58-100'	70.8 & 75.7 ft bgs: Small fractures ~81.5 ft bgs: Small fractures w/ possible staining ~91 ft bgs: Turbidity increase, poor visability
BR-02	BR (Amphibolite/Gneiss)	36 - 100	Air-Rotary	Packer Testing	39 - 59 60 - 80 80 - 100	Little to No Recharge (not sampled) Good Recharge Low Recharge	Competent rock at 36' Surface casing set at 39' Air-hammer/Open-hole 39-100'	~42-45 ft bgs: High angle fracture 51.6 ft bgs: Low angle, healed fracture 80 ft bgs: Turbidity increase, poor visability 91.5 ft bgs: Low angle, tight fracture
BR-03	BR (Amphibolite + Gneissic banding)	32 - 100	Air-Rotary	Packer Testing	36 - 60 60 - 80 80 - 100	Very-Low Recharge Low Recharge Good Recharge	Competent rock at 32' Surface casing set at 35' Air-hammer/Open-hole 35-100'	47-49 & 53-55 ft bgs: High-angle features; do not appear to be open fracture(s) 60-62 ft bgs: High-angle feature, potential fracture set. 77.44 ft bgs: Near-horizontal fracturing 80-83 & 90+ ft bgs: Fracturing

Notes:
Residuum - unconsolidated material including fill/deposition/regolith/saprolite. Material overlying partially-weathered/competent bedrock
PWR - Partially Weathered Rock
BR - Bedrock
sfs - Standard flow system
Waterra Foot Valve – check-valve/tubing inserted at desired pumping depth. The water was purged via manual-oscillation (pulling up and down).
ft bgs - All depth intervals presented in feet (ft) below ground surface (bgs)

Table 3 - Concentration of Target VOCs for Groundwater Sampling Locations
NCD003237948 - General Electric (Conover)
Groundwater Investigation Report

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				Volatile Organic Compounds				
			Analyte	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	Vinyl chloride
			NCAC 2L 2013 Groundwater Standard (ug/L)	0.7	3	70	7	0.03
Location ID:	Sample Depth (ft bgs):	Date Collected:	Units					
Sealed-Screen and Temporary Well Investigation Locations								
HP-01A	11 - 15	02/03/21	ug/L	**1.2**	1.00 U	1.00 U	1.00 U	1.00 U
	16 - 20	02/03/21	ug/L	**1.1**	1.00 U	1.00 U	1.00 U	1.00 U
	21 - 25	02/03/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	27 - 37*	02/09/21	ug/L	**186**	**91.3**	7.50	2.00 U	2.00 U
HP-01	5 - 9	02/01/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	10 - 14	02/01/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	14 - 19	02/01/21	ug/L	**21.6**	**64.9**	22.6	1.00 U	1.00 U
	19 - 23.5	02/01/21	ug/L	**36.6 [40.8]**	**99.7 [116]**	29.2 [36.2]	1.00 U [1.00 U]	1.00 U [1.00 U]
	21 - 31*	02/09/21	ug/L	**276**	**378**	58.3	4.00 U	4.00 U
HP-02	7 - 11	02/01/21	ug/L	**4,140**	**1,040**	25.0 U	25.0 U	25.0 U
	11 - 15	02/01/21	ug/L	**16,700**	**3,840**	100 U	100 U	100 U
	14 - 24*	02/09/21	ug/L	**17,300**	**4,640**	**171**	100 U	100 U
HP-03	8 - 12	02/02/21	ug/L	**605**	**105**	5.00 U	5.00 U	5.00 U
	13 - 17	02/02/21	ug/L	**22,200**	**5,200**	**221**	200 U	200 U
	18 - 22	02/02/21	ug/L	**22,100**	**5,210**	**222**	200 U	200 U
	17 - 27*	01/13/21	ug/L	**12,800**	**2,150**	100 U	100 U	100 U
HP-04	9 - 13	02/02/21	ug/L	**586**	**79.7**	5.00 U	5.00 U	5.00 U
	14 - 18	02/02/21	ug/L	**2,210**	**383**	20.0 U	20.0 U	20.0 U
	19 - 23	02/02/21	ug/L	**15,100 M1**	**2,710**	100 U	100 U	100 U
	18 - 23*	02/09/21	ug/L	**10,200**	**1,780**	100 U	100 U	100 U
HP-05	8 - 12	02/02/21	ug/L	**50.8**	1.00 U	1.00 U	1.00 U	1.00 U
	13 - 17	02/02/21	ug/L	**554**	**45.6**	5.00 U	5.00 U	5.00 U
	18 - 22	02/02/21	ug/L	**9,680**	**1,330**	50.0 U	50.0 U	50.0 U
	20 - 35*	01/13/21	ug/L	**5,400**	**350**	50.0 U	50.0 U	50.0 U
HP-06	6 - 10	01/06/21	ug/L	**3.6**	**5.20**	1.00 U	1.00 U	1.00 U
	10 - 14	01/06/21	ug/L	**120**	**196**	1.20	1.00 U	1.00 U
	14 - 18	01/06/21	ug/L	**351**	**498**	5.20	5.00 U	5.00 U
	15 - 30*	02/09/21	ug/L	**1,600**	**280**	12.5 U	12.5 U	12.5 U
HP-07	7 - 11	01/05/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	11 - 15	01/05/21	ug/L	**11**	**306**	2.50 U	2.50 U	2.50 U
	15 - 19	01/05/21	ug/L	**154**	**913 M1**	5.00 UM1	5.00 UM1	5.00 U
	19 - 23	01/05/21	ug/L	**324**	**305**	2.50 U	2.50 U	2.50 U
	22 - 37*	01/13/21	ug/L	**514**	**256**	5.00 U	5.00 U	5.00 U
HP-08	5 - 9	01/05/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	10 - 14	01/05/21	ug/L	**6.8**	**83.2**	1.00 U	1.00 U	1.00 U
	15 - 19	01/05/21	ug/L	**18.1 [18.6]**	**404 [496]**	4.00 U [3.80]	4.00 U [2.50 U]	4.00 U [2.50 U]
	19 - 34*	02/09/21	ug/L	**23.7**	**214**	2.00 U	2.00 U	2.00 U

Sealed-Screen and Temporary Well Investigation Locations *cont.*								
HP-09	4 - 8	01/05/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	10 - 14	01/05/21	ug/L	**3.5**	**22.6**	1.00 U	1.00 U	1.00 U
	14 - 17	01/05/21	ug/L	**3.5**	**17.3**	1.00 U	1.00 U	1.00 U
	18 - 28*	02/09/21	ug/L	**14**	**166**	2.40	1.00 U	1.00 U
HP-10	6 - 10	01/04/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	10 - 14	01/04/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	16 - 20	01/04/21	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	20 - 25	01/04/21	ug/L	**1.1**	2.80	1.00 U	1.00 U	1.00 U
	25 - 30	01/04/21	ug/L	**1.5**	**6.90**	1.00 U	1.00 U	1.00 U
	30 - 35	01/04/21	ug/L	**3.3**	**5.30**	1.00 U	1.00 U	1.00 U
	35 - 39	01/04/21	ug/L	**2.1**	**3.20**	1.00 U	1.00 U	1.00 U
	39 - 54*	01/13/21	ug/L	**7.3**	1.70	1.00 U	1.00 U	1.00 U
Bedrock Investigation (Packer Testing) Locations								
BR-1	60 - 80	03/18/21	ug/L	**97.2**	**364**	2.50	2.50 U	2.50 U
	80 - 100	03/18/21	ug/L	**197**	**535**	4.00 U	4.00 U	4.00 U
BR-2	39 - 59	- -	ug/L	NA	NA	NA	NA	NA
	60 - 80	03/17/21	ug/L	**1,220**	**110**	10.0 U	10.0 U	10.0 U
	80 - 100	03/17/21	ug/L	**2,300**	**203**	25.0 U	25.0 U	25.0 U
BR-3	36 - 60	03/16/21	ug/L	**1,220**	**376**	28.1	10.0 U	10.0 U
	60 - 84	03/16/21	ug/L	**481**	**148**	15.0	4.00 U	4.00 U
	80 - 100	03/17/21	ug/L	**3,040 [3,070]**	**569 [548]**	34.8 [32.9]	20.0 U [20.0 U]	20.0 U [20.0 U]

Notes:

residuum
partially weathered rock
bedrock

Bolded values indicate concentrations greater than the NCAC 2L 2013 Groundwater Standard
Values in brackets are the result of a duplicate sample analysis
U = The compound was analyzed for, but not detected. The associated value is the compound quantitation limit.
M1 = Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery
µg/L = micrograms per liter
NA - Not Analyzed - Packer testing interval for BR-2 from 39-59 ft bgs had little to no recharge; a sample was not collected
* - 1 inch well installed and screen interval reflects the sample depth range

Table 4 - Concentration of Target VOCs in Surface Water Samples
NCD003237948 - GE Hickory Facility
Conover, North Carolina

Stream Sample Location	Contituent		1,1-Dichloroethene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl chloride	
	CAS Number		75-35-4	156-59-2	127-18-4	79-01-6	75-01-4	
	NC 2B Standards Freshwater, Class WS (I - V)		- -	- -	3.3	30	2.4	
	Location ID:	Date Collected:						
Upstream	STREAM-E	1/6/2021	1.00 U	1.00 U	**11.3**	**5.7**	1.00 U	
	STREAM-D	1/6/2021	1.00 U	1.00	**56.9**	**20.3**	1.00 U	Interval of R-1 to R-23
	STREAM-C-4	1/7/2021	1.00 U	1.70	**133**	**35.5**	1.00 U	
	STREAM-C-2	1/7/2021	1.00 U	1.90	**163**	**40.2**	1.00 U	
Western Creek	STREAM-C	1/7/2021	2.00 U	2.00 U	**195**	**40.3**	2.00 U	
	STREAM-B-3	1/7/2021	1.00 U	1.80	**200**	**43.5**	1.00 U	
	STREAM-B-2	1/7/2021	1.00 U	1.90	**188**	**44.7**	1.00 U	
Downstream	STREAM-B-1	1/7/2021	1.00 U	1.80	**174**	**41.8**	1.00 U	
	STREAM-B	1/7/2021	1.00 U	1.80	**176**	**41.7**	1.00 U	
	STREAM-A	1/7/2021	1.00 U	1.60	**133**	**31.7**	1.00 U	

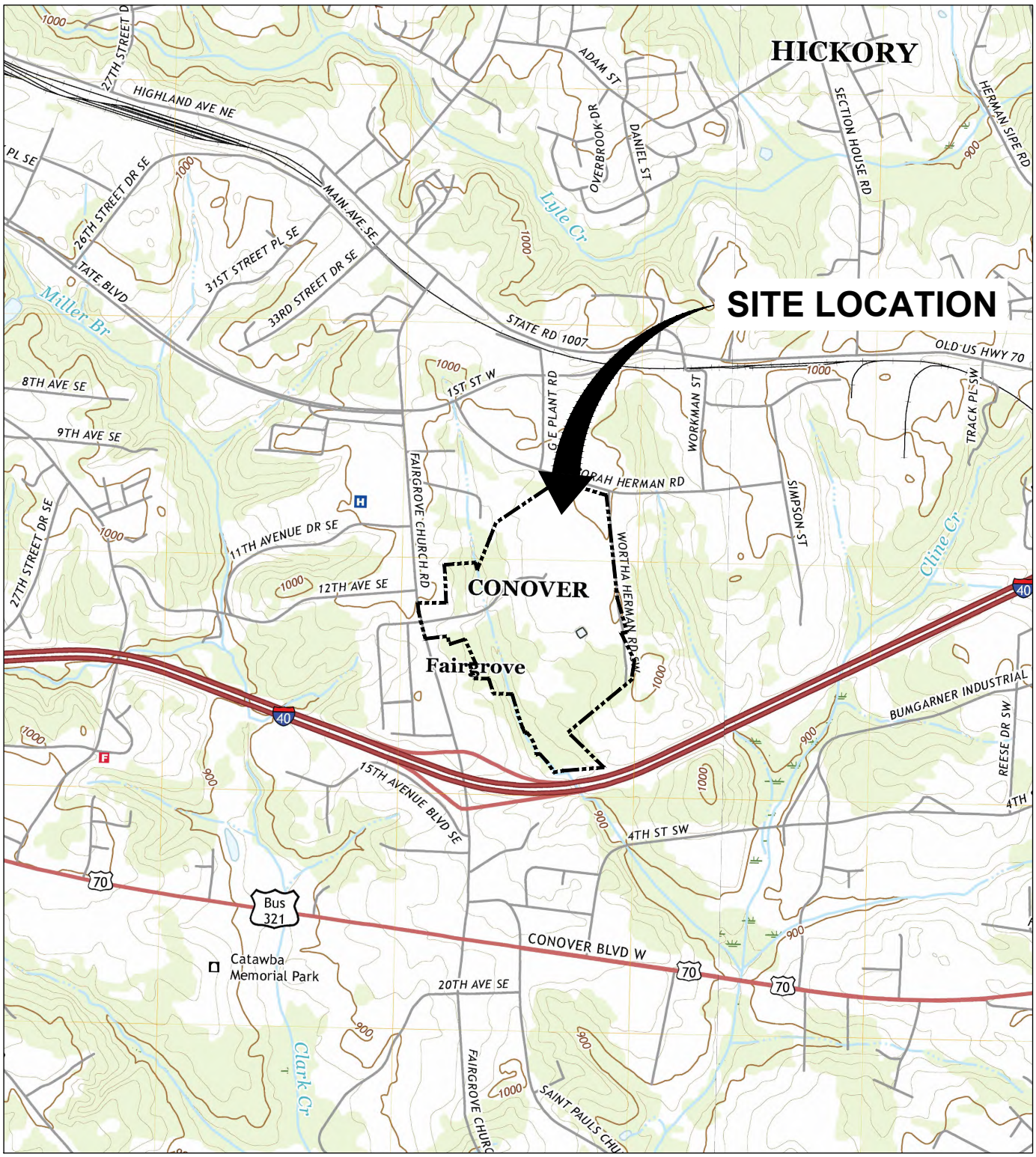
Notes:
Bold/shaded values are above the NC 2B Standard, consumption of fish (and shellfish).
There are no applicable NC 2B Surface Water Quality standards for Class B or Class C waters for the analytes presented.
µg/L = micrograms per liter
- - = No standard available
< 1.0 = Indicates the compound was analyzed for, but not detected above associated reporting limit.

Table 5 - Groundwater Analytical Results for Recovery Wells R-1 through R-23
NCD003237948 - General Electric (Conover)
Groundwater Investigation Report

			Volatile Organic Compounds				
		Analyte	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	Vinyl chloride
		NCAC 2L 2013 Groundwater Standard	0.7	3	70	7	0.03
Location ID:	Date Collected:	Units					
R-1	02/10/21	ug/L	**14.4**	**1.00 U**	1.00 U	1.00 U	1.00 U
R-2	02/10/21	ug/L	**16.6**	**1.00 U**	1.00 U	1.00 U	1.00 U
R-3	02/10/21	ug/L	**44.5**	**6.5**	2.10	1.00 U	1.00 U
R-4	02/10/21	ug/L	**9.3**	**40.9**	8.80	1.00 U	1.00 U
R-5	02/10/21	ug/L	**38.5**	**90.7**	30.3	1.00 U	1.00 U
R-6	02/10/21	ug/L	**52.8**	**106**	43.0	1.00 U	1.00 U
R-7	02/10/21	ug/L	**215**	**372**	**151**	4.00 U	4.00 U
R-8	02/10/21	ug/L	**946**	**1060**	**574**	10.00 U	10.00 U
R-9	02/10/21	ug/L	**843**	**345**	**220**	10.00 U	10.00 U
R-10	02/10/21	ug/L	**14**	**7.6**	1.40	1.00 U	1.00 U
R-11	02/10/21	ug/L	**17.2**	**10.1**	1.80	1.00 U	1.00 U
R-12	02/10/21	ug/L	**4.9**	**2**	1.00 U	1.00 U	1.00 U
R-13	02/10/21	ug/L	**16.9**	**1.00 U**	1.00 U	1.00 U	1.00 U
R-14	02/10/21	ug/L	**5.5**	**1.00 U**	1.00 U	1.00 U	1.00 U
R-15	02/10/21	ug/L	**421**	**48.7**	57.4	5.00 U	5.00 U
R-16	02/10/21	ug/L	**788**	**9170**	**2,000**	50.00 U	50.00 U
R-17	02/10/21	ug/L	**64.5**	**936**	**838**	10.00 U	10.00 U
R-18	02/10/21	ug/L	**48.7**	**1630**	**103**	1.00 U	1.00 U
R-19	02/10/21	ug/L	**160**	**30.6**	12.4	1.00 U	1.00 U
R-21	02/10/21	ug/L	**10.4**	**128**	1.60	1.00 U	1.00 U
R-22	02/10/21	ug/L	**1,990**	**264**	20.0 U	20.0 U	20.0 U
R-23	02/10/21	ug/L	**3,830**	**1850**	**183**	40.00 U	40.00 U

Notes:
Bolded values indicate concentrations greater than the NCAC 2L 2013 Groundwater Standard
U = The compound was analyzed for, but not detected. The associated value is the compound quantitation limit.
µg/L = micrograms per liter

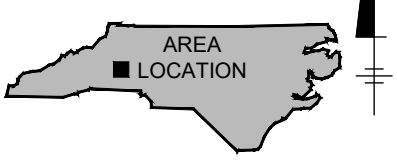
FIGURES



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., HICKORY AND NEWTOWN, NORTH CAROLINA, 2019.

0 2,000' 4,000'

Approximate Scale: 1 in. = 2,000 ft.



NORTH CAROLINA

GENERAL ELECTRIC COMPANY
CONOVER, NORTH CAROLINA
GROUNDWATER INVESTIGATION REPORT

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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1:34 PM BY: M. SARAVANAPRIYA
XREFS: IMAGES: PROJECTNAME: ---
NC_Hickory_20190803.jpg
NC_Newton_20190803.jpg

C:\Users\ms0285\ACCDocs\Arcadis\AUS-GE-CONOVER-CONOVER North Carolina\Project Files\2021\01-In Progress\01-DWG\GWM-2021Q1-F02-03-SAMPLE CS LOCATION.dwg LAYOUT: 2 SAVED: 5/19/2021 1:45 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/21/2021 2:12 PM BY: M, SARAVANAPRIYA

72" CMP
Stream E
HP-01A
S-11
HP-01
R-23
HP-02
Stream D
BR-03
HP-03
Stream C-4
HP-04
Stream C-2
BR-02
HP-05
R-22
HP-06
S-10
Stream C
BR-01
925
HP-07
Stream B-3
HP-08
R-21
Stream B-2
HP-09
S-9
HP-10
Stream B-1
P-9
E-10
S-8
Stream B
R-19
R-18
R-17
MW-34
MW-38D
MW-35
S-7
MW-11
R-16
Stream A
R-15
P-11
P-7
E-8
R-14
P-6
S-6
R-13
950
EQUALIZATION BASIN SWMU 63b
SETTLING PIT SWMU 63a
WASTE WATER TREATMENT PLANT
0 100' 200'
GRAPHIC SCALE

LEGEND:

- MW-42 — MONITORING WELL / PIEZOMETER
- R-1 — RECOVERY WELL
- S-6 — CREEK STAGE LOCATION
- Stream 3 — TRIBUTARY SAMPLE LOCATION
- SITE BOUNDARY
- PARCEL BOUNDARIES
- R/W — RIGHT OF WAY LINE
- 6' CHAIN LINK FENCE
- TOPOGRAPHIC CONTOUR LINE
- WESTERN CREEK
- SWMU — SOLID WASTE MANAGEMENT UNIT
- RETENTION / TREATMENT PONDS
- HP-01 — HYDROPUNCH SAMPLING/BORING LOCATION
- BR-01 — BEDROCK CORING/SAMPLING LOCATION

NOTE:

1. ALL FEATURES AND BOUNDARIES SHOWN ARE APPROXIMATE.

GENERAL ELECTRIC COMPANY
CONOVER, NORTH CAROLINA
GROUNDWATER INVESTIGATION REPORT

GROUNDWATER AND SURFACE WATER SAMPLING LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

C:\Users\ms0285\ACCDocs\Arcadis\AUS-GE-CONOVER-CONOVER North Carolina\Project Files\2021\01-In Progress\01-DWG\GWM-2021Q1-F02-03-SAMPLE CS LOCATION.dwg LAYOUT: 3 SAVED: 5/19/2021 1:45 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB
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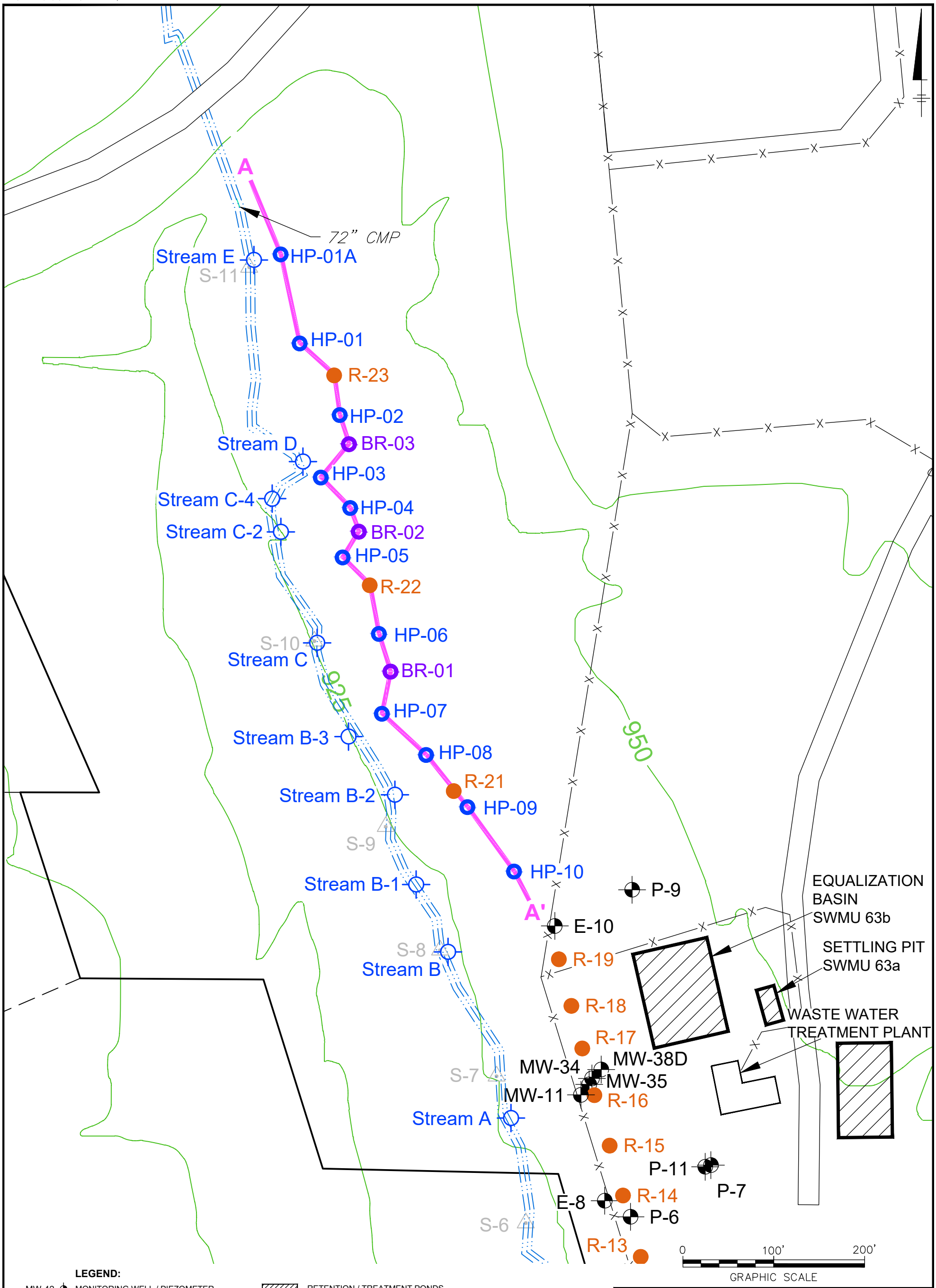

LEGEND:

- MW-42 — MONITORING WELL / PIEZOMETER
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- RETENTION / TREATMENT PONDS
- HP-01 — HYDROPUNCH SAMPLING/BORING LOCATION
- BR-01 — BEDROCK CORING/SAMPLING LOCATION
- A — A' — CROSS SECTION LOCATION

NOTE:

1. ALL FEATURES AND BOUNDARIES SHOWN ARE APPROXIMATE.

GENERAL ELECTRIC COMPANY
CONOVER, NORTH CAROLINA
GROUNDWATER INVESTIGATION REPORT

GROUNDWATER SAMPLING AND RECOVERY WELL GEOLOGIC CROSS SECTION LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

C:\Users\ms0285\ACCDocs\Arcadis\AUS-GE-CONOVER-CONOVER North Carolina\Project Files\2021\01-In Progress\01-DWG\GWM-2021Q1-F04A-PCE RESULTS.dwg LAYOUT: 4A SAVED: 7/21/2021 2:10 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/21/2021 2:14 PM BY: M, SARAVANAPRIYA

HP-01A (186)
HP-01 (276)
R-23 (3,830)
HP-02 (17,300)
BR-03 (3,040 [3,070])
HP-03 (22,200)
HP-04 (15,100)
BR-02 (2,300)
HP-05 (9,680)
R-22 (1,990)
HP-06 (1,600)
BR-01 (197)
HP-07 (514)
HP-08 (23.7)
R-21 (10.4)
HP-10 (7.3)
HP-09 (14)

72" CMP

Stream E (11.3)
Stream D (56.9)
Stream C-4 (133)
Stream C-2 (163)
Stream C (195)
Stream B-3 (200)
Stream B-2 (188)
Stream B-1 (174)
Stream B (176)
Stream A (133)

S-11
S-10
S-9
S-8
S-7
S-6

925
950

P-9
E-10
P-11
P-7
E-8
P-6

R-19
R-18
R-17
R-16
R-15
R-14
R-13

MW-34
MW-38D
MW-35
MW-11

EQUALIZATION BASIN SWMU 63b
SETTLING PIT SWMU 63a
WASTE WATER TREATMENT PLANT

0 100' 200'
GRAPHIC SCALE

NOTE:

1. ALL FEATURES AND BOUNDARIES SHOWN ARE APPROXIMATE.
2. RESULTS REPRESENT THE MAXIMUM CONCENTRATION DETECTED AT EACH LOCATION, REGARDLESS OF DEPTH.
3. [ ] = DUPLICATE SAMPLE RESULTS.
4. THE NCAC 2L 2013 GROUNDWATER STANDARD FOR PCE IS 0.7 µg/L.
5. THE NC 2B SURFACE WATER STANDARD FOR PCE, THE CONSUMPTION OF FISH (AND SHELLFISH), IS 3.3 µg/L.

LEGEND:

- MW-42 — MONITORING WELL / PIEZOMETER
- R-1 — RECOVERY WELL
- S-6 — CREEK STAGE LOCATION
- Stream 3 — TRIBUTARY SAMPLE LOCATION
- SITE BOUNDARY
- PARCEL BOUNDARIES
- R/W — RIGHT OF WAY LINE
- 6' CHAIN LINK FENCE
- TOPOGRAPHIC CONTOUR LINE
- WESTERN CREEK
- SWMU — SOLID WASTE MANAGEMENT UNIT
- RETENTION / TREATMENT PONDS
- HP-01 — HYDROPUNCH SAMPLING/BORING LOCATION
- BR-01 — BEDROCK PACKER TESTING LOCATION
- (22,200) — PCE (TETRACHLOROETHENE) CONCENTRATION IN µg/L (MICROGRAMS PER LITER)
- PCE CONCENTRATION 10,000+ µg/L
- PCE CONCENTRATION 1,000 - 10,000 µg/L
- PCE CONCENTRATION 100 - 1,000 µg/L
- GW PCE CONCENTRATION 0.7 - 100 µg/L; SW PCE CONCENTRATION 3.3 - 100 µg/L
- GW PCE CONCENTRATION 0.0 - 0.7 µg/L; SW PCE CONCENTRATION 0.0 - 3.3 µg/L

GENERAL ELECTRIC COMPANY
CONOVER, NORTH CAROLINA
GROUNDWATER INVESTIGATION REPORT

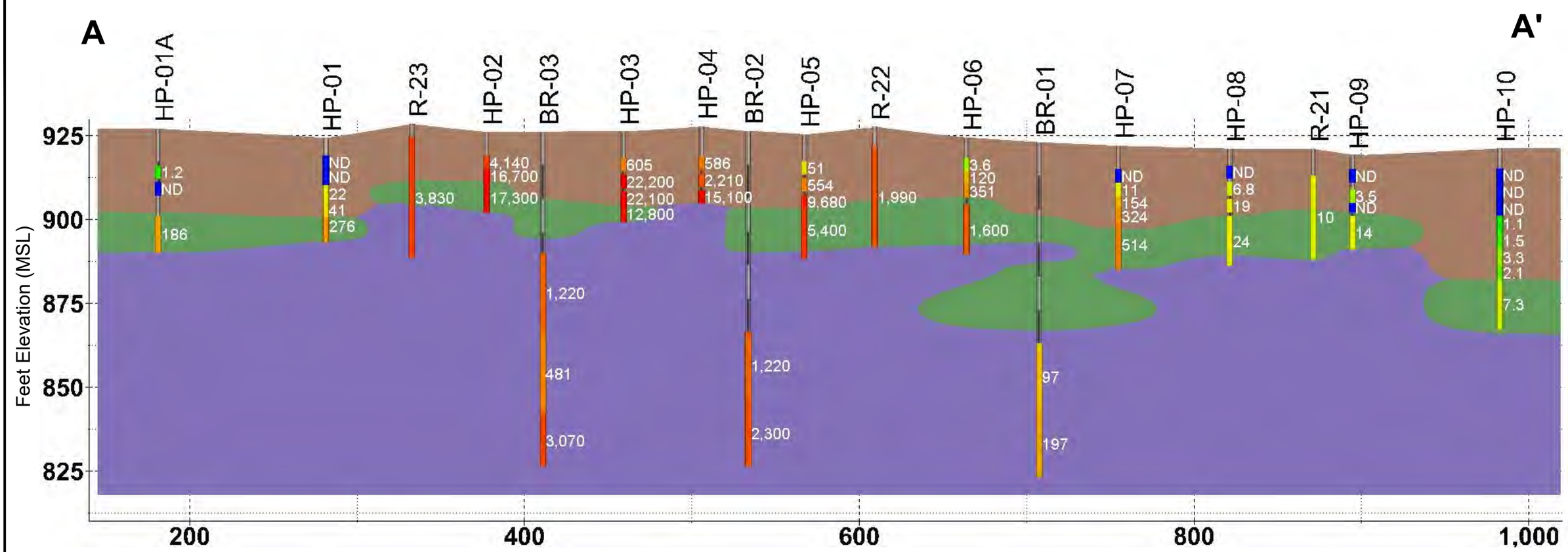
GROUNDWATER SAMPLING AND SURFACE WATER SAMPLING RESULTS FOR PCE

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4A

NORTH

SOUTH



LEGEND

RESIDUUM

PARTIALLY WEATHERED ROCK

BEDROCK

PCE

22,200 ug/L
10,000 ug/L
3,000 ug/L
1,000 ug/L
300 ug/L
100 ug/L
30 ug/L
10 ug/L
3.0 ug/L
1.0 ug/L
0.30 ug/L
0.10 ug/L
0.030 ug/L
0.010 ug/L
0.0030 ug/L
0.0010 ug/L

NOTES:

- THE NCAC 2L 2013 GROUNDWATER STANDARD FOR PCE IS 0.7 εg/L
- ALL RESULTS ARE PRESENTED IN MICROGRAMS PER LITER (UG/L)
- THE HIGHER CONCENTRATION OF THE PARENT OR DUPLICATE VALUES IS SHOWN FOR HP-01 (19 - 23.5 FT BGS), HP-08 (15 - 19 FT BGS), AND BR-03 (80 - 100 FT BGS)
- RESULTS FOR HP-04 FOR PCE WERE 15,100 UG/L FOR 19 - 23 FT BGS & 10,200 UG/L FOR 18 - 23 FT BGS
- PCE: TETRACHLOROETHENE
- ND: COMPOUND WAS ANALYSED FOR, BUT NOT DETECTED ABOVE LABORATORY REPORTING LIMIT
- MSL: MEAN SEA LEVEL
- VERTICAL EXAGGERATION = 2X

GENERAL ELECTRIC COMPANY CONOVER, NORTH CAROLINA

GROUNDWATER INVESTIGATION REPORT

GEOLOGIC CROSS SECTION A-A' GROUNDWATER RESULTS FOR PCE

ARCADIS

FIGURE

4B

C:\Users\ms0285\ACCDocs\Arcadis\AUS-GE-CONOVER-CONOVER North Carolina\Project Files\2021\01-In Progress\01-DWG\GWM-2021Q1-F05A-TCE RESULTS.dwg LAYOUT: 5A SAVED: 7/21/2021 2:10 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/21/2021 2:14 PM BY: M, SARAVANAPRIYA

HP-01A (91.3)
HP-01 (378)
R-23 (1,850)
HP-02 (4,640)
BR-03 (569 [548])
HP-03 (5,210)
HP-04 (2,710)
BR-02 (203)
HP-05 (1,330)
R-22 (264)
HP-06 (498)
BR-01 (535)
HP-07 (913)
HP-08 (404 [496])
R-21 (128)
HP-09 (166)
HP-10 (6.9)

Stream E (5.7)
72" CMP
S-11
Stream D (20.3)
Stream C-4 (35.5)
Stream C-2 (40.2)
S-10
Stream C (40.3)
925
Stream B-3 (43.5)
Stream B-2 (44.7)
S-9
Stream B-1 (41.8)
S-8
Stream B (41.7)
S-7
Stream A (31.7)
S-6
950

P-9
E-10
R-19
R-18
R-17
MW-34
MW-38D
MW-35
MW-11
R-16
R-15
P-11
P-7
E-8
R-14
P-6
R-13

EQUALIZATION BASIN SWMU 63b
SETTLING PIT SWMU 63a
WASTE WATER TREATMENT PLANT

0 100' 200'
GRAPHIC SCALE

NOTE:

1. ALL FEATURES AND BOUNDARIES SHOWN ARE APPROXIMATE.
2. RESULTS REPRESENT THE MAXIMUM CONCENTRATION DETECTED AT EACH LOCATION, REGARDLESS OF DEPTH.
3. [ ] = DUPLICATE SAMPLE RESULTS.
4. THE NCAC 2L 2013 GROUNDWATER STANDARD FOR TCE IS 3 µg/L.
5. THE NC 2B SURFACE WATER STANDARD FOR TCE, THE CONSUMPTION OF FISH (AND SHELLFISH), IS 30 µg/L.

LEGEND:

- MW-42 — MONITORING WELL / PIEZOMETER
- R-1 — RECOVERY WELL
- S-6 — CREEK STAGE LOCATION
- Stream 3 — TRIBUTARY SAMPLE LOCATION
- SITE BOUNDARY
- PARCEL BOUNDARIES
- R/W — RIGHT OF WAY LINE
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- WESTERN CREEK
- SWMU — SOLID WASTE MANAGEMENT UNIT
- RETENTION / TREATMENT PONDS
- HP-01 — HYDROPUNCH SAMPLING/BORING LOCATION
- BR-01 — BEDROCK PACKER TESTING LOCATION
- (5,210) — TCE (TRICHLOROETHENE) CONCENTRATION IN µg/L (MICROGRAMS PER LITER)
- TCE CONCENTRATION 10,000+ µg/L
- TCE CONCENTRATION 1,000 - 10,000 µg/L
- TCE CONCENTRATION 100 - 1,000 µg/L
- GW TCE CONCENTRATION 3.0 - 100 µg/L SW TCE CONCENTRATION 30 - 100 µg/L
- GW TCE CONCENTRATION 0.0 - 3.0 µg/L SW TCE CONCENTRATION 0.0 - 30 µg/L

GENERAL ELECTRIC COMPANY
CONOVER, NORTH CAROLINA
GROUNDWATER INVESTIGATION REPORT

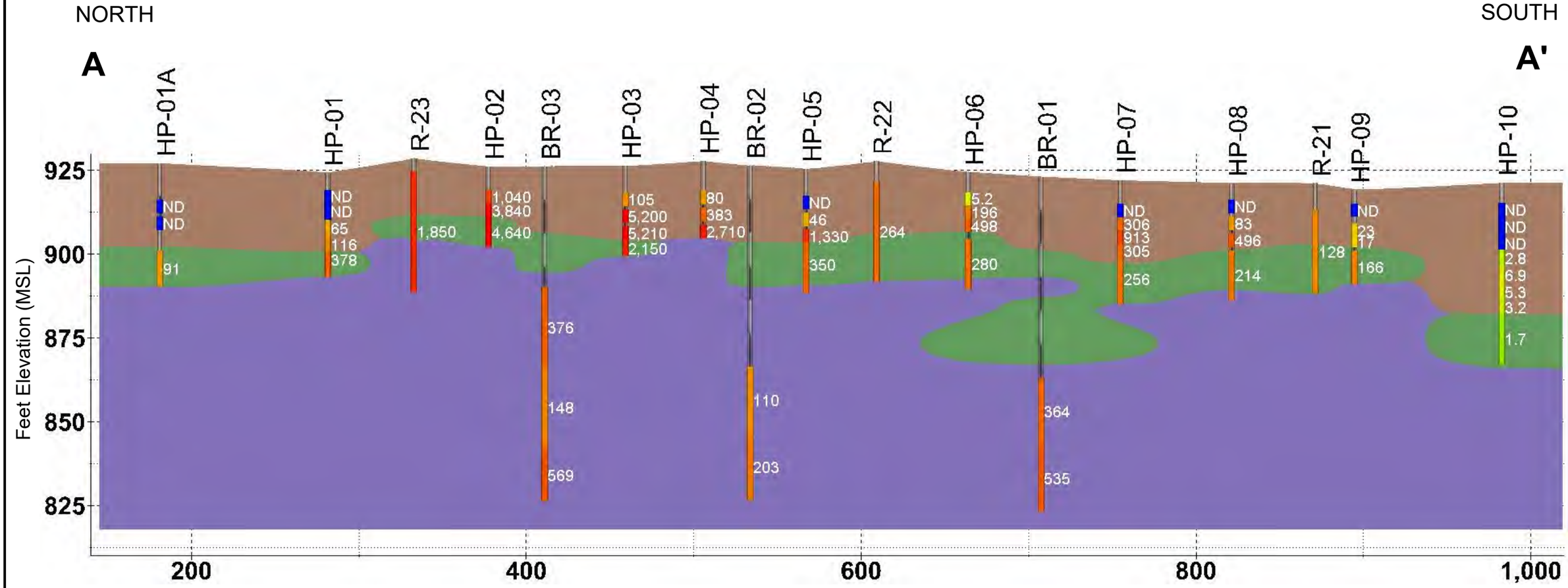
GROUNDWATER SAMPLING AND SURFACE WATER SAMPLING RESULTS FOR TCE

ARCADIS Design & Consultancy for natural and built assets

FIGURE **5A**

NORTH

SOUTH



LEGEND

RESIDUUM

PARTIALLY WEATHERED ROCK

BEDROCK

TCE

5,210 ug/L
3,000 ug/L
1,000 ug/L
300 ug/L
100 ug/L
30 ug/L
10 ug/L
3.0 ug/L
1.0 ug/L
0.30 ug/L
0.10 ug/L
0.030 ug/L
0.010 ug/L
0.0030 ug/L
0.0010 ug/L

NOTES:

- THE NCAC 2L 2013 GROUNDWATER STANDARD FOR TCE IS 3 ε g/L
- ALL RESULTS ARE PRESENTED IN MICROGRAMS PER LITER (ε g/L)
- RESULTS FOR HP-04 FOR TCE WERE 2,710 ε g/L FOR 19 - 23 FT BGS & 1,780 ε g/L FOR 18 - 23 FT BGS
- TCE: TRICHLOROETHENE
- ND: COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED ABOVE LABORATORY REPORTING LIMIT
- MSL: MEAN SEA LEVEL
- VERTICAL EXAGGERATION = 2X

GENERAL ELECTRIC COMPANY CONOVER, NORTH CAROLINA

GROUNDWATER INVESTIGATION REPORT

GEOLOGIC CROSS SECTION A-A' GROUNDWATER RESULTS FOR TCE

ARCADIS

FIGURE **5B**

C:\Users\ms0285\ACCDocs\Arcadis\AUS-GE-CONOVER-CONOVER North Carolina\Project Files\2021\01-In Progress\01-DWG\GWM-2021Q1-F06A-CIS 1 2 DCE RESULTS.dwg LAYOUT: 6A SAVED: 7/21/2021 2:17 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/21/2021 4:32 PM BY: M, SARAVANAPRIYA

HP-01A (7.5)
HP-01 (58.3)
R-23 (183)
HP-02 (171)
BR-03 (34.8 [32.9])
HP-03 (222)
HP-04 (ND)
BR-02 (ND)
HP-05 (ND)
R-22 (ND)
HP-06 (5.2)
BR-01 (2.5)
HP-07 (ND)
HP-08 (4.0 U [3.8])
R-21 (1.6)
HP-09 (2.4)
HP-10 (ND)
R-19
R-18
R-17
R-16
R-15
R-14
R-13

Stream E (ND)
72" CMP
S-11
Stream D (1.0)
Stream C-4 (1.7)
Stream C-2 (1.9)
S-10
Stream C (ND)
Stream B-3 (1.8)
Stream B-2 (1.9)
S-9
Stream B-1 (1.8)
S-8
Stream B (1.8)
S-7
Stream A (1.6)
S-6

925
950

P-9
E-10
P-11
P-7
E-8
P-6
MW-34
MW-38D
MW-35
MW-11

EQUALIZATION BASIN SWMU 63b
SETTLING PIT SWMU 63a
WASTE WATER TREATMENT PLANT

0 100' 200'
GRAPHIC SCALE

NOTE:

1. ALL FEATURES AND BOUNDARIES SHOWN ARE APPROXIMATE.
2. RESULTS REPRESENT THE MAXIMUM CONCENTRATION DETECTED AT EACH LOCATION, REGARDLESS OF DEPTH.
3. [ ] = DUPLICATE SAMPLE RESULTS.
4. THE NCAC 2L 2013 GROUNDWATER STANDARD FOR CIS-1,2-DCE IS 70 µg/L.
5. THERE IS NO NC 2B SURFACE WATER STANDARD FOR CIS-1,2-DCE

LEGEND:

- MW-42 — MONITORING WELL / PIEZOMETER
- R-1 — RECOVERY WELL
- S-6 — CREEK STAGE LOCATION
- Stream 3 — TRIBUTARY SAMPLE LOCATION
- SITE BOUNDARY
- PARCEL BOUNDARIES
- R/W — RIGHT OF WAY LINE
- 6' CHAIN LINK FENCE
- TOPOGRAPHIC CONTOUR LINE
- WESTERN CREEK
- SWMU — SOLID WASTE MANAGEMENT UNIT
- RETENTION / TREATMENT PONDS
- HP-01 — HYDROPUNCH SAMPLING/BORING LOCATION
- BR-01 — BEDROCK PACKER TESTING LOCATION
- (222) — CIS-1,2-DCE (CIS-1,2-DICHLOROETHENE) CONCENTRATION IN µg/L (MICROGRAMS PER LITER)
- (ND) — NOT DETECTED
- U — THE COMPOUND WAS NOT DETECTED. THE ASSOCIATED VALUE IS THE REPORTING LIMIT.
- CIS-1,2-DCE CONCENTRATION 10,000+ µg/L
- CIS-1,2-DCE CONCENTRATION 1,000 - 10,000 µg/L
- CIS-1,2-DCE CONCENTRATION 100 - 1,000 µg/L
- CIS-1,2-DCE CONCENTRATION 70 - 100 µg/L
- CIS-1,2-DCE CONCENTRATION 0.0 - 70 µg/L

GENERAL ELECTRIC COMPANY
CONOVER, NORTH CAROLINA
GROUNDWATER INVESTIGATION REPORT

GROUNDWATER SAMPLING AND SURFACE WATER SAMPLING RESULTS FOR CIS-1,2-DCE

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6A

C:\Users\ms0285\ACCDocs\Arcadis\AUS-GE-CONOVER-CONOVER North Carolina\Project Files\2021\01-In Progress\01-DWG\GWM-2021Q1-F07-RECOVERY WELL LOCATION.dwg LAYOUT: 7 SAVED: 7/21/2021 3:07 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/21/2021 3:17 PM BY: M, SARAVANAPRIYA

72" CMP
Stream E
HP-01A
S-11
HP-01
R-23
HP-02
Stream D
BR-03
R-26
HP-03
Stream C-4
HP-04
R-25
Stream C-2
BR-02
HP-05
R-22
HP-06
S-10
R-24
Stream C
BR-01
925
HP-07
Stream B-3
HP-08
950
R-21
Stream B-2
HP-09
S-9
HP-10
Stream B-1
P-9
EQUALIZATION
BASIN
SWMU 63b
E-10
SETTLING PIT
SWMU 63a
S-8
R-19
Stream B
R-18
WASTE WATER
TREATMENT PLANT
R-17
MW-34
MW-38D
MW-35
S-7
MW-11
R-16
Stream A
R-15
P-11
P-7
E-8
R-14
P-6
S-6
R-13
0 100' 200'
GRAPHIC SCALE

LEGEND:

- MW-42 — MONITORING WELL / PIEZOMETER
- R-1 — RECOVERY WELL
- S-6 — CREEK STAGE LOCATION
- Stream 3 — TRIBUTARY SAMPLE LOCATION
- SITE BOUNDARY
- PARCEL BOUNDARIES
- R/W — RIGHT OF WAY LINE
- 6' CHAIN LINK FENCE
- TOPOGRAPHIC CONTOUR LINE
- WESTERN CREEK
- SWMU — SOLID WASTE MANAGEMENT UNIT
- RETENTION / TREATMENT PONDS
- HP-01 — HYDROPUNCH SAMPLING/BORING LOCATION
- BR-01 — BEDROCK CORING/SAMPLING LOCATION
- R-25 — PLANNED RECOVERY WELL LOCATION

NOTE:

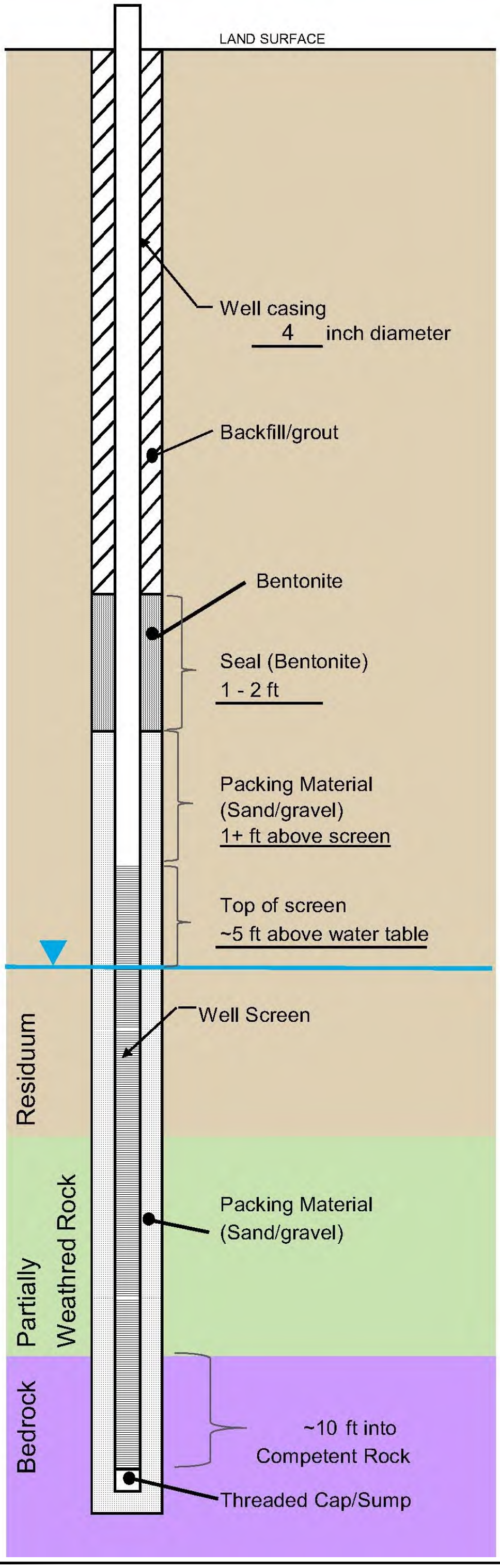
1. ALL FEATURES AND BOUNDARIES SHOWN ARE APPROXIMATE.

GENERAL ELECTRIC COMPANY
CONOVER, NORTH CAROLINA
GROUNDWATER INVESTIGATION REPORT

PLANNED RECOVERY WELL LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
7



NOTES:

1. RECOVERY WELL CONSTRUCTION SHALL MEET THE STANDARDS OF CONSTRUCTION IN ACCORDANCE WITH NORTH CAROLINA RULES (15A NCAC 02C .0108)
2. IF WATER TABLE IS LESS THAN 5 FT BELOW GROUND SURFACE, PACKER MATERIAL AND SEAL SHALL COMPLY WITH PARAGRAPH (J) OF RULE 02C .0108; PACKER MATERIAL WILL EXTEND 0.5 FT ABOVE SCREEN AND A SIX-INCH OR GREATER THICK SEAL COMPRISED OF CHIP OR PELLET BENTONITE SHALL BE PLACED IN THE ANNULAR SPACE ABOVE AND IN DIRECT CONTACT WITH THE PACKING MATERIAL

NOT TO SCALE

GENERAL ELECTRIC COMPANY
CONOVER, NORTH CAROLINA
GROUNDWATER INVESTIGATION REPORT

PROPOSED RECOVERY WELL CONSTRUCTION DIAGRAM

ARCADIS Design & Consultancy for natural and built assets

FIGURE
8

Attachment 1

Soil Boring Logs

ARCADIS Design & Consultancy for natural and built assets

Sample/Core Log

Boring/Well: HP-01 | Project/No.: GE - HICKORY | Page 1 of ___

Site Location: HICKORY, NC | Drilling Started: 2/1/21 | Drilling Completed: 2/1/21

Total Depth Drilled: 31 Feet | Hole Diameter: ___ inches | Type of Sample/Coring Device: MACRO-CORE

Length and Diameter of Coring Device: ___ | Sampling Interval: 5 feet

Land-Surface Elev.: TBD feet | [X] Surveyed | [ ] Estimated | Datum: ___

Drilling Fluid Used: NONE | Drilling Method: DPT/HSA

Drilling Contractor: GEOLOGIC EXPLORATION | Driller: ___

Prepared By: Matt Creel

Depth (ft. bgs.)	PID Reading (PPM)	Core Interval / % Recovery	Sample/Core Description
1			
2	0.6	0-2'	HAND AUGER FROM 0-4' BGS
3		100%	
4	0.0		0-2': CLAY W/ SOME SILT, LITTLE VF-F SAND, RED
5			BROWN TO DARK BROWN, MED. PLASTICITY, MOIST, SOFT
6	0.0		
7		2-4':	2-4': SILT W/ SOME CLAY, LITTLE VF-F SAND, LIGHT BROWN,
8	0.0	100%	
9			MICACEOUS, LOW PLASTICITY, MOIST, SOFT
10	0.0		
11		5-10'	5-10': SILT W/ SOME VF-F SAND, LITTLE CLAY, RED/BROWN,
12	0.0	80%	
13			MICACEOUS, MOIST, SOFT (COLOR CHANGES TO DARK
14	0.0		
15			BROWN @ 9.5')
16	0.0		
17		10-15'	10-18.5': SILTY SAND, SLOUGH, WET
18		100%	
19			18.5-20': SILT W/ SOME CLAY, SOME F-M SAND, ~~WHITE~~
20			
21	0.0		BROWN / WHITE (SAPROLITIC), MOIST, FIRM
22			
23	0.0	15-20	20-22': WHITE / BLACK HIGHLY WEATHERED ROCK, F-M SANDS
24		40%	
25	~~0.0~~		FIRM (MACRO CORE LINER CRUSHED DURING DRILLING)
26			
27	~~0.0~~	20-22' ~~25-30~~	~~22-23.5 25-27: SILT W/ SOME F-M SANDS, WET SLOUGH, RED/BROWN~~
28		100%	
29	~~0.0~~		~~22-30~~: 22-23.5': SAND (SAME AS ABOVE)
30			
31			DPT REFUSAL @ 23.5' BGS
32			
33			AUGER REFUSAL @ 31' BGS
34			
35			SET TEMPORARY 1" WELL SCREENED FROM 21-31' BGS.
36			
37			
38			
39			
40			

[X] - Soil sample collected

ARCADIS Design & Consultancy for natural and built assets

Sample/Core Log

Boring/Well HP-01A Project/No. GE HICKORY / 30053008 Page 1 of

Site Location GE - HICKORY, NC Drilling Started 7/3/21 Drilling Completed 7/3/21

Total Depth Drilled 37 Feet Hole Diameter ____ inches Type of Sample/ Coring Device MACRO CORE

Length and Diameter of Coring Device ____ Sampling Interval ____ feet

Land-Surface Elev. TBD feet [X] Surveyed [ ] Estimated Datum ____

Drilling Fluid Used NONE Drilling Method DPT / HSAs

Drilling Contractor GEOLOGIC EXPLORATION Driller ____

Prepared By Matt Creel

Depth (ft. bgs.)	PID Reading (PPM)	Core Interval / % Recovery	Sample/Core Description
1			
2	0.6	0-5' 100%	HAND AUGER FROM 0-5'
3			
4	0.0		0-2': CLAY W/ SOME SILT AND SOME VF SAND, DARK BROWN
5			
6	0.0	5-10' 30%	3-5': SANDY CLAY W/ SOME SILT, LIGHT BROWN, MOIST
7			INCREASE SAND CONTENT AND GRAIN SIZE W/ DEPTH
8	0.0		
9			COLOR CHANGES TO GREY
10	0.0		
11			
12	0.0	10-15' 60%	5-10': SILTY CLAY, LITTLE VF SAND, BROWN, MICACEOUS,
13			MOIST, SOFT
14	0.0		
15			5-8': SAME AS ABOVE (SAA)
16	0.0		
17			
18	0.0	15-20 90%	8-10': SILT W/ SOME F-C ~~FGM~~ SAND, LITTLE CLAY, BROWN,
19			SOME BLACK AND WHITE, SAPROLITIC
20	0.0		
21			10-18': SAA
22	0.0		
23			
24	0.0		18-20': F-M SAND W/ SOME SILT, WHITE W/ SOME BROWN
25			
26	0.0	20-25' 100%	AND BLACK, ~~HIGH~~ SAPROLITIC / HIGHLY WEATHERED ROCK
27			
28			20-23': SLUFF (WET)
29			
30			23-25': SAME AS 18-20' VERY TIGHT
31			
32		25-26' 100%	25-26': SAA
33			
34			DPT REFUSAL @ 26' BGS
35			
36			AUGER REFUSAL @ 37' BGS
37			
38			1" WELL INSTALLED. SCREENED FROM 27-37' BGS
39			
40			

[X] - Soil sample collected

ARCADIS Design & Consultancy for natural and built assets

Sample/Core Log

Boring/Well: HP-02 | Project/No.: GE | Page 1 of 1

Site Location: HICKORY, NC | Drilling Started: 2/1/21 | Drilling Completed: 2/2/21

Total Depth Drilled: 24 Feet | Hole Diameter: ____ inches | Type of Sample/Coring Device: MACRO CORE

Length and Diameter of Coring Device: ____ | Sampling Interval: 5 feet

Land-Surface Elev.: TBD feet | [X] Surveyed | [ ] Estimated | Datum: ____

Drilling Fluid Used: NONE | Drilling Method: DPT / AUGERS

Drilling Contractor: GEOLOGIC EXPLORATION | Driller: ____

Prepared By: Matt Creel

Depth (ft. bgs.)	PID Reading (PPM)	Core Interval / % Recovery	Sample/Core Description
1		0-2 100%	HAND AUGER FROM 0-5' BGS
2	1.2		0-2': CLAY W/ SOME SILT, LITTLE FINE SANDS, DARK BROWN, MICACEOUS, MED. PLASTICITY, MOIST, SOFT
3			
4	0.1		
5			
6	0.0	2-5' 100%	2-5': SILT W/ SOME F-M SAND, LITTLE CLAY, DARK BROWN, MICACEOUS, LOW PLASTICITY, MOIST, SOFT
7	0.0		
8	0.0		
9	1.7		
10	6.5	5-10' 80%	5-9': SILT, LITTLE CLAY, BROWN, MICACEOUS, LOW PLASTICITY, MOIST, SOFT
11	0.5		
12	0.4		
13	0.3		
14	24.6		9-10': SILT W/ LITTLE CLAY, LITTLE VF-F SAND, DARK AND LIGHT BROWN, MICACEOUS (SAPROLITE),
15	26.2		
16			
17			
18		10-15' 100%	10-12': SILT, BROWN, MICACEOUS, SLOUGH
19			
20			12-15': ~~BRO~~ SILT W/ SOME F-M SAND, LITTLE CLAY, BROWN, WHITE, SOME BLACK, SAPROLITE, VERY FIRM WITH SOME HIGHLY WEATHERED ROCK IN LAST 8" OF RUN
21			
22			
23			
24			DPT REFUSAL @ 15' BGS
25			
26			AUGER REFUSAL @ 24' BGS
27			
28			TEMPORARY 1" WELL INSTALLED SCREENED
29			
30			FROM 14-24' BGS
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			

[X] - Soil sample collected

SOIL BORING LOG

ARCADIS

HP-03

Boring No.: HP-03
Sheet: 1 of

Project Name: GE HICKORY NC
Project Number: 30053008
Project Location: Hickory NC

Date Started: 1-7-21
Date Completed: 1-7-21
Logger: J. NELSON
Editor:
Weather Conditions: Clear 28°F

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	Construction Details
0-2			24"	0		BROWNISH-ORANGE SILTY SANDY CLAY. SLIGHTLY MOIST. TRACE MICA. TRACE ORGANICS	HAND AUGER
2-4			24"	0		BROWN SILTY SANDY CLAY. SLIGHTLY PLASTIC. MICACEOUS.	HAND AUGER
5-10			36"	0		5-7' TANISH-BROWN SANDY CLAY. SOME SILTS. 7-8' SAND DARK GRAY. 8-10' STRIATED WEATHERED ROCK, SAND. MICACEOUS	MACRO CORE.
10-15			29"	0		BLACK, WHITE, BROWN STRIATED SAND, WEATHERED ROCK. BECOMING WET	"
15-17			31"			SAME AS ABOVE. TOP 12" OF INTERVAL MUDDY, WET, SLUFF	"
17-20			55"			TOP 27" OF INTERVAL IS MUDDY SLUFF. REST OF INTERVAL IS DARK-GRAY, BLACK, WHITE WEATHERED ROCK & SAND.	
20-22			29"			20-21 WET MUDDY SLUFF. 21-22 WHITE WEATHERED ROCK, SAND. TRACE QUARTZ.	
						DPT REFUSAL @ 22 FT. BGS.	
						AUGER REFUSAL @ 27 FT. INSTALL 10' SCREEN 17-27 FT. BGS	

Drilling Co.: GeoLogic
Driller:
Drilling Method: Push / Rotary
Drilling Fluid: NA
Remarks:

Sampling Method: NA
Sampling Interval:
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☐ No
Surface Elev:
North Coor:
East Coor:

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Sample/Core Log

Boring/Well HP-04 Project/No. GE HICKORY / 30053008 Page 1 of ____

Site Location HICKORY, NC Drilling Started 2/2/11 Drilling Completed 2/2/11

Total Depth Drilled 23 Feet Hole Diameter ____ inches Type of Sample/ Coring Device MACRO CORE

Length and Diameter of Coring Device ____ Sampling Interval ____ feet

Land-Surface Elev. TBD feet [X] Surveyed [ ] Estimated Datum ____

Drilling Fluid Used NONE Drilling Method DPT / HSAs

Drilling Contractor GEOLOGIC EXPLORATION Driller ____

Prepared By Matt Creel

	Depth (ft. bgs.)	PID Reading (PPM)	Core Interval / % Recovery	Sample/Core Description
	1			HAND AUGER FROM 0-5' BGS
	2	0.0		
	3			0-2': CLAY W/ SOME F-M SANDS, LITTLE SILT, RED/BROWN,
	4	0.0	0-5 100%	
	5			MED. PLASTICITY, MOIST, SOFT
	6	0.0		
	7			2-5': CLAY W/ LITTLE F-M SANDS, LITTLE SILT, RED/BROWN,
	8	0.0	5-10' 85%	
	9			MED. PLASTICITY, MOIST, SOFT
	10	0.0		
	11			5-6.5': CLAY W/ SOME F-M SAND, ORANGISH BROWN, MED
	12	0.0		
	13			PLASTICITY, MOIST
	14	0.0	10-15	
	15			6.5-9': ~~CLAYEY~~ VF-M SANDS W/ SOME CLAY, TAN, MOIST, TIGHT
	16		60%	
	17			9-10': SILTY SAND, LITTLE CLAY, SAPROLITIC, SOME QUARTZ
	18			
	19			FRAGMENTS @ 9.5'
	20			
	21	19.3		10-15': SILT W/ LITTLE CLAY, LITTLE VF-F SANDS, BROWN,
	22			
	23	10.2		SOME WHITE, LITTLE OLIVE, MICACEOUS, SAPROLITE
	24		15-20'	
	25			15-20': SAMPLE STUCK IN CORE BARREL
	26		0%	
	27			
	28		20-22'	20-22': SILT W/ SOME F-C SANDS, GREY, BROWN, SOME
	29		100%	
	30			WHITE (HIGHLY WEATHERED ROCK)
	31			
	32		22-23'	22-23': SAME AS ABOVE
	33		100%	
	34			
	35			
	36			~~AUGERED~~ DPT REFUSAL @ 23' BGS
	37			
	38			AUGER REFUSAL @ 23' BGS
	39			
	40			1" WELL INSTALLED SCREENED 18-23' BGS

[X] - Soil sample collected

SOIL BORING LOG

ARCADIS

HP-05

Boring No.: HP-05

Sheet: 1 of

Project Name: GE Hickory Hydropunch
Project Number: 30053008
Project Location: Hickory NC.

Date Started: 1-6-21
Date Completed: 1-6-21

Logger: J. NELSON
Editor:
Weather Conditions: Sunny 40's

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	Construction Details
0-2			24"	2.0		BROWNISH-ORANGE SILTY CLAY, MICACEOUS. TRACE ORGANICS. SOME SAND. SLIGHTLY PLASTIC. CL	HAND AUGER
2-4			24"	0		SAME AS ABOVE BUT BROWN.	HAND AUGER
5-10			32"	0		LIGHT BROWN SILTY SAND, WET TO BROWNISH-RED SILTY SANDY CLAY, MICACEOUS.	MACRO CORE
10-15			43"	0		0"-19" OF INTERVAL WET SLUFF 19"-43" POORLY SORTED, MICA, STRIATED SILTY SAND, WEATHERED ROCK BLACK, WHITE, GRAY, BROWNISH RED.	" "
15-~~20~~ 17			16"	0		SAME AS 19"-43" IN 10-15 INTERVAL.	" "
17-22			33"			TOP 10" SILTY CLAY, WET, MICA. BELOW 20' TIGHT PACKED SAND. STRIATED BLACK, WHITE, SOME BROWN SM REFUSAL @	OL
						22 FT. BGS. MOVE TO AUGERS.	
						AUGER REFUSAL @ 35 FT. SCREEN FROM 20-35 FT, 1" WELL.	
						WELL SET @ 35 FT. 15 FT. SCREEN.	

Drilling Co.: GEOLOGIC
Driller:
Drilling Method: PUSH / ROTARY
Drilling Fluid: N/A
Remarks:

Sampling Method: NA
Sampling Interval:
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☐ No
Surface Elev:
North Coor:
East Coor:

ARCADIS

SOIL BORING LOG

HP-06

Boring No.: HP-06

Sheet: 1 of

Project Name: GE HICKORY NC Hydropunch
Project Number: 30053008
Project Location: HICKORY NC

Date Started: 1-6-21
Date Completed:

Logger: D. NELSON
Editor:
Weather Conditions: CLEAR 30°F

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	Construction Details
0-2			24"	4.7		Brownish-Orange Silty Clay. Trace Sand.	HAND Auger
2-4			24"	0		Brownish-Orange SILTY Sandy CLAY. Slightly Moist.	HAND Auger.
5-10			31"	0		Brownish GRAY SILTY SAND Trace MICA, Trace QUARTZ. QUARTZ Lens (2") @ 6 FT. BROWN SILTY Sandy Clay, QUARTZ @ 10 FT SM GC	MACRO CORE
10-12/15			27"	0		Top 19" SILTY SANDY CLAY. Brown. WET. OL. 19"-27" White, Brown, Black STRIATED SILTY SAND, WEATHERED SAND, Some QUARTZ. SM	"
12-15			22"	0		BLACK, White, Brown STriated Silty SAND. Well Sorted. MOIST. Some QUARTZ, MICACEOUS. SM	"
15-17			43"	0		WET SLUFF @ TOP. Brown SILTY SAND, very WET. MICACEOUS. BOTTOM 17" STRIATED SILTY SAND. Black, White, Tan, Brown SW MH	"
17-18			12"	0		STRIATED SLITY SAND, MICA, Black, Brown, White. Very Tight Packed. SM	
						Refusal @ 18 FT. BGS.	

Drilling Co.: GEOLOGIC
Driller:
Drilling Method: ~~Pump~~ Push.
Drilling Fluid: NA
Remarks:

Sampling Method: NA
Sampling Interval: NA
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☐ No
Surface Elev:
North Coor:
East Coor:

ARCADIS

SOIL BORING LOG

HP-07

Boring No.:

Sheet: 1 of 1

Project Name: GE Hickory Hydropunch
Project Number: 30053008
Project Location: Hickory NC

Date Started: 1-5-21
Date Completed:

Logger: J. NELSON
Editor:
Weather Conditions: Sunny 50's

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	Construction Details
0-2			24"	4.8		REDISH-BROWN SILTY Sandy Clay. Trace organics, Trace Small Gravel. Moist. ML	Hand Auger
2-4			24"	0		SAME AS ABOVE with Trace Medium To SMALL Quartz Gravel. ML	Hand Auger
4-5			12"	0		QUARTZ Gravel Trace of SAND Brownish-orange. Poorly Sorted.	Macro Core
5-10			40"	0		Very micaceous DARK BROWN Sandy Clay, very moist-WET Trace Quartz.	Macro Core
10-15			55"	0		Top 35" of Interval is SLUFFY, WET SILTY Sands. 35"-55" of Interval is WEATHERED STONE, BLACK, BROWN TAN and white Striation. WET.	" "
15-20						Core STUCK in SLEEVE in Barrel.	" "
20-25			57"			20-21' SLUFF, MUD. 21-22' SILTY CLAY, BROWN, WET. CL. 22-25' STRIATED SANDS, well sorted. BLACK, white, TAN, GRAY very Micaceous. ML	" "
						REFUSAL @ 25FT. BGS. Same MATERIAL AS HP-08 & HP-09	" "
						1-7-21 * Converted To well	
						Auger Refusal @ 37 FT BGS. Screen 37-22 FT. 15' Screen	

Drilling Co.: Gex
Driller:
Drilling Method: Push
Drilling Fluid: NA
Remarks:

Sampling Method: NA
Sampling Interval: NA
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☐ No
Surface Elev:
North Coor:
East Coor:

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SOIL BORING LOG

Boring No.: HP-08

Sheet: 1 of 1

Project Name: GE Hickory Hydro Power
Project Number: 30053008
Project Location: Hickory NC

Date Started: 1-5-21
Date Completed: 1-5-21

Logger: J. NELSON
Editor:
Weather Conditions: Clearing ↑40°F

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	Construction Details
0-2			24"	0		BROWNISH ORANGE SILTY CLAY, MICACEOUS. Slight Plasticity. MH	HAND AUGER
2-4			24"	0		BROWNISH ORANGE SILTY CLAY. MICACEOUS. TRACES OF FINE GRAY SANDS. CL	HAND Auger
4-9			34"	0		0-14" TIGHT PACKED CLAY Brownish orange. DISTINCT change from 14-34": STRIATED LAYER OF MOIST	MACRO CORE
			↓	0		white, GRAY, DARK Brown, Brown SILTY SAND. Very MICACEOUS. Very well Sorted, VERY FINE. MOIST. SC	" "
9-14			54"			0-13" SAME AS ABOVE SC 13-15" white Sand: SM 15-VERY MICACEOUS, VERY MOIST	
						WET BROWN SILTY CLAY MH	
15-20 14-						Sample STUCK in Core Barrel.	
						REFUSAL @ 20 FT BGS	
						SAME MATERIAL AS OBSERVED in HP-09.	

Drilling Co.: GEX
Driller:
Drilling Method: PUSH
Drilling Fluid: NA
Remarks:

Sampling Method: NA
Sampling Interval: NA
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☐ No
Surface Elev:
North Coor:
East Coor:

ARCADIS

SOIL BORING LOG

HP-09

Boring No.:

Sheet: 1 of 1

Project Name: GE HICKORY HYDRO Punch
Project Number: 30053008
Project Location: Hickory NC.

Date Started: 1-5-21
Date Completed: 1-5-21

Logger: J. NELSON
Editor:

Weather Conditions: RAIN ↑ 40's °F

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	Construction Details
0-2			24"	0		BROWN SILTY SANDY CLAY. MOIST. MICACEOUS. MH Trace organics	Hand Auger
2-4			24"	0		Brownish orange SILTY SANDY CLAY. MICACEOUS. moist. MH	Hand Auger
4-9			36"	⊗		0-12: Uniform SILTY CLAY Brownish-orange. WET AT 12". 12-30: Brown SANDY CLAY. WET. 30-36: STriaghted Black & white Fine Powdery Stone. VERY	CL SM
				⊗		Tight PACKED. GEOprobe HAMMering 9-10' SAME STriaghted Black & white fine Crushed Stone, SAND.	SM
10-15			^ 57"	⊗		0-38" SILTY, WET Highly Saturated. 38-57": VERY Tight Packed, well sorted Fine Sand. Mixture of Black, white, GRAY	
15-17			18"	⊗		Fine sands. SP VERY MOIST. 15-17' Push Shows SAME	
						MATERial AS 38-57" in the 10-15' interval. MATERIAL IS SO Tight GEOprobe Refusal @ 17 ft. BGS.	
						* WATER IN Boring @ 4.10 FT. BGS.	

Drilling Co.: GEOLOGIC
Driller:
Drilling Method: Direct Push
Drilling Fluid: NA
Remarks:

Sampling Method: GRAB
Sampling Interval: NA
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☐ No
Surface Elev:
North Coor:
East Coor:

ARCADIS

SOIL BORING LOG

Boring No.: HP-10

Sheet: 1 of 2

Project Name: GE HICKORY, NC
Project Number: 30053008
Project Location: HICKORY, NC.

Date Started: 1/4/21
Date Completed: 1-4-21 JN
Logger: J. NELSON
Editor:
Weather Conditions: SUNNY 44°F 1-5-21

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	Construction Details
0-2	NA	NA	24"	Ø		BROWNISH RED SILTY CLAY. ~~MOIST~~. TRACE ORGANICS. ML	HAND CLEAR
2-4			24"	Ø		BROWNISH ORANGE SILTY, SANDY, CLAY. OL MOIST @ 4FT.	HAND CLEAR
5-7			↑	Ø		LIGHT BROWN-TAN SANDY CLAY. OL	MACRO CORE ↓
7-9			51"	Ø		BROWNISH GRAY SILTY SANDY CLAY. MOIST. OL	
9-10			↓	Ø		ORANGISH BROWN SANDY CLAY, LENS OF SAND @ 9FT. Turning WET @ 10 FT.	MACRO CORE ↓
10-15			↑ Ø ↓	NA		NO RECOVERY. TIP Punch from 1ST Run of WATER SAMPLING Blocked MACRO CORE	MACRO CORE
15-20			Ø	NA		SAME CONDITION AS 10-15. Continue Push Just for WATER SAMPLES.	
						*Refusal @ 39 ft. BGS.	
10-15		01/05/2021	^ 46" v	Ø		0-25" BROWN, LOOSE, HEAVY SM SATURATED SILTY SAND. 25-46 BROWNISH ORANGE SILTY CLAY. WHITEISH GRAY SANDY LENSES. CL	
15-20			^ 54 v	Ø		0-39" SLUFF FROM OPEN BORRING. 39-54" SANDY CLAY BROWN. TRACE SANDSTONE @ 50" CL	

Drilling Co.: GEOLOGIC
Driller:
Drilling Method: DIRECT PUSH
Drilling Fluid: NA
Remarks:

Sampling Method: NA
Sampling Interval: NA
Water Level Start: 9 FT.
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ARCADIS

SOIL BORING LOG

HP-10

Boring No.:

Sheet: 2 of 2

Project Name: GE Hickory NC
Project Number: 30053008
Project Location: Hickory NC

Date Started: 1-4-21
Date Completed: 1-5-21

Logger: J. Nelson
Editor:
Weather Conditions:

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	Construction Details
20-25			^ 55" v	0		0-39": Sluffy from Top ~~of~~ WATER 39-55" GRAY, white, Brown LENSES of Sandy Clay. Moist. CL	MACRO CORE
25-30						No Recovery. MACRO core crushed in Boring.	"
30-35						Refusal. Well Sorted gravel in Barrel shoe, Rock. GRAY. Very Tight. Stuck in Barrel End.	"
35-39						NA	

Drilling Co.:
Driller:
Drilling Method:
Drilling Fluid:
Remarks:

Sampling Method:
Sampling Interval:
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☐ No
Surface Elev:
North Coor:
East Coor:

Attachment 2

Groundwater Sampling Logs

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sample Log

Project #: 30053008 **Well ID:** HP-01A **Date:** 2/3/21

Site Name/Location: GE - HICKORY, NC **Weather:**

Well Information

Measuring Point: GROUND Casing Diameter (in): 0.5 Screen Setting (ft-bmp): -

Total Depth (ft-bmp): Water Column (ft): Well Completion Type: Flush Mount / Stick-up

Water Level (ft-bmp): Well Volume (gal): Well Material: PVC / SS

Purge Details

Purge Start Time: Pump Intake (ft-bmp): Sampling Method: GRAB

Volume Purged (gal): Purge Rate (mL/min): Pump Type: WATERRA

Sample Time (label): QA/QC Samples: Sampled By: M. CREEL

Time	Screen Interval	Volume Purged	Depth to Water (ft. bmp)	Temp. (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)
	6-10	-	DRY						
1443	11-15	0.1	10.87	13.8	0.036	6.58	5.04	178.4	>1000
1447	11-15	0.3	10.09	13.7	0.035	6.46	5.03	172.9	>1000
1452	11-15	0.5		13.6	0.036	4.48	5.01	172.0	>1000
1501	16-20	0.1	13.82	15.0	0.039	5.24	5.10	164.9	>1000
1505	1620	0.3	14.35	14.9	0.037	5.23	5.15	161.9	>1000
1509	16-20	0.5		14.1	0.039	5.39	5.24	154.3	>1000
1521	21-25	0.1	17.12	16.0	0.062	3.50	5.52	140.3	>1000
1525	21-25	0.3	16.19	16.1	0.053	5.06	5.50	140.4	>1000
1529	21-25	0.5		14.9	0.054	5.00	5.09	131.2	>1000

Sample Description: Color: Odor: Appearance:

Sample ID	Time	Analysis	Preservitive	Quantity	QA/QC
HP-01A (11-15)	1455	VOCs	HCl	3	-
HP-01A (16-20)	1510	VOCs	HCl	3	-
HP-01A (21-25)	1530	VOCs	HCl	3	-

Well Condition

Damaged: Yes / No Labled: Yes / No Locked: Yes / No Sealed: Yes / No

Comments:

Notes

Conversions:

Well Casing Volumes (gal./ft.): 1" = 0.04; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.47

1 gal. = 3.785 L; 1 L = 0.264 gal.

1 ft. water = 0.433 psi; 1 psi = 2.31 ft. water

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Groundwater Sample Log

Project #: 30053008 **Well ID:** MP-01 **Date:** 2/1/21

Site Name/Location: GE - HICKORY **Weather:** OVERCAST, 40°F

Well Information

Measuring Point: GROUND Casing Diameter (in): 0.5 Screen Setting (ft-bmp): -

Total Depth (ft-bmp): _____ Water Column (ft): _____ Well Completion Type: Flush Mount / Stick-up

Water Level (ft-bmp): _____ Well Volume (gal): _____ Well Material: PVC / SS

Purge Details

Purge Start Time: _____ Pump Intake (ft-bmp): _____ Sampling Method: GRAB

Volume Purged (gal): _____ Purge Rate (mL/min): _____ Pump Type: WATERRA

Sample Time (label): _____ QA/QC Samples: _____ Sampled By: M. CREE

Time	~~Minutes Elapsed~~ SAMPLE TIME	Volume Purged	Depth to Water (ft. bmp)	Temp. (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)
1210		0.1	4.41	10.6	0.052	4.04	7.13	146.7	>1000
1214		0.3	4.53	11.0	0.047	2.75	6.36	143.0	>1000
1218	(1225)	0.5	4.32	11.3	0.041	2.51	5.41	144.3	>1000
1336		0.1	5.38	12.4	0.041	4.65	5.26	152.7	>1000
1340		0.3	6.59	12.8	0.048	4.61	5.45	146.2	>1000
1344	(1350)	0.5		12.9	0.041	4.05	5.47	145.0	>1000

5-9 ~~5-10~~

10-14

Sample Description: Color: _____ Odor: _____ Appearance: _____

Constituents Sampled	Container Type	Quantity	Preservative

Well Condition

Damaged: Yes / No Labled: Yes / No Locked: Yes / No Sealed: Yes / No

Comments: _____

Notes

_____

Conversions:

Well Casing Volumes (gal./ft.)

1" = 0.04 3" = 0.37 6" = 1.47

2" = 0.16 4" = 0.65

1 gal. = 3.785 L

1 L = 0.264 gal.

1 ft. water = 0.433 psi

1 psi = 2.31 ft. water

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Groundwater Sample Log

Project #: 30053008 **Well ID:** HP-01 **Date:** 7/1/21

Site Name/Location: GE-HICKORY **Weather:** CLEAR, 47°F

Well Information

Measuring Point: GROUND Casing Diameter (in): 0.5 Screen Setting (ft-bmp): -

Total Depth (ft-bmp): Water Column (ft): Well Completion Type: Flush Mount / Stick-up

Water Level (ft-bmp): Well Volume (gal): Well Material: PVC / SS

Purge Details

Purge Start Time: Pump Intake (ft-bmp): Sampling Method: GRAB

Volume Purged (gal): Purge Rate (mL/min): Pump Type: WATERRA

Sample Time (label): QA/QC Samples: DUP-02 on 19-23.5 Sampled By: M. CREEL

Time	~~Minutes Elapsed~~ SAMPLE TIME	Volume Purged	Depth to Water (ft. bmp)	Temp. (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)
1400		0.1	4.21	14.0	0.064	5.95	5.74	140.0	>1000
14-19 1404		0.3	10.40	14.2	0.060	5.63	5.93	132.3	>1000
1408	(1410)	0.5		14.3	0.063	5.79	5.91	134.2	>1000
19-23.5 1421		0.1	8.94	14.0	0.048	5.49	6.05	131.5	>1000
(DUP-02) 1428		0.3	9.26	15.4	0.082	5.36	6.13	129.0	>1000
1433	(1435)	0.5		15.3	0.079	4.96	6.26	118.8	>1000

Sample Description: Color: Odor: Appearance:

Constituents Sampled	Container Type	Quantity	Preservative

Well Condition

Damaged: Yes / No Labled: Yes / No Locked: Yes / No Sealed: Yes / No

Comments:

Notes

Conversions:

Well Casing Volumes (gal./ft.)

1" = 0.04 3" = 0.37 6" = 1.47

2" = 0.16 4" = 0.65

1 gal. = 3.785 L

1 L = 0.264 gal.

1 ft. water = 0.433 psi

1 psi = 2.31 ft. water

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Groundwater Sample Log

Project #: 30053008 **Well ID:** MP-02 **Date:** 7/11/21

Site Name/Location: GE - HICKORY **Weather:** OVERCAST, 420F

Well Information

Measuring Point: GROUND | Casing Diameter (in): 0.5 | Screen Setting (ft-bmp): -

Total Depth (ft-bmp): | Water Column (ft): | Well Completion Type: Flush Mount / Stick-up

Water Level (ft-bmp): | Well Volume (gal): | Well Material: PVC / SS

Purge Details

Purge Start Time: | Pump Intake (ft-bmp): | Sampling Method: GRAB

Volume Purged (gal): | Purge Rate (mL/min): | Pump Type: WATERRA

Sample Time (label): | QA/QC Samples: | Sampled By: M. CREEL

Time	Minutes Elapsed SAMPLE TIME	Volume Purged	Depth to Water (ft. bmp)	Temp. (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)
1706		0.1	1.29	10.6	0.122	8.60	5.40	174.3	>1000
1711		0.3	5.76	10.8	0.098	7.59	5.32	174.4	>1000
1716	(1720)	0.5		11.4	0.092	6.14	5.73	176.5	>1000
1727		0.1	6.19	14.1	0.132	5.18	5.44	177.0	>1000
1732		0.3	4.95	14.4	0.127	4.14	5.58	160.6	>1000
1736	(1740)	0.5		14.1	0.121	4.38	5.71	147.7	>1000

7-11'

11-15

Sample Description: Color: Odor: Appearance:

Constituents Sampled	Container Type	Quantity	Preservative

Well Condition

Damaged: Yes / No Labled: Yes / No Locked: Yes / No Sealed: Yes / No

Comments:

Notes

Conversions:

Well Casing Volumes (gal./ft.)

1" = 0.04 3" = 0.37 6" = 1.47

2" = 0.16 4" = 0.65

1 gal. = 3.785 L

1 L = 0.264 gal.

1 ft. water = 0.433 psi

1 psi = 2.31 ft. water

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Groundwater Sample Log

Project #: 30053008 **Well ID:** HP-03 **Date:** 7/12/21

Site Name/Location: GE-HICKORY, NC **Weather:** CLEAR, ~90°F

Well Information

Measuring Point: GROUND Casing Diameter (in): 0.5 Screen Setting (ft-bmp): -

Total Depth (ft-bmp): _____ Water Column (ft): _____ Well Completion Type: Flush Mount / Stick-up

Water Level (ft-bmp): _____ Well Volume (gal): _____ Well Material: PVC / SS

Purge Details

Purge Start Time: _____ Pump Intake (ft-bmp): _____ Sampling Method: GRAB

Volume Purged (gal): _____ Purge Rate (mL/min): _____ Pump Type: WATERRA

Sample Time (label): _____ QA/QC Samples: _____ Sampled By: M. CREEL

Time	~~Minutes Elapsed~~ SAMPLE TIME	Volume Purged	Depth to Water (ft. bmp)	Temp. (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)
1043		0.1	7.32	10.0	0.175	9.14	7.73	143.3	>1000
8-12 1047		0.3	7.95	10.7	0.139	7.01	7.04	129.2	>1000
1052	(1055)	0.5		10.7	0.121	7.48	6.64	120.0	>1000
13-17 1103		0.1	10.13	12.7	0.122	1.78	6.67	97.1	>1000
1107		0.3	9.32	12.9	0.091	4.90	6.84	85.2	>1000
1112	(1115)	0.5		13.2	0.084	4.25	6.91	81.0	>1000

Sample Description: Color: _____ Odor: _____ Appearance: _____

Constituents Sampled	Container Type	Quantity	Preservative

Well Condition

Damaged: Yes / No Labled: Yes / No Locked: Yes / No Sealed: Yes / No

Comments: _____

Notes

Conversions:

Well Casing Volumes (gal./ft.)

1" = 0.04 3" = 0.37 [illegible] = 0.47

2" = 0.16 4" = 0.65

1 gal. = 3.785 L

1 L = 0.264 gal.

1 ft [illegible] = 0.433 psi

1 psi = 2.31 ft. water

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sample Log

Project #: 30053008 **Well ID:** HP-03 **Date:** 2/2/21

Site Name/Location GE-HICKORY, NC **Weather:** CLEAR, ~40°F

Well Information

Measuring Point: GROUND Casing Diameter (in): 0.5 Screen Setting (ft-bmp): -

Total Depth (ft-bmp): _____ Water Column (ft): _____ Well Completion Type: Flush Mount / Stick-up

Water Level (ft-bmp): _____ Well Volume (gal): _____ Well Material: PVC / SS

Purge Details

Purge Start Time: _____ Pump Intake (ft-bmp): _____ Sampling Method: GRAB

Volume Purged (gal): _____ Purge Rate (mL/min): _____ Pump Type: WATERRA

Sample Time (label): _____ QA/QC Samples: _____ Sampled By: M. CREEL

Time	~~Minutes Elapsed~~ SAMPLE TIME	Volume Purged	Depth to Water (ft. bmp)	Temp. (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)
1123		0.1	10.64	14.9	0.086	4.22	6.80	89.8	>1000
1127		0.3	9.77	15.1	0.085	3.99	7.01	79.9	>1000
1132	(1135)	0.5		14.11	0.081	3.98	7.06	77.9	>1000

18-22

Sample Description: Color: _____ Odor: _____ Appearance: _____

Constituents Sampled	Container Type	Quantity	Preservative

Well Condition

Damaged: Yes / No Labled: Yes / No Locked: Yes / No Sealed: Yes / No

Comments: _____

Notes

_____

Conversions:

Well Casing Volumes (gal./ft.)

1" = 0.04 3" = 0.37 6" = 1.47

2" = 0.16 4" = 0.65

1 gal. = 3.785 L

1 L = 0.264 gal.

1 ft. water = 0.433 psi

1 psi = 2.31 ft. water

GROUNDWATER SAMPLING LOG

Project No. _____ Well ID HP-03 (17-27) Date 1-13-21

Project Name/Location _____ Weather _____

Measuring Pt. Description _____ Screen Setting (ft-bmp) 17-27 Casing Diameter (in.) 1" Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 16.3 Total Depth (ft-bmp) _____ Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft-bmp) _____ Purge Method: WATERRA Centrifugal Submersible Other ✓ Sample Method Grab

Pump On/Off _____ Volumes Purged .25

Sample Time: Label 1329 Start _____ End _____ Replicate/ Code No. _____ Sampled by RayPerry

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	ORP (mV)	Appearance	
											Color	Odor
1329			16.3	.25	7.79	96	0.45	86.6	13.18 C	96.2	GRAY	

Constituents Sampled	Container	Number	Preservative

Well Casing Volumes

Gallons/Foot (1" = 0.04) 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location:		Well Locked at Arrival:	(Yes) / No
Condition of Well:		Well Locked at Departure:	(Yes) / No
Well Completion:	Flush Mount / (Stick Up)	Key Number To Well:	P150

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Groundwater Sample Log

Project #: 30053008 **Well ID:** HP-04 **Date:** 2/2/21

Site Name/Location: GE-HICKORY, NC **Weather:**

Well Information

Measuring Point: GROUND Casing Diameter (in): 0.5 Screen Setting (ft-bmp): -

Total Depth (ft-bmp): Water Column (ft): Well Completion Type: Flush Mount / Stick-up

Water Level (ft-bmp): Well Volume (gal): Well Material: PVC / SS

Purge Details

Purge Start Time: Pump Intake (ft-bmp): Sampling Method: GRAB

Volume Purged (gal): Purge Rate (mL/min): Pump Type: WATERRA

Sample Time (label): QA/QC Samples: Sampled By: M. CREEK

Time	Screen Interval	Volume Purged	Depth to Water (ft. bmp)	Temp. (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)
1354	9-13	0.1	8.44	11.8	0.091	7.05	6.15	110.5	>1000
1359	9-13	0.3	8.60	12.6	0.091	4.81	6.01	106.3	>1000
1403	9-13	0.5		12.4	0.089	4.97	5.96	104.8	>1000
1411	14-18	0.1	12.68	13.3	0.143	7.56	5.91	113.2	>1000
1416	14-18	0.3	17.5'	13.1	0.138	5.54	6.06	105.3	>1000
1422	14-18	0.5		13.8	0.136	5.60	6.11	103.1	>1000
1433	19-23	0.1	7.17	16.4	0.107	7.64	6.60	107.4	>1000
1438	19-23	0.3	15.43	17.2	0.102	5.66	7.07	91.4	>1000
1447	19-23	0.5		16.5	0.107	4.65	7.19	83.5	>1000

Sample Description: Color: Odor: Appearance:

Sample ID	Time	Analysis	Preservitive	Quantity	QA/QC
HP-04 (9-13'	1405	VOCs	HCl	3	
HP-04 (14-18)	1425	VOCs	HCl	3	
HP-04 (19-23)	1445	VOCs	HCl	9	MS/MSD

Well Condition

Damaged: Yes / No Labled: Yes / No Locked: Yes / No Sealed: Yes / No

Comments:

Notes

Conversions:

Well Casing Volumes (gal./ft.): 1" = 0.04, 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.47

1 gal. = 3.785 L

1 L = 0.264 gal.

1 ft. water = 0.433 psi

1 psi = 2.31 ft. water

ARCADIS | Design & Consultancy for natural and built assets

Groundwater Sample Log

Project #: 30053008 **Well ID:** MP-05 **Date:** 2/2/21

Site Name/Location: GE - HICKORY, NC **Weather:**

Well Information

Measuring Point: GROUND Casing Diameter (in): 0.5 Screen Setting (ft-bmp): -

Total Depth (ft-bmp): Water Column (ft): Well Completion Type: Flush Mount / Stick-up

Water Level (ft-bmp): Well Volume (gal): Well Material: PVC / SS

Purge Details

Purge Start Time: Pump Intake (ft-bmp): Sampling Method: GRAB

Volume Purged (gal): Purge Rate (mL/min): Pump Type: WATERRA

Sample Time (label): QA/QC Samples: Sampled By: A. CREEL

Time	Screen Interval	Volume Purged	Depth to Water (ft. bmp)	Temp. (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)
1602	8-12	0.1	6.77	11.5	0.075	7.43	6.12	124.0	>1000
1607	8-12	0.3	7.59	12.1	0.066	6.27	5.82	128.1	>1000
1613	8-12	0.5		11.6	0.069	6.08	5.80	121.3	>1000
1619	13-17	0.1	11.47	14.1	0.118	5.13	5.72	115.5	>1000
1623	13-17	0.3	11.54	14.4	0.122	5.33	5.91	109.0	>1000
1627	13-17	0.5		13.6	0.118	4.48	5.99	104.4	>1000
1636	18-22	0.1	15.74	18.2	0.088	4.99	6.27	106.6	>1000
1640	18-22	0.3	13.46	18.1	0.096	4.33	6.06	88.2	>1000
1644	18-22	0.5		16.0	0.091	5.09	6.87	81.5	>1000

Sample Description: Color: Odor: Appearance:

Sample ID	Time	Analysis	Preservitive	Quantity	QA/QC
MP-05 (8-12)	1615	VOCs	HCl	3	-
MP-05 (13-17)	1630	VOCs	HCl	3	-
MP-05 (18-22)	1645	VOCs	HCl	3	-

Well Condition

Damaged: Yes / No Labled: Yes / No Locked: Yes / No Sealed: Yes / No

Comments:

Notes

Conversions:

Well Casing Volumes (gal./ft.): 1" = 0.04; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.47

1 gal. = 3.785 L; 1 L = 0.264 gal.

1 ft. water = 0.433 psi; 1 psi = 2.31 ft. water

GROUNDWATER SAMPLING LOG

Project No. _____ Well ID HP-05 (20-35) Date 1-13-21

Project Name/Location _____ Weather _____

Measuring Pt. Description _____ Screen Setting (ft-bmp) 20-35 Casing Diameter (in.) 1" Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 9.9 Total Depth (ft-bmp) _____ Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft-bmp) _____ Purge Method: Waterra Centrifugal Submersible Other ✓ Sample Method Grab

Pump On/Off _____ Volumes Purged .5 gal

Sample Time: Label 1351 Start _____ End _____ Replicate/ Code No. _____ Sampled by Ray Fenley

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	ORP (mV)	Appearance Color	Appearance Odor
1351			9.9	.5	7.09	91	3.97	35	12.72c	336.5	gray	

Constituents Sampled	Container	Number	Preservative

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

Well Information

Well Location: _____ Well Locked at Arrival: (Yes) / No

Condition of Well: _____ Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: 150

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GROUNDWATER SAMPLING LOG

Page 1 of ____

Project No. 30053008 Well ID HP-06 Date 1-6-21

Project Name/Location GE Hickory NC Hydropunch Weather Clear 35°F

Measuring Pt. Description Ground Screen Setting (ft-bmp) ____ Casing Diameter (in.) 0.5 Well Material ____ PVC ____ SS

Static Water Level (ft-bmp) 7.85 Total Depth (ft-bmp) 18' Water Column/ Gallons in Well ____

MP Elevation ____ Pump Intake (ft-bmp) ____ Purge Method: ____ Centrifugal ____ Submersible Other X Sample Method GRAB

Pump On/Off ____ Volumes Purged ____

Sample Time: Label ____ Start ____ End Sample Time Replicate/ Code No. ____ Sampled by JN

	Time	Minutes Elapsed	Rate (ppm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
(6-10)	1022			7.85	0.1	6.85	58	ONA	8.39	10.32	150.4	Brown	None
	1026			7.85	0.2	6.23	53	OVER	9.58	11.24	168.2	"	"
	1030		1031	7.20	0.5	5.87	54	OVER	9.47	12.36	178.4	"	"
	1040			8.05	0.1	5.51	80	OVER	5.57	11.50	188.2	Brown	None
(10-14)	1044			7.90	0.2	5.63	84	OVER	5.47	13.98	162.0	"	"
	1048		1050	7.85	0.5	5.69	88	OVER	3.93	13.13	118.5	"	"
	1103			9.90	0.1	5.66	81	OVER	7.64	14.61	146.6	Brown	None
(14-18)	1107			8.01	0.2	5.74	85	OVER	4.54	15.48	113.8	"	"
	1111		1112	8.10	0.5	5.72	92	OVER	2.49	14.29	112.8		

Constituents Sampled	Container	Number	Preservative
8260	40 ML VOA	3	HCL

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: ____ Well Locked at Arrival: Yes / No

Condition of Well: ____ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: ____

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GROUNDWATER SAMPLING LOG

Page 1 of 1

Project No. 30053008 Well ID HP-07 Date 1-5-21

Project Name/Location GE HICKORY NC - Hydropunch Weather OVERCAST 47°

Measuring Pt. Description GROUND SURF. Screen Setting (ft-bmp) Casing Diameter (in.) 0.5 Well Material ___ PVC ___ SS

Static Water Level (ft-bmp) 7.40 Total Depth (ft-bmp) 24' Water Column/ Gallons in Well

MP Elevation Pump Intake (ft-bmp) Purge Method: Centrifugal / Submersible / Other X Sample Method GRAB

Pump On/Off Volumes Purged

Sample Time: Label Start End Replicate/ Code No. MS/MSD @ (15-19) SAMPLE TIME. Sampled by JN

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
(7-11) 1554				0.1	6.36	56	OVER	5.91	13.98	135	BROWN	NONE
1558				0.2	5.73	56	OVER	6.52	14.39	145.5	"	"
1601			1602	0.5	5.95	56	OVER	~~11.04~~ 7.31	13.90	154.9	"	"
(11-15) 1606				0.1	5.67	84	OVER	5.74	14.40	150.2	BROWN	NONE
1609				0.2	5.64	78	OVER	5.64	15.05	128.0	"	"
1612			1613	0.5	5.65	78	OVER	5.44	15.19	126.0	"	"
							OVER		~~15.01~~			
(15-19) 1619				0.1	5.88	71	OVER	3.99	15.01	117.5	BROWN	NONE
1623				0.2	5.81	82	OVER	5.04	14.84	121.5	"	"
1625			1626	0.5			OVER				"	"
//////////												
(19-23-24) 1640				0.1	6.25	98	OVER	6.93	17.63	142.9	"	"
↳ 1644				0.2	6.34	100	OVER	6.70	17.62	128.6	"	"
1649			1650	0.5								

Constituents Sampled	Container	Number	Preservative
8260	40 mL VOA	3	HCL.

MS/MSD collected @ HP-07 (15-19) Interval / 9 VOAs

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: Well Locked at Arrival: Yes / No

Condition of Well: Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well:

GROUNDWATER SAMPLING LOG

Project No. _____ Well ID HP-07(22-37) Date 1-13-21

Project Name/Location _____ Weather _____

Measuring Pt. Description _____ Screen Setting (ft-bmp) 22-37 Casing Diameter (in.) 1" Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 9.6 Total Depth (ft-bmp) _____ Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft-bmp) _____ Purge Method: WATERRA Sample Method Grab

Pump On/Off _____ Volumes Purged 1 gal Centrifugal _____ Submersible _____ Other ✓

Sample Time: Label 1415 Start _____ End _____ Replicate/ Code No. _____ Sampled by Ray Parker

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	ORP (mV)	Appearance	
											Color	Odor
1415			9.6	1	6.85	90	8.66	35.2	13.73	325.7	Gray	

Constituents Sampled	Container	Number	Preservative

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location:	_____	Well Locked at Arrival:	(Yes) / No
Condition of Well:	_____	Well Locked at Departure:	(Yes) / No
Well Completion:	Flush Mount / (Stick Up)	Key Number To Well:	P150

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GROUNDWATER SAMPLING LOG

Project No. 30053008 Well ID HP-08 Date 1-5-21

Project Name/Location GE HICKORY NC - Hydropunch Weather OVERCAST 50's

Measuring Pt. Description GROUND SURF. Screen Setting (ft-bmp) ____ Casing Diameter (in.) 0.5 Well Material ___ PVC ___ SS

Static Water Level (ft-bmp) 5.5 Total Depth (ft-bmp) 20 Water Column/ Gallons in Well ____

MP Elevation ____ Pump Intake (ft-bmp) ____ Purge Method: ____ Centrifugal ____ Submersible Other X Sample Method GRAB

Pump On/Off ____ Volumes Purged ____

Sample Time: Label ____ Start ____ End ____ Replicate/ Code No. DUP-01 SAMPLE TIME Sampled by JN

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
(5-9) 1320			NM	0.1	6.89	54	OVER	7.61	14.61 Hb	114.5	BROWN	NONE
1324				0.2	6.36	34	OVER	8.23	14.10	129.0	"	"
1329			1330	0.5	6.02	34	OVER	7.41	13.86	153.9	"	"
(10-14) 1341				0.1	5.90	128	OVER	4.85	15.68	140.2	BROWN	NONE
1343				0.2	6.01	133	OVER	7.50	15.89	139.1	"	"
1346			1347	0.5	6.07	135	"	6.72	16.33	135.2	"	"
(15-19) 1358				0.1	6.43	110	OVER	6.10	17.14	131.8	BROWN	NONE
1401				0.25	6.27	125	OVER	4.96	17.74	103.0	"	"
1404			1405	0.50	6.22	123	OVER	4.71	17.31	100.9	"	"

Constituents Sampled	Container	Number	Preservative
8260	40 mL VOA	3	HCL

* DUP-01 Collected - Timed @ 1201 From HP-08 (15-19) interval.

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location: ____ Well Locked at Arrival: Yes / No

Condition of Well: ____ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: ____

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GROUNDWATER SAMPLING LOG

Page 1 of ____

Project No. 30053008 Well ID HP-09 Date 1-5-21

Project Name/Location GE Hickory NC Hydropunch Weather RAIN M40's

Measuring Pt. Description Ground Surface Screen Setting (ft-bmp) 4' interval Casing Diameter (in.) 0.5" Well Material ___ PVC ___ SS

Static Water Level (ft-bmp) 4.10' BGS. Total Depth (ft-bmp) 17' Water Column/ Gallons in Well

MP Elevation ____ Pump Intake (ft-bmp) ____ Purge Method: ____ Centrifugal ____ Submersible Other X Sample Method GRAB

Pump On/Off ____ Volumes Purged ____

Sample Time: Label ____ Start ____ End ____ Replicate/ Code No. ____ SAMPLE TIME Sampled by JN

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
(4-8) 1000			NA	0.1	6.27	98	OVER	5.95	12.85	122.2	Brown	none
1004				0.2	6.00	71	"	7.52	13.52	122.8	BRN/org	none
1009			1010	0.5	5.71	71	"	7.36	13.28	123.9	"	"
(10-14) 1021			NA	0.1	5.84	122	OVER	5.55	15.18	144	BRN	none
1025				0.2	5.86	116	"	5.15	14.80	116.3	"	"
1029			1030	0.5	5.88	129	"	5.06	14.71	100.9	"	"
((14-17) 1042				0.1	5.99	148	OVER	7.29	17.08	129.9	BRN	none
1045				0.25	6.08	145	"	6.16	17.77	106.5	GRAY	none
1050			1051	0.5			"				GRAY	none

Constituents Sampled	Container	Number	Preservative
8260	40 mL VOA	3	HCL

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

Well Information

Well Location: ____ Well Locked at Arrival: Yes / No

Condition of Well: ____ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: ____

ARCADIS

GROUNDWATER SAMPLING LOG

Project No. 30053008 Well ID BORING HP-10 Date 1/4/21

Project Name/Location GE HICKORY, NC Weather Sunny 45°F

Measuring Pt. Description GROUND SURFACE

Screen Setting (ft-bmp) 4 FT

Casing Diameter (in.) 2" ~0.5"

Well Material ___ PVC ___ SS

Static Water Level (ft-bmp) ___

Total Depth (ft-bmp) NA

Water Column/ Gallons in Well ___

MP Elevation ___

Pump Intake (ft-bmp) NA

Purge Method: ___ Centrifugal ___ Submersible Other X

Sample Method GRAB

Pump On/Off ___

Volumes Purged ___

Sample Time: Label ___ Start ___ End ___

Replicate/ Code No. ___

Sampled by SAN

TIME SAMPLE

	Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
HP-10 (6-10)	1440				1	3.68	58	OVER	6.15	14.19	268.9	ORANGE	none
	1445			1446	1.25	3.28	53	"	4.10	13.98	282.6	"	"
(10-14)	1500				0.10	3.85	35	OVER	5.11	15.06	233.0	ORANGE	none
	1505				0.5	3.98	47	OVER	4.80	15.11	208.3	"	"
	1509			1510	0.75	4.09	43		4.56	15.36	189.7	"	"
(16-20)	1530				0.20	5.48	260	OVER	7.03	15.24	133.7	BROWN	none
	1535				0.40	4.87	92	over	5.0	15.49	48.1	"	"
	1545			1545	0.75	4.72	67	OVER	4.99	15.23	33.8	"	"
(20-25)	1555				0.10	4.89	109	OVER	5.51	15.57	138.1	BROWN	none
	1600				0.25	5.11	115	OVER	4.51	16.14	74.5	"	"
	1606			1609	0.75	5.12	115	OVER	7.64	15.78	60.5	"	"

Constituents Sampled	Container	Number	Preservative
8260	40 ML VOA	3	HCL

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: ___ Well Locked at Arrival: Yes / No

Condition of Well: ___ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: ___

ARCADIS

GROUNDWATER SAMPLING LOG

Project No. 30053008 Well ID HP-10 Date 1-4-2021

Project Name/Location GE Hickory NC HydroPunch Proj. Weather Sunny 50°F

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) 0.5 Well Material ___ PVC ___ SS

Static Water Level (ft-bmp) _____ Total Depth (ft-bmp) 39' Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft-bmp) _____ Purge Method: _____ Centrifugal _____ Submersible _____ Other _____ Sample Method GRAB

Pump On/Off _____ Volumes Purged _____

Sample Time: Label _____ Start _____ End _____ Replicate/ Code No. _____

Sampled by JN

SAMPLE TIME

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
(25-30) 1622				0.1	5.32	135	OVER	2.22	15.82	20.4	BROWN	NONE
1626				0.25	5.27	122	OVER	3.85	16.05	16.1	"	"
1630			1631	0.50	5.28	123	OVER	4.05	15.76	-6.5	"	"
1645												
(30-35) 1655				0.1	5.59	191	OVER	1.09	15.28	39.3	DARK BROWN	NONE
1700				0.25	5.58	165	OVER	3.85	15.58	67.9	"	"
			1701	0.75	5.61	175	OVER	2.50	15.88	27.5	"	"
(35-39) 1710				0.1	5.77	201	OVER	1.40	14.97	25.6	DARK BRN	NONE
1715				0.25	5.77	186	OVER	1.73	16.48	-5.9	"	"
1720			1721	0.50	5.79	164	OVER	3.50	14.80	-2.3	"	"
			TERMINATE BORING @	39 FTBGS, Refusal.								

Constituents Sampled	Container	Number	Preservative
8260	40 mL VOA	3	HCL

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: _____ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

GROUNDWATER SAMPLING LOG

Project No. ______ Well ID HP 10 (39-54) Date 1-13-21

Project Name/Location ______ Weather ______

Measuring Pt. Description ______ Screen Setting (ft-bmp) 39 - 54 Casing Diameter (in.) 1'' Well Material ✓ PVC ___ SS

Static Water Level (ft-bmp) 7.7 Total Depth (ft-bmp) ______ Water Column/ Gallons in Well ______

MP Elevation ______ Pump Intake (ft-bmp) ______ Purge Method: Cwatera Sample Method Grab

Centrifugal ______

Pump On/Off ______ Volumes Purged 1.5 gal Submersible ______

Other ✓

Sample Time: Label 1620 Start ______ End ______ Replicate/ Code No. ______ Sampled by Ray Pauley

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (mMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	ORP (mV)	Appearance Color	Appearance Odor
1620			7.7	1.5	6.95	193	30.4	19.8	14.72	340.2	Gray	

Constituents Sampled	Container	Number	Preservative

Well Casing Volumes

Gallons/Foot (1" = 0.04) 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Well Information

Well Location:		Well Locked at Arrival:	(Yes) / No
Condition of Well:		Well Locked at Departure:	(Yes) / No
Well Completion:	Flush Mount / (Stick Up)	Key Number To Well:	P/57

Attachment 3

Bedrock Packer Testing Logs

Well ID:	BR-1							
Date Sampled:	3/18/21							
Screen Interval (ft bgs):	60 - 80'							
Casing Stick-up:	3.5'							
Field Parameters:	Depth to Water (ft btoc)	Volume Purged (gallons)	Temperature (℃)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	pH (standard units)
Time								
9:00	Began Purging							
9:15	64.75	28	14.9	0.18	1.57	211.9	29.5	10.73
9:38	65.57	48	14.9	0.181	0.99	170.7	30.9	10.73
9:45	71.81	71	14.9	0.18	0.88	150	30.6	10.7
10:00	73.81	90	14.9	0.178	1.32	146.1	26.5	10.68
10:05	Sample Collected BR-1 (60-80)							

*Over casing water levels (Above Packer)

8:57	2.78
9:35	2.79

Notes:

^{o}C	Degrees Celcius.
ft bgs	Feet below ground surface.
ft btoc	Feet below top of casing.
mg/L	Milligrams per liter.
mS/cm	Microsiemens per centimeter.
mV	Millivolts.
NTU	Nephelometric Turbidity Units.
mg/L	Micrograms per liter.

Sample collected using disposable bailer

Well ID:	BR-1							
Date Sampled:	3/18/21							
Screen Interval (ft bgs):	80 - 100'							
Casing Stick-up:	3.5'							
Field Parameters:	Depth to Water (ft btoc)	Volume Purged (gallons)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	pH (standard units)
Time								
10:45	Began Purging							
10:55	61.25	20	14.3	0.154	2.09	152.6	26.1	10.52
11:05	66.54	38	14.6	0.14	4.48	144.1	26.5	10.25
11:15	69.85	54	14.6	0.125	3.27	142.9	15.1	9.91
11:35	78.02	84	14.5	0.122	2.87	139.7	16.2	9.89
11:45	78.35	99	15	0.111	3.81	142.2	18.4	9.44
11:50	Sample Collected BR-1 (80-100)							

*Over casing water levels (Above Packer)

10:40	20.7
11:00	20.05
11:20	19.28
11:40	18.59

Notes:

°C	Degrees Celcius.
ft bgs	Feet below ground surface.
ft btoc	Feet below top of casing.
mg/L	Milligrams per liter.
mS/cm	Microsiemens per centimeter.
mV	Millivolts.
NR	Not recorded.
NTU	Nephelometric Turbidity Units.
mg/L	Micrograms per liter.

Sample collected using disposable bailer

Well ID:	BR-2							
Date Sampled:	3/17/21							
Screen Interval (ft bgs):	39 - 59'							
Casing Stick-up:	3.1'							
Field Parameters:	Depth to Water (ft btoc)	Volume Purged (gallons)	Temperature (℃)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	pH (standard units)
Time								
11:03	Began Purging							
11:06	40.25	6	14.7	0.212	2.3	109.8	30.4	10.89
11:15	50.75	26	14.8	0.224	2.77	97.5	41.7	10.94
11:25	58.35	41	14.9	0.245	1.07	97.8	42.2	11.04
11:28	Dry	45	Stoppped Pumping / Interval Purged DRY					
11:55	no recharge, no sample collected							

*Over casing water levels (Above Packer)

11:00	2.75
11:08	2.7
11:27	2.73

Notes:

^{o}C	Degrees Celcius.
ft bgs	Feet below ground surface.
ft btoc	Feet below top of casing.
mg/L	Milligrams per liter.
mS/cm	Microsiemens per centimeter.
mV	Millivolts.
NTU	Nephelometric Turbidity Units.
mg/L	Micrograms per liter.

Well ID:	BR-2							
Date Sampled:	3/17/21							
Screen Interval (ft bgs):	60 - 80'							
Casing Stick-up:	3.1'							
Field Parameters:	Depth to Water (ft btoc)	Volume Purged (gallons)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	pH (standard units)
Time								
12:06	Began Purging							
12:15	63.88	20	14.6	0.207	3.41	87.5	38.8	10.8
12:30	70.88	43	14.9	0.201	0.97	90.3	42.4	10.76
12:40	75.04	58	14.9	0.194	0.99	90.8	35.3	10.71
12:50	78.08	71	15.1	0.188	1.39	90.8	31.2	10.65
12:55	79.3	77	15.1	0.182	0.91	92.3	31.1	10.59
13:00	Sample Collected BR-2 (60-80')							

*Over casing water levels (Above Packer)

12:05	26.02
12:20	25.67
12:47	25.02

Notes:

°C	Degrees Celcius.
ft bgs	Feet below ground surface.
ft btoc	Feet below top of casing.
mg/L	Milligrams per liter.
mS/cm	Microsiemens per centimeter.
mV	Millivolts.
NTU	Nephelometric Turbidity Units.
mg/L	Micrograms per liter.

Sample collected using disposable bailer

Well ID:	BR-2							
Date Sampled:	3/17/21							
Screen Interval (ft bgs):	80 - 100'							
Casing Stick-up:	3.0'							
Field Parameters:	Depth to Water (ft btoc)	Volume Purged (gallons)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	pH (standard units)
Time								
13:34	Began Purging							
13:45	84.15	16	15.1	0.209	5.18	120.2	21.3	10.74
14:05	91.15	46	15.3	0.213	5.15	113.9	23.6	10.81
14:15	94.51	61	15.3	0.211	4.36	119.1	21.9	10.79
14:25	96.36	75	15.5	0.212	4.21	113.4	23.9	10.79
14:33	Dry	82	Stoppped Pumping / Interval Purged DRY					
14:40	97.08	NR	NR	NR	NR	NR	NR	NR
14:50	96.95	NR	NR	NR	NR	NR	NR	NR
14:55	Sample Collected BR-2 (80-100)							

*Over casing water levels (Above Packer)

13:32	44.9
14:08	41.68
14:20	40.64
14:30	39.94
14:48	38.32

Notes:

°C	Degrees Celcius.
ft bgs	Feet below ground surface.
ft btoc	Feet below top of casing.
mg/L	Milligrams per liter.
mS/cm	Microsiemens per centimeter.
mV	Millivolts.
NR	Not recorded.
NTU	Nephelometric Turbidity Units.
mg/L	Micrograms per liter.

Sample collected using disposable bailer

Well ID:	BR-3							
Date Sampled:	3/16/21							
Screen Interval (ft bgs):	36 - 60'							
Casing Stick-up:	6.7'							
Field Parameters:	**Depth to Water (ft btoc)**	**Volume Purged (gallons)**	**Temperature (℃)**	**Specific Conductivity (mS/cm)**	**Dissolved Oxygen (mg/L)**	**Oxidation-Reduction Potential (mV)**	**Turbidity (NTU)**	**pH (standard units)**
Time								
15:15	Began Purging							
	44.56	6	14.7	1.15	2.95	128.4	147	12
15:30	Dry	15	- -					
15:50	Continued Purging							
	- -	16	9.3	1.17	8.82	283.5	144	12.16
15:52	Dry	17	- -					
15:55	Removed Pump to Monitor Recharge							
16:05	50.35	- -	- -					
16:15	50.23	- -	- -					
16:25	50.16	- -	- -					
16:30	Sample Collected BR-3 (36-60')							

Notes:

^{o}C	Degrees Celcius.
ft bgs	Feet below ground surface.
ft btoc	Feet below top of casing.
mg/L	Milligrams per liter.
mS/cm	Microsiemens per centimeter.
mV	Millivolts.
NR	Not recorded.
NTU	Nephelometric Turbidity Units.
mg/L	Micrograms per liter.

Sample collected using disposable bailer

Well ID:	BR-3							
Date Sampled:	3/16/21							
Screen Interval (ft bgs):	60 - 84'							
Casing Stick-up:	6.7'							
Field Parameters:	Depth to Water (ft btoc)	Volume Purged (gallons)	Temperature (℃)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	pH (standard units)
Time								
16:45	Began Purging							
16:53	NR	2	Shut off pump - Due to Malfunctioning					
17:04	*Malfunction Resolved* -- Continued Purging							12
17:06	55.28	8	14.6	1.49	0.73	-289.2	35.9	12.17
17:11	65.25	15	14.8	1.45	1.13	-288.6	63	12.15
17:20	70.69	25	15	1.5	1.47	-288.4	64.4	12.16
17:30	76.28	39	15	1.44	0.75	-289.2	55.9	12.16
17:40	79.91	51	15.1	1.44	0.83	-289.1	54.7	12.16
17:44	Stoppped Pumping / Interval Purged DRY							
17:52	80.82	NR	NR	NR	NR	NR	NR	NR
17:55	80.83	NR	NR	NR	NR	NR	NR	NR
18:00	80.8	NR	NR	NR	NR	NR	NR	NR
18:05	Sample Collected BR-3 (60-84')							

*Over casing water levels (Above Packer)

16:40	32.96
17:26	32.42
17:47	32.14

Notes:

^{o}C	Degrees Celcius.
ft bgs	Feet below ground surface.
ft btoc	Feet below top of casing.
mg/L	Milligrams per liter.
mS/cm	Microsiemens per centimeter.
mV	Millivolts.
NR	Not recorded.
NTU	Nephelometric Turbidity Units.
mg/L	Micrograms per liter.

Sample collected using disposable bailer

Well ID:	BR-3							
Date Sampled:	3/17/21							
Screen Interval (ft bgs):	80 - 100'							
Casing Stick-up:	4.0'							
Field Parameters:	Depth to Water (ft btoc)	Volume Purged (gallons)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	pH (standard units)
Time								
8:20	Began Purging							
8:22	65.81	12	14.6	1.22	3.39	-277.2	13.6	11.94
8:35	83.99	30	14.7	1.48	3.72	-288.9	14.4	12.15
8:45	86.45	45	14	1.49	3.57	-289.9	16	12.18
8:55	88.82	60	14.5	1.24	3.38	-286.9	14	12.13
9:10	91.08	78	14.3	1.23	3.5	-287.1	13.6	12.13
9:20	91.92	88	14.4	1.23	3.6	-286.9	12.6	12.13
9:35	92.6	98	13.9	1.23	3.81	-287	10.7	12.14
9:40	93.36	105	13.5	1.22	3.52	-287.6	11.5	12.16
9:46	Shut off pump							
9:45	Sample Collected BR-3 (80-100') (Dup-1 031721)							

*Over casing water levels (Above Packer)

8:15	39.44
8:50	39.04
9:17	28.6
9:42	38.22

Notes:

°C	Degrees Celcius.
ft bgs	Feet below ground surface.
ft btoc	Feet below top of casing.
mg/L	Milligrams per liter.
mS/cm	Microsiemens per centimeter.
mV	Millivolts.
NTU	Nephelometric Turbidity Units.
mg/L	Micrograms per liter.

Sample collected using disposable bailer

100

Location HICKORY, NC Date 3/16/21

Project / Client GE - HICKORY

PACKER TEST:

WELL ID: BR-3 CASING STICK-UP = ~~3.90~~ 6.7'

SCREEN INTERVAL: 36-60'

TIME	DTW (FT. BTOL.)	VOLUME PURGED	TEMP. (°C)	SP. COND. (ms/cm)	D.O. (mg/L)	ORP (mV)	TURB. (NTU)	pH
1515	BEGIN	PURGING						
1516	44.56	6 GAL.	14.7	1.15	2.95	126.4	147	12.00
1530	DRY	~15GAL						
1550	CONTINUE PURGE							
		~16	9.3	1.17	8.82	78.5	144	12.16
1552	DRY	~17						
1605	50.75							
1611	50.73							
1615	50.16							
1630	COLLECT SAMPLE BR 3 (36-60)							

1555 - REMOVED PUMP TO ILLUMINATOR REEL

* SAMPLE COLLECTED VIA NEW DISPOSABLE BAILER

Location Hickory, NC Date 3/11/21

Project / Client GE - Hickory

WELL ID = BR-3 CASING STICK-UP = 2.7'

SCREEN INTERVAL = 60-84 TUBE

TIME	DTW	VOLUME PURGED	TEMP	SP. COND.		ORP	pH	
pH								
1245	- BEGIN PURGING							
1253	-	~2	- SHUT OFF PUMP / INJECTIONS					
12.00 1704	- CONTINUE PURGING							
1705	55.78	~8	14.6	1.49	0.78	-289.7	12.17	35.9
1711	65.25	~15	14.8	1.45	1.13	-288.6	12.15	63.0
12.16 1720	70.69	~25	15.2	1.51	1.47	-288.4	12.14	64.4
1730	76.28	~39	15.0	1.441	0.75	-289.2	12.12	55.9
1740	79.91	~51	15.1	1.44	0.83	-289.1	12.16	54.7
1744 - STOP PUMPING / WELL GOING DRY								

1750 80.88

1755 - 80.83

1800 - 80.80

1745 - REMOVE PUMP

* SAMPLE COLLECTED VIA NEW DISPOSABLE BAILER

1805. COLLECT SAMPLE BR-3 (60-84)

OUTER CASING WATER LEVELS (ABOVE PACKER)

1640 = 32.96

1726 = 32.42

1747 = 32.14

104

Location HICKORY, NC Date 3/17/21

Project / Client GE - HICKORY

WELL ID = BR-3 CASING STICK-UP: 4'

SCREEN INTERVAL: 80-100'

TIME	DTW (FT. BTOC)	VOLUME PURGED	TEMP (°C)	SP. COND. (mS/cm)	pH	D.O. (mg/L)	ORP (mV)	TURB. (NTU)
0820	→ BEGIN PURGING							
0830	65.81	~12 GAL	14.6	1.22	11.94	3.39	-277.2	13.6
0835	83.99	~30 GAL	14.7	1.48	12.15	3.72	-288.5	14.4
0845	82.45	~45	14.0	1.49	12.18	3.57	-289.9	12.0
0855	88.82	~60	14.5	1.24	12.13	3.38	-286.9	14.0
0910	91.08	~78	14.3	1.23	12.13	3.50	-287.1	13.6
0920	91.92	~88	14.4	1.23	12.13	3.60	-286.9	12.6
0930	92.60	~98	13.9	1.23	12.14	3.51	-287.0	10.7
0940	93.36	~105	13.5	1.22	12.16	3.52	-287.6	11.5

0946 → SHUT OFF PUMP

0945 - COLLECT SAMPLE BR-3 (80-100)

↳ DUP-1 (031721)

WATER CASING WATER LEVELS (ABOVE PACKER)

0835 = 39.44 0942 = 38.22

0850 = 39.04

0917 = 38.60

Location Hickory, NC Date 3/17/21

Project / Client GE - Hickory

WELL ID: BR-2 39-59' CASING STICK-UP = 3.1'

SCREEN INTERVAL: ~~[illegible]~~

TIME	STW (Ft. BTOC)	VOLUME PURGED	TEMP (°C)	SP. COND. (mS/cm)	pH	D.O. (mg/L)	ORP (mV)	TURB. (NTU)
1103 - BEGIN PURGING								
1106	40.75	~6	14.7	0.212	10.89	2.30	109.8	30.4
1115	50.75	~26	14.8	0.224	10.94	2.77	97.5	41.7
1125	58.35	~41	14.9	0.245	11.04	1.07	97.8	47.2
1128	DRY	~45	STOP PUMPING					

1155 - INTERVAL DRY, NO RECHARGE

* NO SAMPLE COLLECTED

OUTER CASING WATER LEVELS: (ABOVE POCKET)

1100 = 2.75' ~~1127~~

1105 = 2.70

1122 = 2.73

Location Hickory, NC Date 3/17/21

Project / Client GE - Hickory

WELL ID: BR-2 CASING STICK-UP = 3.1'

SCREEN INTERVAL = 60-80'

TIME	DTW (Ft. BTOC)	VOLUME PURGED	TEMP. (°C)	SP. COND. (MS/CM)	pH	D.O. (MG/L)	ORP (mV)	TURB. (NTU)
1706	- BEGIN PURGING							
1215	63.55	~20	14.2	0.207	10.80	3.41	57.5	38.8
1230	70.88	~43	14.9	0.201	10.76	0.97	90.3	42.4
1240	75.04	~58	14.9	0.194	10.71	0.99	90.8	35.3
1250	78.08	~71	15.1	0.188	10.65	1.39	90.8	31.2
1255	79.30	~77	15.1	0.182	10.59	0.91	92.3	31.1

1300 - COLLECT SAMPLE BR-2 (60-80)

OUTER CASING WATER LEVELS (ABOVE PACKER)

1205 = 76.02

1220 = 75.67

1247 = 75.02

Location Hickory, NC Date 3/17/21

Project / Client GE - Hickory

WELL ID: BH-7 CASING STICK-UP < 3'

SCREEN INTERVAL = 80-100

TIME	DTW (FT BTOC)	VOLUME PURGED	TEMP. (°C)	SP. COND. (mS/cm)	pH	D.O. (mg/L)	ORP (mV)	TURB. (NTU)
1334	BEGIN PURGING							
1345	84.15	~16	15.1	0.209	10.74	5.18	112.2	21.3
1405	91.15	~46	15.3	0.213	10.81	5.15	113.9	23.6
1415	94.51	~61	15.3	0.211	10.79	4.36	119.1	21.9
1425	96.36	~75	15.5	0.212	10.79	4.71	113.4	23.9
1438	DRY	~82	+ PURGED	DRY	/ STOP	PURGING		
1440	97.05							
1450	96.95							

1455 - COLLECT SAMPLE BH-7 (80-100)

OUTER CASING WATER LEVELS (ABOVE PACKER)

1332 = 44.90 1430 = 39.94

1408 = 41.68 1448 = 38.32

1420 = 40.64

Location HICKORY, NC Date 3/18/21

Project / Client GE - HICKORY, NC

WELL ID: BR-1 CASING STICK-UP: 3.5

SCREEN INTERVAL: 60-80

TIME	DTW	VOLUME PURGED	TEMP.	SP. COND.	PH	D.O.	ORP	TURBIDITY
0900	BEGIN PURGING							
[illegible]	64.75	~28	14.9	0.180	10.7[illegible]	1.5[illegible]	211.[illegible]	29.5
[illegible]	6[illegible]	~[illegible]8	14.9	0.181	10.73	0.99	170.2	30.9
0945	71.81	~71	14.9	0.180	10.70	0.88	15[illegible]	30.6
1000	73.81	~90	14.9	0.178	10.68	1.32	1[illegible].1	26.5

1005 - COLLECT SAMPLE BR-1 (60-80)

LOW MG/MSD

CUFFER CASING WATER LEVELS (ABOVE PACKER)

[illegible] 7.7[illegible]

0975 - 7.7[illegible]

Location HICKORY, NC Date 3/18/21

Project / Client GE-HICKORY

WELL ID: BTC-1 CASING STICK-UP: [illegible]

SCREEN INTERVAL: 80-100

TIME	DTW	VOLUME PURGED	TEMP.	SP. COND.	pH	D.O.	ORP	TURB.
1045	BEGIN PURGING							
1055	[illegible]	~30	[illegible]	[illegible]	10.52	[illegible]	147.6	[illegible]
1105	22.50	~38	14.6	0.[illegible]	10.[illegible]	4.48	144.1	26.4
1115	69.85	~54	14.6	0.175	9.91	3.72	142.9	[illegible]
1125	78.02	~84	[illegible]	0.[illegible]	9.89	2.87	139.7	[illegible]
1145	95.35	~99	15.0	0.111	9.[illegible]	2.41	142.[illegible]	[illegible]

1150 - COLLECT SAMPLE BTC-1 (80-100)

WATER CASING WATER LEVEL (ABOVE FLOWER)

~~[illegible]~~

1040 = 20.70 1120 = 19.28

1100 = 20.05 1140 = 18.59

Attachment 4

Laboratory Analytical Reports

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

January 13, 2021

Matthew Pelton
ARCADIS
5420 Wade Park Blvd
Suite 350
Raleigh, NC 27607

RE: Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Dear Matthew Pelton:

Enclosed are the analytical results for sample(s) received by the laboratory on January 07, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Chris Bagley, Arcadis
Kristen Lowder, Arcadis
Ray Penley, General Electric
Bob Witsell

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92515436001	STREAM A	EPA 8260D	CL	8	PASI-C
92515436002	STREAM B	EPA 8260D	CL	8	PASI-C
92515436003	STREAM B-1	EPA 8260D	CL	8	PASI-C
92515436004	STREAM B-2	EPA 8260D	CL	8	PASI-C
92515436005	STREAM B-3	EPA 8260D	CL	8	PASI-C
92515436006	STREAM C	EPA 8260D	CL	8	PASI-C
92515436007	STREAM C-2	EPA 8260D	CL	8	PASI-C
92515436008	STREAM C-4	EPA 8260D	CL	8	PASI-C
92515436009	STREAM D	EPA 8260D	CL	8	PASI-C
92515436010	STREAM E	EPA 8260D	CL	8	PASI-C
92515436011	HP-07 (7-11)	EPA 8260D	CL	8	PASI-C
92515436012	HP-07 (11-15)	EPA 8260D	CL	8	PASI-C
92515436013	HP-07 (15-19)	EPA 8260D	CL	8	PASI-C
92515436014	HP-07 (19-23)	EPA 8260D	CL	8	PASI-C
92515436015	HP-08 (5-9)	EPA 8260D	CL	8	PASI-C
92515436016	HP-08 (10-14)	EPA 8260D	CL	8	PASI-C
92515436017	HP-08 (15-19)	EPA 8260D	CL	8	PASI-C
92515436018	HP-09 (4-8)	EPA 8260D	CL	8	PASI-C
92515436019	HP-09 (10-14)	EPA 8260D	CL	8	PASI-C
92515436020	HP-09 (14-17)	EPA 8260D	CL	8	PASI-C
92515436021	HP-10 (6-10)	EPA 8260D	BSH	8	PASI-C
92515436022	HP-10 (10-14)	EPA 8260D	BSH	8	PASI-C
92515436023	HP-10 (16-20)	EPA 8260D	BSH	8	PASI-C
92515436024	HP-10 (20-25)	EPA 8260D	BSH	8	PASI-C
92515436025	DUP-01	EPA 8260D	CL	8	PASI-C
92515436026	EB-01	EPA 8260D	BSH	8	PASI-C
92515436027	HP-06 (6-10)	EPA 8260D	CL	8	PASI-C
92515436028	HP-06 (10-14)	EPA 8260D	BSH	8	PASI-C
92515436029	HP-06 (14-18)	EPA 8260D	CL	8	PASI-C
92515436030	TB	EPA 8260D	BSH	8	PASI-C
92515436031	HP-10 (25-30)	EPA 8260D	CL	8	PASI-C
92515436032	HP-10 (30-35)	EPA 8260D	BSH	8	PASI-C
92515436033	HP-10 (35-39)	EPA 8260D	CL	8	PASI-C

PASI-C = Pace Analytical Services - Charlotte

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: STREAM A **Lab ID: 92515436001** Collected: 01/07/21 12:50 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 13:53	75-35-4	
cis-1,2-Dichloroethene	**1.6**	ug/L	1.0	1		01/08/21 13:53	156-59-2	
Tetrachloroethene	**133**	ug/L	1.0	1		01/08/21 13:53	127-18-4	
Trichloroethene	**31.7**	ug/L	1.0	1		01/08/21 13:53	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 13:53	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 13:53	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		01/08/21 13:53	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 13:53	2037-26-5	

Sample: STREAM B **Lab ID: 92515436002** Collected: 01/07/21 12:40 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 14:11	75-35-4	
cis-1,2-Dichloroethene	**1.8**	ug/L	1.0	1		01/08/21 14:11	156-59-2	
Tetrachloroethene	**176**	ug/L	1.0	1		01/08/21 14:11	127-18-4	
Trichloroethene	**41.7**	ug/L	1.0	1		01/08/21 14:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 14:11	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 14:11	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		01/08/21 14:11	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		01/08/21 14:11	2037-26-5	

Sample: STREAM B-1 **Lab ID: 92515436003** Collected: 01/07/21 12:30 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 14:47	75-35-4	
cis-1,2-Dichloroethene	**1.8**	ug/L	1.0	1		01/08/21 14:47	156-59-2	
Tetrachloroethene	**174**	ug/L	1.0	1		01/08/21 14:47	127-18-4	
Trichloroethene	**41.8**	ug/L	1.0	1		01/08/21 14:47	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 14:47	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		01/08/21 14:47	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		01/08/21 14:47	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 14:47	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: STREAM B-2 **Lab ID: 92515436004** Collected: 01/07/21 11:45 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 15:05	75-35-4	
cis-1,2-Dichloroethene	**1.9**	ug/L	1.0	1		01/08/21 15:05	156-59-2	
Tetrachloroethene	**188**	ug/L	1.0	1		01/08/21 15:05	127-18-4	
Trichloroethene	**44.7**	ug/L	1.0	1		01/08/21 15:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 15:05	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 15:05	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		01/08/21 15:05	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		01/08/21 15:05	2037-26-5	

Sample: STREAM B-3 **Lab ID: 92515436005** Collected: 01/07/21 11:30 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 15:23	75-35-4	
cis-1,2-Dichloroethene	**1.8**	ug/L	1.0	1		01/08/21 15:23	156-59-2	
Tetrachloroethene	**200**	ug/L	1.0	1		01/08/21 15:23	127-18-4	
Trichloroethene	**43.5**	ug/L	1.0	1		01/08/21 15:23	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 15:23	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/08/21 15:23	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		01/08/21 15:23	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 15:23	2037-26-5	

Sample: STREAM C **Lab ID: 92515436006** Collected: 01/07/21 11:20 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	2.0	2		01/08/21 14:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.0	2		01/08/21 14:29	156-59-2	
Tetrachloroethene	**195**	ug/L	2.0	2		01/08/21 14:29	127-18-4	
Trichloroethene	**40.3**	ug/L	2.0	2		01/08/21 14:29	79-01-6	
Vinyl chloride	ND	ug/L	2.0	2		01/08/21 14:29	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	2		01/08/21 14:29	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	2		01/08/21 14:29	17060-07-0	
Toluene-d8 (S)	99	%	70-130	2		01/08/21 14:29	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: STREAM C-2 **Lab ID: 92515436007** Collected: 01/07/21 11:05 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 15:41	75-35-4	
cis-1,2-Dichloroethene	**1.9**	ug/L	1.0	1		01/08/21 15:41	156-59-2	
Tetrachloroethene	**163**	ug/L	1.0	1		01/08/21 15:41	127-18-4	
Trichloroethene	**40.2**	ug/L	1.0	1		01/08/21 15:41	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 15:41	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/08/21 15:41	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		01/08/21 15:41	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 15:41	2037-26-5	

Sample: STREAM C-4 **Lab ID: 92515436008** Collected: 01/07/21 10:55 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 15:59	75-35-4	
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0	1		01/08/21 15:59	156-59-2	
Tetrachloroethene	**133**	ug/L	1.0	1		01/08/21 15:59	127-18-4	
Trichloroethene	**35.5**	ug/L	1.0	1		01/08/21 15:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 15:59	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		01/08/21 15:59	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		01/08/21 15:59	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		01/08/21 15:59	2037-26-5	

Sample: STREAM D **Lab ID: 92515436009** Collected: 01/06/21 14:58 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 13:17	75-35-4	
cis-1,2-Dichloroethene	**1.0**	ug/L	1.0	1		01/08/21 13:17	156-59-2	
Tetrachloroethene	**56.9**	ug/L	1.0	1		01/08/21 13:17	127-18-4	
Trichloroethene	**20.3**	ug/L	1.0	1		01/08/21 13:17	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 13:17	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/08/21 13:17	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		01/08/21 13:17	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 13:17	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: STREAM E **Lab ID: 92515436010** Collected: 01/06/21 14:50 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 13:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 13:35	156-59-2	
Tetrachloroethene	**11.3**	ug/L	1.0	1		01/08/21 13:35	127-18-4	
Trichloroethene	**5.7**	ug/L	1.0	1		01/08/21 13:35	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 13:35	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/08/21 13:35	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		01/08/21 13:35	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 13:35	2037-26-5	

Sample: HP-07 (7-11) **Lab ID: 92515436011** Collected: 01/05/21 16:02 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 16:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 16:17	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/08/21 16:17	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/08/21 16:17	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 16:17	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 16:17	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		01/08/21 16:17	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 16:17	2037-26-5	

Sample: HP-07 (11-15) **Lab ID: 92515436012** Collected: 01/05/21 16:13 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	2.5	2.5		01/12/21 07:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.5	2.5		01/12/21 07:48	156-59-2	
Tetrachloroethene	**11.0**	ug/L	2.5	2.5		01/12/21 07:48	127-18-4	
Trichloroethene	**306**	ug/L	2.5	2.5		01/12/21 07:48	79-01-6	
Vinyl chloride	ND	ug/L	2.5	2.5		01/12/21 07:48	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	2.5		01/12/21 07:48	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	2.5		01/12/21 07:48	17060-07-0	
Toluene-d8 (S)	98	%	70-130	2.5		01/12/21 07:48	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: HP-07 (15-19) **Lab ID: 92515436013** Collected: 01/05/21 16:26 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	5.0	5		01/12/21 09:18	75-35-4	M1
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		01/12/21 09:18	156-59-2	M1
Tetrachloroethene	**154**	ug/L	5.0	5		01/12/21 09:18	127-18-4	
Trichloroethene	**913**	ug/L	5.0	5		01/12/21 09:18	79-01-6	M1
Vinyl chloride	ND	ug/L	5.0	5		01/12/21 09:18	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	5		01/12/21 09:18	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	5		01/12/21 09:18	17060-07-0	
Toluene-d8 (S)	98	%	70-130	5		01/12/21 09:18	2037-26-5	

Sample: HP-07 (19-23) **Lab ID: 92515436014** Collected: 01/05/21 16:50 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	2.5	2.5		01/12/21 08:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.5	2.5		01/12/21 08:06	156-59-2	
Tetrachloroethene	**324**	ug/L	2.5	2.5		01/12/21 08:06	127-18-4	
Trichloroethene	**305**	ug/L	2.5	2.5		01/12/21 08:06	79-01-6	
Vinyl chloride	ND	ug/L	2.5	2.5		01/12/21 08:06	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	2.5		01/12/21 08:06	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	2.5		01/12/21 08:06	17060-07-0	
Toluene-d8 (S)	97	%	70-130	2.5		01/12/21 08:06	2037-26-5	

Sample: HP-08 (5-9) **Lab ID: 92515436015** Collected: 01/05/21 13:30 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 17:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 17:30	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/08/21 17:30	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/08/21 17:30	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 17:30	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		01/08/21 17:30	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		01/08/21 17:30	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		01/08/21 17:30	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: HP-08 (10-14) **Lab ID: 92515436016** Collected: 01/05/21 13:47 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 17:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 17:48	156-59-2	
Tetrachloroethene	**6.8**	ug/L	1.0	1		01/08/21 17:48	127-18-4	
Trichloroethene	**83.2**	ug/L	1.0	1		01/08/21 17:48	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 17:48	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 17:48	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		01/08/21 17:48	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 17:48	2037-26-5	

Sample: HP-08 (15-19) **Lab ID: 92515436017** Collected: 01/05/21 14:05 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	4.0	4		01/12/21 08:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	4.0	4		01/12/21 08:24	156-59-2	
Tetrachloroethene	**18.1**	ug/L	4.0	4		01/12/21 08:24	127-18-4	
Trichloroethene	**404**	ug/L	4.0	4		01/12/21 08:24	79-01-6	
Vinyl chloride	ND	ug/L	4.0	4		01/12/21 08:24	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	4		01/12/21 08:24	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	4		01/12/21 08:24	17060-07-0	
Toluene-d8 (S)	98	%	70-130	4		01/12/21 08:24	2037-26-5	

Sample: HP-09 (4-8) **Lab ID: 92515436018** Collected: 01/05/21 10:10 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:24	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/08/21 18:24	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/08/21 18:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 18:24	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 18:24	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		01/08/21 18:24	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 18:24	2037-26-5	

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: HP-09 (10-14) **Lab ID: 92515436019** Collected: 01/05/21 10:30 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:42	156-59-2	
Tetrachloroethene	**3.5**	ug/L	1.0	1		01/08/21 18:42	127-18-4	
Trichloroethene	**22.6**	ug/L	1.0	1		01/08/21 18:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 18:42	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/08/21 18:42	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		01/08/21 18:42	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		01/08/21 18:42	2037-26-5	

Sample: HP-09 (14-17) **Lab ID: 92515436020** Collected: 01/05/21 10:51 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 19:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 19:00	156-59-2	
Tetrachloroethene	**3.5**	ug/L	1.0	1		01/08/21 19:00	127-18-4	
Trichloroethene	**17.3**	ug/L	1.0	1		01/08/21 19:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 19:00	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 19:00	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		01/08/21 19:00	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		01/08/21 19:00	2037-26-5	

Sample: HP-10 (6-10) **Lab ID: 92515436021** Collected: 01/04/21 14:46 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:45	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/08/21 18:45	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/08/21 18:45	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 18:45	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		01/08/21 18:45	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130	1		01/08/21 18:45	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 18:45	2037-26-5	

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: HP-10 (10-14) **Lab ID: 92515436022** Collected: 01/04/21 15:10 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 19:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 19:04	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/08/21 19:04	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/08/21 19:04	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 19:04	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/08/21 19:04	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		01/08/21 19:04	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		01/08/21 19:04	2037-26-5	

Sample: HP-10 (16-20) **Lab ID: 92515436023** Collected: 01/04/21 15:45 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 19:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 19:22	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/08/21 19:22	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/08/21 19:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 19:22	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 19:22	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		01/08/21 19:22	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 19:22	2037-26-5	

Sample: HP-10 (20-25) **Lab ID: 92515436024** Collected: 01/04/21 16:09 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 19:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 19:40	156-59-2	
Tetrachloroethene	**1.1**	ug/L	1.0	1		01/08/21 19:40	127-18-4	
Trichloroethene	**2.8**	ug/L	1.0	1		01/08/21 19:40	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 19:40	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 19:40	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		01/08/21 19:40	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		01/08/21 19:40	2037-26-5	

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: DUP-01 **Lab ID: 92515436025** Collected: 01/05/21 12:01 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	2.5	2.5		01/12/21 14:36	75-35-4	
cis-1,2-Dichloroethene	**3.8**	ug/L	2.5	2.5		01/12/21 14:36	156-59-2	
Tetrachloroethene	**18.6**	ug/L	2.5	2.5		01/12/21 14:36	127-18-4	
Trichloroethene	**496**	ug/L	2.5	2.5		01/12/21 14:36	79-01-6	
Vinyl chloride	ND	ug/L	2.5	2.5		01/12/21 14:36	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	2.5		01/12/21 14:36	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130	2.5		01/12/21 14:36	17060-07-0	
Toluene-d8 (S)	101	%	70-130	2.5		01/12/21 14:36	2037-26-5	

Sample: EB-01 **Lab ID: 92515436026** Collected: 01/05/21 11:25 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:09	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/08/21 18:09	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/08/21 18:09	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 18:09	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		01/08/21 18:09	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		01/08/21 18:09	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 18:09	2037-26-5	

Sample: HP-06 (6-10) **Lab ID: 92515436027** Collected: 01/06/21 10:31 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/12/21 03:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/12/21 03:52	156-59-2	
Tetrachloroethene	**3.6**	ug/L	1.0	1		01/12/21 03:52	127-18-4	
Trichloroethene	**5.2**	ug/L	1.0	1		01/12/21 03:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/12/21 03:52	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		01/12/21 03:52	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		01/12/21 03:52	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		01/12/21 03:52	2037-26-5	

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: HP-06 (10-14) **Lab ID: 92515436028** Collected: 01/06/21 10:50 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 20:35	75-35-4	
cis-1,2-Dichloroethene	**1.2**	ug/L	1.0	1		01/08/21 20:35	156-59-2	
Tetrachloroethene	**120**	ug/L	1.0	1		01/08/21 20:35	127-18-4	
Trichloroethene	**196**	ug/L	1.0	1		01/08/21 20:35	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 20:35	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/08/21 20:35	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		01/08/21 20:35	17060-07-0	
Toluene-d8 (S)	96	%	70-130	1		01/08/21 20:35	2037-26-5	

Sample: HP-06 (14-18) **Lab ID: 92515436029** Collected: 01/06/21 11:12 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	5.0	5		01/12/21 09:00	75-35-4	
cis-1,2-Dichloroethene	**5.2**	ug/L	5.0	5		01/12/21 09:00	156-59-2	
Tetrachloroethene	**351**	ug/L	5.0	5		01/12/21 09:00	127-18-4	
Trichloroethene	**498**	ug/L	5.0	5		01/12/21 09:00	79-01-6	
Vinyl chloride	ND	ug/L	5.0	5		01/12/21 09:00	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	5		01/12/21 09:00	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	5		01/12/21 09:00	17060-07-0	
Toluene-d8 (S)	97	%	70-130	5		01/12/21 09:00	2037-26-5	

Sample: TB **Lab ID: 92515436030** Collected: 01/07/21 00:00 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 18:27	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/08/21 18:27	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/08/21 18:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 18:27	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/08/21 18:27	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		01/08/21 18:27	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/08/21 18:27	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Sample: HP-10 (25-30) **Lab ID: 92515436031** Collected: 01/04/21 16:31 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/12/21 04:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/12/21 04:10	156-59-2	
Tetrachloroethene	**1.5**	ug/L	1.0	1		01/12/21 04:10	127-18-4	
Trichloroethene	**6.9**	ug/L	1.0	1		01/12/21 04:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/12/21 04:10	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		01/12/21 04:10	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		01/12/21 04:10	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		01/12/21 04:10	2037-26-5	

Sample: HP-10 (30-35) **Lab ID: 92515436032** Collected: 01/04/21 17:01 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/08/21 21:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/08/21 21:29	156-59-2	
Tetrachloroethene	**3.3**	ug/L	1.0	1		01/08/21 21:29	127-18-4	
Trichloroethene	**5.3**	ug/L	1.0	1		01/08/21 21:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/08/21 21:29	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		01/08/21 21:29	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		01/08/21 21:29	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		01/08/21 21:29	2037-26-5	

Sample: HP-10 (35-39) **Lab ID: 92515436033** Collected: 01/04/21 17:21 Received: 01/07/21 14:14 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/12/21 04:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/12/21 04:28	156-59-2	
Tetrachloroethene	**2.1**	ug/L	1.0	1		01/12/21 04:28	127-18-4	
Trichloroethene	**3.2**	ug/L	1.0	1		01/12/21 04:28	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/12/21 04:28	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		01/12/21 04:28	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		01/12/21 04:28	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		01/12/21 04:28	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

QC Batch: 591520
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92515436001, 92515436002, 92515436003, 92515436004, 92515436005, 92515436006, 92515436007, 92515436008, 92515436009, 92515436010, 92515436011, 92515436015, 92515436016, 92515436018, 92515436019, 92515436020

METHOD BLANK: 3122840 Matrix: Water
Associated Lab Samples: 92515436001, 92515436002, 92515436003, 92515436004, 92515436005, 92515436006, 92515436007, 92515436008, 92515436009, 92515436010, 92515436011, 92515436015, 92515436016, 92515436018, 92515436019, 92515436020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	01/08/21 12:59	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/08/21 12:59	
Tetrachloroethene	ug/L	ND	1.0	01/08/21 12:59	
Trichloroethene	ug/L	ND	1.0	01/08/21 12:59	
Vinyl chloride	ug/L	ND	1.0	01/08/21 12:59	
1,2-Dichloroethane-d4 (S)	%	99	70-130	01/08/21 12:59	
4-Bromofluorobenzene (S)	%	96	70-130	01/08/21 12:59	
Toluene-d8 (S)	%	98	70-130	01/08/21 12:59	

LABORATORY CONTROL SAMPLE: 3122841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	48.3	97	70-132	
cis-1,2-Dichloroethene	ug/L	50	48.5	97	70-130	
Tetrachloroethene	ug/L	50	49.4	99	70-130	
Trichloroethene	ug/L	50	50.3	101	70-130	
Vinyl chloride	ug/L	50	39.2	78	59-142	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122842 3122843

Parameter	Units	92515436009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	25.8	24.3	129	121	70-158	6	
cis-1,2-Dichloroethene	ug/L	1.0	20	20	24.1	24.8	115	119	67-148	3	
Tetrachloroethene	ug/L	56.9	20	20	81.3	82.7	122	129	70-139	2	
Trichloroethene	ug/L	20.3	20	20	44.8	45.3	122	125	70-149	1	
Vinyl chloride	ug/L	ND	20	20	19.5	19.9	98	99	55-172	2	
1,2-Dichloroethane-d4 (S)	%						107	107	70-130		
4-Bromofluorobenzene (S)	%						102	99	70-130		
Toluene-d8 (S)	%						99	100	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

QC Batch: 591521
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92515436021, 92515436022, 92515436023, 92515436024, 92515436026, 92515436028, 92515436030, 92515436032

METHOD BLANK: 3122854 Matrix: Water
Associated Lab Samples: 92515436021, 92515436022, 92515436023, 92515436024, 92515436026, 92515436028, 92515436030, 92515436032

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	01/08/21 17:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/08/21 17:51	
Tetrachloroethene	ug/L	ND	1.0	01/08/21 17:51	
Trichloroethene	ug/L	ND	1.0	01/08/21 17:51	
Vinyl chloride	ug/L	ND	1.0	01/08/21 17:51	
1,2-Dichloroethane-d4 (S)	%	91	70-130	01/08/21 17:51	
4-Bromofluorobenzene (S)	%	96	70-130	01/08/21 17:51	
Toluene-d8 (S)	%	98	70-130	01/08/21 17:51	

LABORATORY CONTROL SAMPLE: 3122855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	45.4	91	70-132	
cis-1,2-Dichloroethene	ug/L	50	45.6	91	70-130	
Tetrachloroethene	ug/L	50	49.7	99	70-130	
Trichloroethene	ug/L	50	50.5	101	70-130	
Vinyl chloride	ug/L	50	36.2	72	59-142	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122856 3122857

Parameter	Units	92515436022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	23.2	22.7	116	114	70-158	2	
cis-1,2-Dichloroethene	ug/L	ND	20	20	21.2	21.5	106	108	67-148	2	
Tetrachloroethene	ug/L	ND	20	20	23.1	22.4	116	112	70-139	3	
Trichloroethene	ug/L	ND	20	20	23.5	22.8	118	114	70-149	3	
Vinyl chloride	ug/L	ND	20	20	18.7	18.7	93	93	55-172	0	
1,2-Dichloroethane-d4 (S)	%						100	101	70-130		
4-Bromofluorobenzene (S)	%						99	99	70-130		
Toluene-d8 (S)	%						98	100	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

QC Batch: 591943
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92515436012, 92515436013, 92515436014, 92515436017, 92515436027, 92515436029, 92515436031, 92515436033

METHOD BLANK: 3125032 Matrix: Water
Associated Lab Samples: 92515436012, 92515436013, 92515436014, 92515436017, 92515436027, 92515436029, 92515436031, 92515436033

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	01/12/21 03:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/12/21 03:34	
Tetrachloroethene	ug/L	ND	1.0	01/12/21 03:34	
Trichloroethene	ug/L	ND	1.0	01/12/21 03:34	
Vinyl chloride	ug/L	ND	1.0	01/12/21 03:34	
1,2-Dichloroethane-d4 (S)	%	100	70-130	01/12/21 03:34	
4-Bromofluorobenzene (S)	%	98	70-130	01/12/21 03:34	
Toluene-d8 (S)	%	98	70-130	01/12/21 03:34	

LABORATORY CONTROL SAMPLE: 3125033

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	48.4	97	70-132	
cis-1,2-Dichloroethene	ug/L	50	50.5	101	70-130	
Tetrachloroethene	ug/L	50	46.2	92	70-130	
Trichloroethene	ug/L	50	50.0	100	70-130	
Vinyl chloride	ug/L	50	37.9	76	59-142	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3125034 3125035

Parameter	Units	92515436013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	100	100	159	156	159	156	70-158	2	M1
cis-1,2-Dichloroethene	ug/L	ND	100	100	161	149	157	145	67-148	8	M1
Tetrachloroethene	ug/L	154	100	100	278	267	124	112	70-139	4	
Trichloroethene	ug/L	913	100	100	991	962	79	49	70-149	3	M1
Vinyl chloride	ug/L	ND	100	100	123	109	123	109	55-172	12	
1,2-Dichloroethane-d4 (S)	%						98	97	70-130		
4-Bromofluorobenzene (S)	%						101	101	70-130		
Toluene-d8 (S)	%						100	100	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

QC Batch: 592102
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92515436025

METHOD BLANK: 3125553 Matrix: Water
Associated Lab Samples: 92515436025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	01/12/21 11:23	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/12/21 11:23	
Tetrachloroethene	ug/L	ND	1.0	01/12/21 11:23	
Trichloroethene	ug/L	ND	1.0	01/12/21 11:23	
Vinyl chloride	ug/L	ND	1.0	01/12/21 11:23	
1,2-Dichloroethane-d4 (S)	%	107	70-130	01/12/21 11:23	
4-Bromofluorobenzene (S)	%	100	70-130	01/12/21 11:23	
Toluene-d8 (S)	%	103	70-130	01/12/21 11:23	

LABORATORY CONTROL SAMPLE: 3125554

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	59.2	118	70-132	
cis-1,2-Dichloroethene	ug/L	50	54.5	109	70-130	
Tetrachloroethene	ug/L	50	51.4	103	70-130	
Trichloroethene	ug/L	50	54.6	109	70-130	
Vinyl chloride	ug/L	50	43.1	86	59-142	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3125555 3125556

Parameter	Units	92515874008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	27.6	24.3	138	121	70-158	13	
cis-1,2-Dichloroethene	ug/L	3.3J	20	20	27.2	25.3	120	110	67-148	8	
Tetrachloroethene	ug/L	ND	20	20	24.0	22.2	120	111	70-139	8	
Trichloroethene	ug/L	ND	20	20	24.7	22.6	123	113	70-149	9	
Vinyl chloride	ug/L	ND	20	20	21.6	19.6	108	98	55-172	10	
1,2-Dichloroethane-d4 (S)	%						102	103	70-130		
4-Bromofluorobenzene (S)	%						98	99	70-130		
Toluene-d8 (S)	%						99	100	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92515436

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92515436001	**STREAM A**	EPA 8260D	591520		
92515436002	**STREAM B**	EPA 8260D	591520		
92515436003	**STREAM B-1**	EPA 8260D	591520		
92515436004	**STREAM B-2**	EPA 8260D	591520		
92515436005	**STREAM B-3**	EPA 8260D	591520		
92515436006	**STREAM C**	EPA 8260D	591520		
92515436007	**STREAM C-2**	EPA 8260D	591520		
92515436008	**STREAM C-4**	EPA 8260D	591520		
92515436009	**STREAM D**	EPA 8260D	591520		
92515436010	**STREAM E**	EPA 8260D	591520		
92515436011	**HP-07 (7-11)**	EPA 8260D	591520		
92515436012	**HP-07 (11-15)**	EPA 8260D	591943		
92515436013	**HP-07 (15-19)**	EPA 8260D	591943		
92515436014	**HP-07 (19-23)**	EPA 8260D	591943		
92515436015	**HP-08 (5-9)**	EPA 8260D	591520		
92515436016	**HP-08 (10-14)**	EPA 8260D	591520		
92515436017	**HP-08 (15-19)**	EPA 8260D	591943		
92515436018	**HP-09 (4-8)**	EPA 8260D	591520		
92515436019	**HP-09 (10-14)**	EPA 8260D	591520		
92515436020	**HP-09 (14-17)**	EPA 8260D	591520		
92515436021	**HP-10 (6-10)**	EPA 8260D	591521		
92515436022	**HP-10 (10-14)**	EPA 8260D	591521		
92515436023	**HP-10 (16-20)**	EPA 8260D	591521		
92515436024	**HP-10 (20-25)**	EPA 8260D	591521		
92515436025	**DUP-01**	EPA 8260D	592102		
92515436026	**EB-01**	EPA 8260D	591521		
92515436027	**HP-06 (6-10)**	EPA 8260D	591943		
92515436028	**HP-06 (10-14)**	EPA 8260D	591521		
92515436029	**HP-06 (14-18)**	EPA 8260D	591943		
92515436030	**TB**	EPA 8260D	591521		
92515436031	**HP-10 (25-30)**	EPA 8260D	591943		
92515436032	**HP-10 (30-35)**	EPA 8260D	591521		
92515436033	**HP-10 (35-39)**	EPA 8260D	591943		

Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Arcadis for GE

Project # WO#: 92515436

92515436

Courier: ☐ Commercial ☐ Fed Ex ☐ Pace ☐ UPS ☐ USPS ☐ Other:____ ☒ Client

Custody Seal Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Date/Initials Person Examining Contents: 1/7/21 JC

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☒ IR Gun ID: 92T064 ☒ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 3.7 **Correction Factor:** Add/Subtract (°C) -0.1

Cooler Temp Corrected (°C): 3.6

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☒ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	4.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☒ N/A	8.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	9. Received 3 extra samples not mentioned in the COC. HP-10(25-30), HP-10(30-35), HP-10(35-39)
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☒ No	☐ N/A	10.
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

HP-10(25-30) 1/4/21 1631
HP-10(30-35) 1/4/21 1701
HP-10(35-39) 1/4/21 1721

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO#: 92515436**

PM: KLH1 Due Date: 01/14/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																3													
3																3													
4																3													
5																3													
6																3													
7																3													
8																3													
9																3													
10																3													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO# : 92515436**

PM: KLH1 Due Date: 01/14/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																3													
3																9													
4																3													
5																3													
6																3													
7																3													
8																3													
9																3													
10																3													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO# : 92515436**

PM: KLH1 **Due Date: 01/14/21**

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																3													
3																3													
4																3													
5																3													
6																3													
7																3													
8																3													
9																3													
10																2													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project #

WO# : 92515436

PM: KLH1 Due Date: 01/14/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																3													
3																3													
4																													
5																													
6																													
7																													
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9																													
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11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

9251543

Environmental Analysis Request/Chain of Custody

Pg 1/3

PACE ANALYTICAL Acct. # _____ Group # _____ COC# 20210107-1

Client: **ARCADIS for GE**	**PACE Profile # 10403**		
Project Name/#: GE Hickory NC Hydropunch	Site ID #:		
Project Manager: Matthew Pelton	P.O. #: 30053008 (Arcadis)		
Sampler: John Nelson	PWSID #:		
Phone #: 304-308.0830	Quote #:		
State where samples were collected: NC	For Compliance: Yes ☐ No ☐		

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil ☐ Sediment ☐ Tissue	Water ☐ Potable ☐ Ground ☑ Surface ☐ NPDES	Other:	Total # of Containers	8260										
									H										
STREAM A	1-7-21	1250	✓			✓		3	✓										
STREAM B	1-7-21	1240	✓			✓		3	✓										
STREAM B-1	1-7-21	1230	✓			✓		3	✓										
STREAM B-2	1-7-21	1145	✓			✓		3	✓										
STREAM B-3	1-7-21	1130	✓			✓		3	✓										
STREAM C	1-7-21	1120	✓			✓		3	✓										
STREAM C-2	1-7-21	1105	✓			✓		3	✓										
STREAM C-4	1-7-21	1055	✓			✓		3	✓										
STREAM D	1-6-21	1458	✓			✓		3	✓										
STREAM E	1-6-21	1450	✓			✓		3	✓										

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
F = Field Filtered O = Other

For Lab Use Only
SF #: _____
SCR #: _____

Remarks

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed: STANDARD 14 DAY

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: Matthew.Pelton@Arcadis.com

Phone: 919-270-9512

Relinquished by:	Date	Time	Received by:	Date	Time
	1-7-21	1310			
	1-7-21	214	PACE	1-7-21	14:14

Data Package Options (please check if required)

Type I (Validation/non-CLP)	☐	MA MCP	☐
Type III (Reduced non-CLP)	☐	CT RCP	☐
Type VI (Raw Data Only)	☐	TX TRRP-13	☐
NJ DKQP	☐	NYSDEC Category ☐ A or ☐ B	

EDD Required? Yes ☐ No ☐ If yes, format: _____

NOTES: PACE PM: Kevin.Herring@pacelabs.com // email report to Christopher.Bagley@Arcadis.com, Matthew.Pelton@Arcadis.com.

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other ✓

Temperature upon receipt 3.6 °C

7045 0717

92515436

Environmental Analysis Request/Chain of Custody

Pg 2/3

PACE ANALYTICAL Acct. # _____ Group # _____ COC# 20210107-2

Client: **ARCADIS for GE**	**PACE Profile # 10403**		
Project Name/#: GE Hickory NC Hydropunch	Site ID #:		
Project Manager: Matthew Pelton	P.O. #: 30053008 (Arcadis)		
Sampler: John Nelson	PWSID #:		
Phone #: 304.308.0830	Quote #:		
State where samples were collected: ___ **NC**	For Compliance: Yes ☐ No ☐		

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil ☐ Tissue ☐ Sediment ☐	Water ☑ Ground ☐ Potable ☐ Surface ☐ NPDES ☐	Other:	Total # of Containers	Analyses Requested: 8260	Preservation and Filtration Codes: H
HP-07 (7-11)	1-5-21	1602	✓			✓		3	✓	
HP-07 (11-15)	1-5-21	1613	✓			✓		3	✓	
HP-07 (15-19) MS/MSD	1-5-21	1626	✓			✓		9	✓	
HP-07 (19-23)	1-5-21	1650	✓			✓		3	✓	
HP-08 (5-9)	1-5-21	1330	✓			✓		3	✓	
HP-08 (10-14)	1-5-21	1347	✓			✓		3	✓	
HP-08 (15-19)	1-5-21	1405	✓			✓		3	✓	
HP-09 (4-8)	1-5-21	1010	✓			✓		3	✓	
HP-09 (10-14)	1-5-21	1030	✓			✓		3	✓	
HP-09 (14-17)	1-5-21	1051	✓			✓		3	✓	

For Lab Use Only
SF #: _____
SCR #: _____

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
F = Field Filtered O = Other

Remarks

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed: STANDARD 14 DAY

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: Matthew.Pelton@Arcadis.com

Phone: 919-270-9512

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	1-7-21	1310			
[signature]	1-7-21	214	PACE	1-7-21	14:14

Data Package Options (please check if required)

Type I (Validation/non-CLP)	☐	MA MCP	☐
Type III (Reduced non-CLP)	☐	CT RCP	☐
Type VI (Raw Data Only)	☐	TX TRRP-13	☐
NJ DKQP	☐	NYSDEC Category ☐ A or ☐ B	

EDD Required? Yes ☐ No ☐ If yes, format: _____

NOTES: PACE PM: Kevin.Herring@pacelabs.com // email report to Christopher.Bagley@Arcadis.com, Matthew.Pelton@Arcadis.com.

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other ✓

Temperature upon receipt 3.6 °C

7045 0717

92515436

Environmental Analysis Request/Chain of Custody

Pg 3/3

PACE ANALYTICAL Acct. # _____ Group # _____ COC# 20210107-3

Client: **ARCADIS for GE**	**PACE Profile # 10403**		
Project Name/#: GE Hickory NC Hydropunch	Site ID #:		
Project Manager: Matthew Pelton	P.O. #: 30053008 (Arcadis)		
Sampler: John Nelson	PWSID #:		
Phone #: 304.308.0830	Quote #:		
State where samples were collected: NC	For Compliance: Yes ☐ No ☐		

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil ☐ Sediment ☐ Tissue	Water ☑ Potable ☐ Ground ☐ Surface ☐ NPDES	Other: LAB PROVIDED WATER	Total # of Containers	Analyses Requested: Preservation and Filtration Codes: H	§260
HP-10 (6-10)	1.4.21	1446	✓			✓		3	✓	✓
HP-10 (10-14)	1.4.21	1510	✓			✓		3	✓	✓
HP-10 (16-20)	1.4.21	1545	✓			✓		3	✓	✓
HP-10 (20-25)	1.4.21	1609	✓			✓		3	✓	✓
DUP-01	1.5.21	1201	✓			✓		3	✓	✓
EB-01	1.5.21	1125	✓				✓	3	✓	✓
HP-06 (6-10)	1.6.21	1031	✓			✓		3	✓	✓
HP-06 (10-14)	1.6.21	1050	✓			✓		3	✓	✓
HP-06 (14-18)	1.6.21	1112	✓			✓		3	✓	✓
~~HP-09~~										

For Lab Use Only
SF #: _____
SCR #: _____

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
F = Field Filtered O = Other

Remarks

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed: STANDARD 14 DAY

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: Matthew.Pelton@Arcadis.com

Phone: 919-270-9512

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	1-7-21	1310			
[signature]	1-7-21	214	~~AMP~~ PACE	1-7-21	14:14

Data Package Options (please check if required)

Type I (Validation/non-CLP)	☐	MA MCP	☐
Type III (Reduced non-CLP)	☐	CT RCP	☐
Type VI (Raw Data Only)	☐	TX TRRP-13	☐
NJ DKQP	☐	NYSDEC Category ☐ A or ☐ B	

EDD Required? Yes ☐ No ☐ If yes, format: _____

NOTES: PACE PM: Kevin.Herring@pacelabs.com // email report to Christopher.Bagley@Arcadis.com, Matthew.Pelton@Arcadis.com.

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other ✓

Temperature upon receipt 3.6 °C

7045 0717

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

January 21, 2021

Matthew Pelton
ARCADIS
5420 Wade Park Blvd
Suite 350
Raleigh, NC 27607

RE: Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

Dear Matthew Pelton:

Enclosed are the analytical results for sample(s) received by the laboratory on January 14, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Chris Bagley, Arcadis
Kristen Lowder, Arcadis
Ray Penley, General Electric
Bob Witsell

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92516618001	**HP-03 (17-27)**	EPA 8260D	PM1	8	PASI-C
92516618002	**HP-05 (20-35)**	EPA 8260D	BSH	8	PASI-C
92516618003	**HP-07 (22-37)**	EPA 8260D	PM1	8	PASI-C
92516618004	**HP-10 (39-54)**	EPA 8260D	PM1	8	PASI-C
92516618005	**TRIP BLANK**	EPA 8260D	PM1	8	PASI-C

PASI-C = Pace Analytical Services - Charlotte

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

Sample: HP-03 (17-27) **Lab ID: 92516618001** Collected: 01/13/21 13:29 Received: 01/14/21 13:44 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	100	100		01/21/21 11:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	100		01/21/21 11:59	156-59-2	
Tetrachloroethene	**12800**	ug/L	100	100		01/21/21 11:59	127-18-4	
Trichloroethene	**2150**	ug/L	100	100		01/21/21 11:59	79-01-6	
Vinyl chloride	ND	ug/L	100	100		01/21/21 11:59	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	100		01/21/21 11:59	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	100		01/21/21 11:59	17060-07-0	
Toluene-d8 (S)	95	%	70-130	100		01/21/21 11:59	2037-26-5	

Sample: HP-05 (20-35) **Lab ID: 92516618002** Collected: 01/13/21 13:51 Received: 01/14/21 13:44 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	50.0	50		01/19/21 20:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	50.0	50		01/19/21 20:55	156-59-2	
Tetrachloroethene	**5400**	ug/L	50.0	50		01/19/21 20:55	127-18-4	
Trichloroethene	**350**	ug/L	50.0	50		01/19/21 20:55	79-01-6	
Vinyl chloride	ND	ug/L	50.0	50		01/19/21 20:55	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	89	%	70-130	50		01/19/21 20:55	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	50		01/19/21 20:55	17060-07-0	
Toluene-d8 (S)	94	%	70-130	50		01/19/21 20:55	2037-26-5	

Sample: HP-07 (22-37) **Lab ID: 92516618003** Collected: 01/13/21 14:15 Received: 01/14/21 13:44 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	5.0	5		01/21/21 11:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		01/21/21 11:23	156-59-2	
Tetrachloroethene	**514**	ug/L	5.0	5		01/21/21 11:23	127-18-4	
Trichloroethene	**256**	ug/L	5.0	5		01/21/21 11:23	79-01-6	
Vinyl chloride	ND	ug/L	5.0	5		01/21/21 11:23	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	5		01/21/21 11:23	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	5		01/21/21 11:23	17060-07-0	
Toluene-d8 (S)	96	%	70-130	5		01/21/21 11:23	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

Sample: HP-10 (39-54) **Lab ID: 92516618004** Collected: 01/13/21 16:20 Received: 01/14/21 13:44 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/18/21 22:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/18/21 22:29	156-59-2	
Tetrachloroethene	**7.3**	ug/L	1.0	1		01/18/21 22:29	127-18-4	
Trichloroethene	**1.7**	ug/L	1.0	1		01/18/21 22:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/18/21 22:29	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		01/18/21 22:29	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		01/18/21 22:29	17060-07-0	
Toluene-d8 (S)	103	%	70-130	1		01/18/21 22:29	2037-26-5	

Sample: TRIP BLANK **Lab ID: 92516618005** Collected: 01/14/21 00:00 Received: 01/14/21 13:44 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		01/18/21 21:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/18/21 21:01	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		01/18/21 21:01	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		01/18/21 21:01	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		01/18/21 21:01	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	78	%	70-130	1		01/18/21 21:01	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		01/18/21 21:01	17060-07-0	
Toluene-d8 (S)	104	%	70-130	1		01/18/21 21:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

QC Batch: 593423
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92516618004, 92516618005

METHOD BLANK: 3131752 Matrix: Water
Associated Lab Samples: 92516618004, 92516618005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	01/18/21 16:16	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/18/21 16:16	
Tetrachloroethene	ug/L	ND	1.0	01/18/21 16:16	
Trichloroethene	ug/L	ND	1.0	01/18/21 16:16	
Vinyl chloride	ug/L	ND	1.0	01/18/21 16:16	
1,2-Dichloroethane-d4 (S)	%	100	70-130	01/18/21 16:16	
4-Bromofluorobenzene (S)	%	103	70-130	01/18/21 16:16	
Toluene-d8 (S)	%	104	70-130	01/18/21 16:16	

LABORATORY CONTROL SAMPLE: 3131753

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	46.4	93	70-132	
cis-1,2-Dichloroethene	ug/L	50	48.1	96	70-130	
Tetrachloroethene	ug/L	50	47.0	94	70-130	
Trichloroethene	ug/L	50	50.8	102	70-130	
Vinyl chloride	ug/L	50	46.8	94	59-142	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3131754 3131755

Parameter	Units	92516484026 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	500	500	585	594	117	119	70-158	2	
cis-1,2-Dichloroethene	ug/L	ND	500	500	535	530	107	106	67-148	1	
Tetrachloroethene	ug/L	ND	500	500	574	562	115	112	70-139	2	
Trichloroethene	ug/L	ND	500	500	598	602	120	120	70-149	1	
Vinyl chloride	ug/L	ND	500	500	446	436	89	87	55-172	2	
1,2-Dichloroethane-d4 (S)	%						94	93	70-130		
4-Bromofluorobenzene (S)	%						97	97	70-130		
Toluene-d8 (S)	%						97	98	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

QC Batch: 593501
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92516618002

METHOD BLANK: 3132078 Matrix: Water
Associated Lab Samples: 92516618002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	01/19/21 16:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/19/21 16:41	
Tetrachloroethene	ug/L	ND	1.0	01/19/21 16:41	
Trichloroethene	ug/L	ND	1.0	01/19/21 16:41	
Vinyl chloride	ug/L	ND	1.0	01/19/21 16:41	
1,2-Dichloroethane-d4 (S)	%	97	70-130	01/19/21 16:41	
4-Bromofluorobenzene (S)	%	100	70-130	01/19/21 16:41	
Toluene-d8 (S)	%	95	70-130	01/19/21 16:41	

LABORATORY CONTROL SAMPLE: 3132079

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	44.1	88	70-132	
cis-1,2-Dichloroethene	ug/L	50	45.6	91	70-130	
Tetrachloroethene	ug/L	50	54.7	109	70-130	
Trichloroethene	ug/L	50	49.7	99	70-130	
Vinyl chloride	ug/L	50	39.2	78	59-142	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3132080 3132081

Parameter	Units	92516407001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	500	500	441	486	88	97	70-158	10	
cis-1,2-Dichloroethene	ug/L	ND	500	500	441	506	88	101	67-148	14	v3
Tetrachloroethene	ug/L	ND	500	500	532	444	106	89	70-139	18	
Trichloroethene	ug/L	ND	500	500	510	505	102	101	70-149	1	
Vinyl chloride	ug/L	ND	500	500	384	420	77	84	55-172	9	
1,2-Dichloroethane-d4 (S)	%						90	96	70-130		
4-Bromofluorobenzene (S)	%						102	100	70-130		
Toluene-d8 (S)	%						95	93	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

QC Batch: 594145
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92516618001, 92516618003

METHOD BLANK: 3135033 Matrix: Water
Associated Lab Samples: 92516618001, 92516618003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	01/21/21 02:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/21/21 02:37	
Tetrachloroethene	ug/L	ND	1.0	01/21/21 02:37	
Trichloroethene	ug/L	ND	1.0	01/21/21 02:37	
Vinyl chloride	ug/L	ND	1.0	01/21/21 02:37	
1,2-Dichloroethane-d4 (S)	%	91	70-130	01/21/21 02:37	
4-Bromofluorobenzene (S)	%	98	70-130	01/21/21 02:37	
Toluene-d8 (S)	%	96	70-130	01/21/21 02:37	

LABORATORY CONTROL SAMPLE: 3135034

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	53.5	107	70-132	
cis-1,2-Dichloroethene	ug/L	50	48.5	97	70-130	
Tetrachloroethene	ug/L	50	52.4	105	70-130	
Trichloroethene	ug/L	50	54.6	109	70-130	
Vinyl chloride	ug/L	50	44.3	89	59-142	
1,2-Dichloroethane-d4 (S)	%			84	70-130	
4-Bromofluorobenzene (S)	%			92	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3135035 3135036

Parameter	Units	92517548001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	24.2	22.1	121	111	70-158	9	
cis-1,2-Dichloroethene	ug/L	9.2	20	20	30.9	28.9	108	99	67-148	7	
Tetrachloroethene	ug/L	21.3	20	20	46.2	43.7	124	112	70-139	6	
Trichloroethene	ug/L	4.7	20	20	28.8	27.0	121	111	70-149	7	
Vinyl chloride	ug/L	ND	20	20	20.4	18.4	102	92	55-172	11	
1,2-Dichloroethane-d4 (S)	%						92	90	70-130		
4-Bromofluorobenzene (S)	%						95	96	70-130		
Toluene-d8 (S)	%						97	97	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

v3 The continuing calibration verification was below the method acceptance limit. Any detection for the analyte in the associated samples may have low bias.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92516618

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92516618001	**HP-03 (17-27)**	EPA 8260D	594145		
92516618002	**HP-05 (20-35)**	EPA 8260D	593501		
92516618003	**HP-07 (22-37)**	EPA 8260D	594145		
92516618004	**HP-10 (39-54)**	EPA 8260D	593423		
92516618005	**TRIP BLANK**	EPA 8260D	593423		

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Arcadis

Project #: WO# : 92516618

92516618

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other:____

Custody Seal Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Date/Initials Person Examining Contents: 1-14-21 AMP

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☐ IR Gun ID: 92T064 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 3.7 **Correction Factor:** Add/Subtract (°C) -0.1

Cooler Temp Corrected (°C): 3.6

Temp should be above freezing to 6°C ☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☐ Yes	☑ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☑ No	☐ N/A	10.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☑ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY **Field Data Required?** ☐ Yes ☐ No

Additional sample not on COC "Trip Blank" 3 DG9H

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project #

WO# : 92516618

PM: KLH1 Due Date: 01/21/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																3													
3																3													
4																3													
5																3													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A – Required Client Information:		Section B – Required Project Information:		Section C – Invoice Information:	
Company:	Arcadis	Report To:	Bob Campion	Attention:	
Address:	1228 Commerce St	Copy To:		Company Name:	
Conover, NC 28613				Address:	
Email:		Purchase Order #:		Pace Quote:	
Phone:	Fax	Project Name:	Hydropunch Remedial Investigation 30053008	Pace Project Manager:	kevin.herring@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10403

Regulatory Agency:

State / Location: NC

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): 8260	Residual Chlorine (Y/N)	
1	HP-03 (17-27)	WT	G	1-13-21	1329			13.2	3				✓						✓		
2	HP-05 (20-35)	WT	G	1-13-21	1351			12.7	3				✓						✓		
3	HP-07 (22-37)	WT	G	1-13-21	1415			13.1	3				✓						✓		
4	HP-10 (39-54)	WT	G	1-13-21	1620			14.1	3				✓						✓		
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

92516618

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Ray Pewley	1-14-21	1344	AMF PACE HVL	1-14-21	13:44	3.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ray Pewley

SIGNATURE of SAMPLER: Ray Pewley

DATE Signed: 1-14-21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

February 11, 2021

Matthew Pelton
ARCADIS
5420 Wade Park Blvd
Suite 350
Raleigh, NC 27607

RE: Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Dear Matthew Pelton:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Chris Bagley, Arcadis
Kristen Lowder, Arcadis
Ray Penley, General Electric
Bob Witsell

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92520439001	**HP-01 (5-9)**	EPA 8260D	BSH	8	PASI-C
92520439002	**HP-01 (10-14)**	EPA 8260D	BSH	8	PASI-C
92520439003	**HP-01 (14-19)**	EPA 8260D	BSH	8	PASI-C
92520439004	**HP-01 (19-23.5)**	EPA 8260D	BSH	8	PASI-C
92520439005	**DUP-02**	EPA 8260D	BSH	8	PASI-C
92520439006	**HP-02 (7-11)**	EPA 8260D	NSCQ	8	PASI-C
92520439007	**HP-02 (11-15)**	EPA 8260D	PM1	8	PASI-C
92520439008	**HP-03 (8-12)**	EPA 8260D	PM1	8	PASI-C
92520439009	**HP-03 (13-17)**	EPA 8260D	BSH	8	PASI-C
92520439010	**HP-03 (18-22)**	EPA 8260D	BSH	8	PASI-C
92520439011	**HP-04 (9-13)**	EPA 8260D	PM1	8	PASI-C
92520439012	**HP-04 (14-18)**	EPA 8260D	BSH	8	PASI-C
92520439013	**HP-04 (19-23)**	EPA 8260D	BSH	8	PASI-C
92520439014	**HP-05 (8-12)**	EPA 8260D	NSCQ	8	PASI-C
92520439015	**HP-05 (13-17)**	EPA 8260D	PM1	8	PASI-C
92520439016	**HP-05 (18-22)**	EPA 8260D	BSH	8	PASI-C
92520439017	**TRIP BLANK**	EPA 8260D	CL	8	PASI-C
92520439018	**HP-01A (11-15)**	EPA 8260D	NSCQ	8	PASI-C
92520439019	**HP-01A (16-20)**	EPA 8260D	NSCQ	8	PASI-C
92520439020	**HP-01A (21-25)**	EPA 8260D	NSCQ	8	PASI-C

PASI-C = Pace Analytical Services - Charlotte

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Sample: HP-01 (5-9) **Lab ID: 92520439001** Collected: 02/01/21 12:25 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/09/21 03:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/09/21 03:07	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/09/21 03:07	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/09/21 03:07	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/09/21 03:07	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		02/09/21 03:07	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		02/09/21 03:07	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		02/09/21 03:07	2037-26-5	

Sample: HP-01 (10-14) **Lab ID: 92520439002** Collected: 02/01/21 13:50 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/09/21 03:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/09/21 03:25	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/09/21 03:25	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/09/21 03:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/09/21 03:25	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		02/09/21 03:25	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		02/09/21 03:25	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		02/09/21 03:25	2037-26-5	

Sample: HP-01 (14-19) **Lab ID: 92520439003** Collected: 02/01/21 14:10 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/09/21 03:44	75-35-4	
cis-1,2-Dichloroethene	**22.6**	ug/L	1.0	1		02/09/21 03:44	156-59-2	
Tetrachloroethene	**21.6**	ug/L	1.0	1		02/09/21 03:44	127-18-4	
Trichloroethene	**64.9**	ug/L	1.0	1		02/09/21 03:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/09/21 03:44	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		02/09/21 03:44	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		02/09/21 03:44	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		02/09/21 03:44	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Sample: HP-01 (19-23.5) **Lab ID: 92520439004** Collected: 02/01/21 14:35 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/09/21 04:02	75-35-4	
cis-1,2-Dichloroethene	**29.2**	ug/L	1.0	1		02/09/21 04:02	156-59-2	
Tetrachloroethene	**36.6**	ug/L	1.0	1		02/09/21 04:02	127-18-4	
Trichloroethene	**99.7**	ug/L	1.0	1		02/09/21 04:02	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/09/21 04:02	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		02/09/21 04:02	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		02/09/21 04:02	17060-07-0	
Toluene-d8 (S)	96	%	70-130	1		02/09/21 04:02	2037-26-5	

Sample: DUP-02 **Lab ID: 92520439005** Collected: 02/01/21 00:00 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/09/21 04:20	75-35-4	
cis-1,2-Dichloroethene	**36.2**	ug/L	1.0	1		02/09/21 04:20	156-59-2	
Tetrachloroethene	**40.8**	ug/L	1.0	1		02/09/21 04:20	127-18-4	
Trichloroethene	**116**	ug/L	1.0	1		02/09/21 04:20	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/09/21 04:20	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		02/09/21 04:20	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		02/09/21 04:20	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		02/09/21 04:20	2037-26-5	

Sample: HP-02 (7-11) **Lab ID: 92520439006** Collected: 02/01/21 17:20 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	25.0	25		02/11/21 15:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	25.0	25		02/11/21 15:39	156-59-2	
Tetrachloroethene	**4140**	ug/L	25.0	25		02/11/21 15:39	127-18-4	
Trichloroethene	**1040**	ug/L	25.0	25		02/11/21 15:39	79-01-6	
Vinyl chloride	ND	ug/L	25.0	25		02/11/21 15:39	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	118	%	70-130	25		02/11/21 15:39	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130	25		02/11/21 15:39	17060-07-0	
Toluene-d8 (S)	101	%	70-130	25		02/11/21 15:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Sample: HP-02 (11-15) **Lab ID: 92520439007** Collected: 02/01/21 17:40 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	100	100		02/11/21 16:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	100		02/11/21 16:02	156-59-2	
Tetrachloroethene	**16700**	ug/L	100	100		02/11/21 16:02	127-18-4	
Trichloroethene	**3840**	ug/L	100	100		02/11/21 16:02	79-01-6	
Vinyl chloride	ND	ug/L	100	100		02/11/21 16:02	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	100		02/11/21 16:02	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	100		02/11/21 16:02	17060-07-0	
Toluene-d8 (S)	97	%	70-130	100		02/11/21 16:02	2037-26-5	

Sample: HP-03 (8-12) **Lab ID: 92520439008** Collected: 02/02/21 10:55 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	5.0	5		02/11/21 14:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		02/11/21 14:49	156-59-2	
Tetrachloroethene	**605**	ug/L	5.0	5		02/11/21 14:49	127-18-4	
Trichloroethene	**105**	ug/L	5.0	5		02/11/21 14:49	79-01-6	
Vinyl chloride	ND	ug/L	5.0	5		02/11/21 14:49	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	5		02/11/21 14:49	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	5		02/11/21 14:49	17060-07-0	
Toluene-d8 (S)	98	%	70-130	5		02/11/21 14:49	2037-26-5	

Sample: HP-03 (13-17) **Lab ID: 92520439009** Collected: 02/02/21 11:15 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	200	200		02/11/21 05:18	75-35-4	
cis-1,2-Dichloroethene	**221**	ug/L	200	200		02/11/21 05:18	156-59-2	
Tetrachloroethene	**22200**	ug/L	200	200		02/11/21 05:18	127-18-4	
Trichloroethene	**5200**	ug/L	200	200		02/11/21 05:18	79-01-6	
Vinyl chloride	ND	ug/L	200	200		02/11/21 05:18	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	200		02/11/21 05:18	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	200		02/11/21 05:18	17060-07-0	
Toluene-d8 (S)	98	%	70-130	200		02/11/21 05:18	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Sample: HP-03 (18-22) **Lab ID: 92520439010** Collected: 02/02/21 11:35 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	200	200		02/11/21 05:54	75-35-4	
cis-1,2-Dichloroethene	**222**	ug/L	200	200		02/11/21 05:54	156-59-2	
Tetrachloroethene	**22100**	ug/L	200	200		02/11/21 05:54	127-18-4	
Trichloroethene	**5210**	ug/L	200	200		02/11/21 05:54	79-01-6	
Vinyl chloride	ND	ug/L	200	200		02/11/21 05:54	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	200		02/11/21 05:54	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	200		02/11/21 05:54	17060-07-0	
Toluene-d8 (S)	97	%	70-130	200		02/11/21 05:54	2037-26-5	

Sample: HP-04 (9-13) **Lab ID: 92520439011** Collected: 02/02/21 14:05 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	5.0	5		02/11/21 15:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		02/11/21 15:07	156-59-2	
Tetrachloroethene	**586**	ug/L	5.0	5		02/11/21 15:07	127-18-4	
Trichloroethene	**79.7**	ug/L	5.0	5		02/11/21 15:07	79-01-6	
Vinyl chloride	ND	ug/L	5.0	5		02/11/21 15:07	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	5		02/11/21 15:07	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	5		02/11/21 15:07	17060-07-0	
Toluene-d8 (S)	98	%	70-130	5		02/11/21 15:07	2037-26-5	

Sample: HP-04 (14-18) **Lab ID: 92520439012** Collected: 02/02/21 14:25 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	20.0	20		02/11/21 03:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	20.0	20		02/11/21 03:29	156-59-2	
Tetrachloroethene	**2210**	ug/L	20.0	20		02/11/21 03:29	127-18-4	
Trichloroethene	**383**	ug/L	20.0	20		02/11/21 03:29	79-01-6	
Vinyl chloride	ND	ug/L	20.0	20		02/11/21 03:29	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	20		02/11/21 03:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	20		02/11/21 03:29	17060-07-0	
Toluene-d8 (S)	98	%	70-130	20		02/11/21 03:29	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Sample: HP-04 (19-23) **Lab ID: 92520439013** Collected: 02/02/21 14:45 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	100	100		02/11/21 04:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	100		02/11/21 04:42	156-59-2	
Tetrachloroethene	**15100**	ug/L	100	100		02/11/21 04:42	127-18-4	M1
Trichloroethene	**2710**	ug/L	100	100		02/11/21 04:42	79-01-6	
Vinyl chloride	ND	ug/L	100	100		02/11/21 04:42	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	100		02/11/21 04:42	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	100		02/11/21 04:42	17060-07-0	
Toluene-d8 (S)	96	%	70-130	100		02/11/21 04:42	2037-26-5	

Sample: HP-05 (8-12) **Lab ID: 92520439014** Collected: 02/02/21 16:15 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/11/21 14:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/11/21 14:27	156-59-2	
Tetrachloroethene	**50.8**	ug/L	1.0	1		02/11/21 14:27	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/11/21 14:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/11/21 14:27	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	117	%	70-130	1		02/11/21 14:27	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		02/11/21 14:27	17060-07-0	
Toluene-d8 (S)	111	%	70-130	1		02/11/21 14:27	2037-26-5	

Sample: HP-05 (13-17) **Lab ID: 92520439015** Collected: 02/02/21 16:30 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	5.0	5		02/11/21 15:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		02/11/21 15:26	156-59-2	
Tetrachloroethene	**554**	ug/L	5.0	5		02/11/21 15:26	127-18-4	
Trichloroethene	**45.6**	ug/L	5.0	5		02/11/21 15:26	79-01-6	
Vinyl chloride	ND	ug/L	5.0	5		02/11/21 15:26	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	5		02/11/21 15:26	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	5		02/11/21 15:26	17060-07-0	
Toluene-d8 (S)	98	%	70-130	5		02/11/21 15:26	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Sample: HP-05 (18-22) **Lab ID: 92520439016** Collected: 02/02/21 16:45 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	50.0	50		02/11/21 04:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	50.0	50		02/11/21 04:06	156-59-2	
Tetrachloroethene	**9680**	ug/L	50.0	50		02/11/21 04:06	127-18-4	
Trichloroethene	**1330**	ug/L	50.0	50		02/11/21 04:06	79-01-6	
Vinyl chloride	ND	ug/L	50.0	50		02/11/21 04:06	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	50		02/11/21 04:06	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	50		02/11/21 04:06	17060-07-0	
Toluene-d8 (S)	95	%	70-130	50		02/11/21 04:06	2037-26-5	

Sample: TRIP BLANK **Lab ID: 92520439017** Collected: 02/04/21 00:00 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/09/21 01:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/09/21 01:16	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/09/21 01:16	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/09/21 01:16	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/09/21 01:16	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		02/09/21 01:16	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		02/09/21 01:16	17060-07-0	
Toluene-d8 (S)	93	%	70-130	1		02/09/21 01:16	2037-26-5	

Sample: HP-01A (11-15) **Lab ID: 92520439018** Collected: 02/03/21 14:55 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/11/21 14:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/11/21 14:45	156-59-2	
Tetrachloroethene	**1.2**	ug/L	1.0	1		02/11/21 14:45	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/11/21 14:45	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/11/21 14:45	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	111	%	70-130	1		02/11/21 14:45	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		02/11/21 14:45	17060-07-0	
Toluene-d8 (S)	115	%	70-130	1		02/11/21 14:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Sample: HP-01A (16-20) **Lab ID: 92520439019** Collected: 02/03/21 15:10 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/11/21 15:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/11/21 15:03	156-59-2	
Tetrachloroethene	**1.1**	ug/L	1.0	1		02/11/21 15:03	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/11/21 15:03	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/11/21 15:03	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	114	%	70-130	1		02/11/21 15:03	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130	1		02/11/21 15:03	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		02/11/21 15:03	2037-26-5	

Sample: HP-01A (21-25) **Lab ID: 92520439020** Collected: 02/03/21 15:30 Received: 02/04/21 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/11/21 15:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/11/21 15:21	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/11/21 15:21	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/11/21 15:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/11/21 15:21	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	108	%	70-130	1		02/11/21 15:21	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130	1		02/11/21 15:21	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		02/11/21 15:21	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

QC Batch: 598106
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92520439001, 92520439002, 92520439003, 92520439004, 92520439005

METHOD BLANK: 3153857 Matrix: Water
Associated Lab Samples: 92520439001, 92520439002, 92520439003, 92520439004, 92520439005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/09/21 00:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/09/21 00:24	
Tetrachloroethene	ug/L	ND	1.0	02/09/21 00:24	
Trichloroethene	ug/L	ND	1.0	02/09/21 00:24	
Vinyl chloride	ug/L	ND	1.0	02/09/21 00:24	
1,2-Dichloroethane-d4 (S)	%	102	70-130	02/09/21 00:24	
4-Bromofluorobenzene (S)	%	103	70-130	02/09/21 00:24	
Toluene-d8 (S)	%	98	70-130	02/09/21 00:24	

LABORATORY CONTROL SAMPLE: 3153858

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	58.6	117	70-132	
cis-1,2-Dichloroethene	ug/L	50	55.4	111	70-130	
Tetrachloroethene	ug/L	50	52.7	105	70-130	
Trichloroethene	ug/L	50	55.2	110	70-130	
Vinyl chloride	ug/L	50	53.4	107	59-142	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3153859 3153860

Parameter	Units	92520431002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	24.6	24.0	123	120	70-158	2	
cis-1,2-Dichloroethene	ug/L	ND	20	20	22.2	22.5	110	111	67-148	1	
Tetrachloroethene	ug/L	ND	20	20	22.1	21.4	111	107	70-139	3	
Trichloroethene	ug/L	ND	20	20	22.7	22.5	114	112	70-149	1	
Vinyl chloride	ug/L	ND	20	20	22.1	21.8	110	109	55-172	1	
1,2-Dichloroethane-d4 (S)	%						101	100	70-130		
4-Bromofluorobenzene (S)	%						101	100	70-130		
Toluene-d8 (S)	%						98	99	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

QC Batch: 598504
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92520439017

METHOD BLANK: 3155688 Matrix: Water
Associated Lab Samples: 92520439017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/09/21 00:58	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/09/21 00:58	
Tetrachloroethene	ug/L	ND	1.0	02/09/21 00:58	
Trichloroethene	ug/L	ND	1.0	02/09/21 00:58	
Vinyl chloride	ug/L	ND	1.0	02/09/21 00:58	
1,2-Dichloroethane-d4 (S)	%	108	70-130	02/09/21 00:58	
4-Bromofluorobenzene (S)	%	97	70-130	02/09/21 00:58	
Toluene-d8 (S)	%	104	70-130	02/09/21 00:58	

LABORATORY CONTROL SAMPLE: 3155689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	56.3	113	70-132	
cis-1,2-Dichloroethene	ug/L	50	51.5	103	70-130	
Tetrachloroethene	ug/L	50	55.0	110	70-130	
Trichloroethene	ug/L	50	49.6	99	70-130	
Vinyl chloride	ug/L	50	48.8	98	59-142	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			91	70-130	
Toluene-d8 (S)	%			92	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3155690 3155691

Parameter	Units	92520706016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	27.3	26.7	136	133	70-158	2	
cis-1,2-Dichloroethene	ug/L	ND	20	20	23.9	23.6	120	118	67-148	1	
Tetrachloroethene	ug/L	ND	20	20	24.5	26.3	123	132	70-139	7	
Trichloroethene	ug/L	ND	20	20	22.8	20.9	114	104	70-149	9	
Vinyl chloride	ug/L	ND	20	20	22.0	22.7	110	113	55-172	3	v1
1,2-Dichloroethane-d4 (S)	%						106	106	70-130		
4-Bromofluorobenzene (S)	%						101	103	70-130		
Toluene-d8 (S)	%						99	98	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

QC Batch: 599041
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92520439009, 92520439010, 92520439012, 92520439013, 92520439016

METHOD BLANK: 3158007 Matrix: Water
Associated Lab Samples: 92520439009, 92520439010, 92520439012, 92520439013, 92520439016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/10/21 23:52	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/10/21 23:52	
Tetrachloroethene	ug/L	ND	1.0	02/10/21 23:52	
Trichloroethene	ug/L	ND	1.0	02/10/21 23:52	
Vinyl chloride	ug/L	ND	1.0	02/10/21 23:52	
1,2-Dichloroethane-d4 (S)	%	101	70-130	02/10/21 23:52	
4-Bromofluorobenzene (S)	%	103	70-130	02/10/21 23:52	
Toluene-d8 (S)	%	99	70-130	02/10/21 23:52	

LABORATORY CONTROL SAMPLE: 3158008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	51.4	103	70-132	
cis-1,2-Dichloroethene	ug/L	50	48.3	97	70-130	
Tetrachloroethene	ug/L	50	46.3	93	70-130	
Trichloroethene	ug/L	50	48.2	96	70-130	
Vinyl chloride	ug/L	50	46.8	94	59-142	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3158009 3158010

Parameter	Units	92520439013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	2000	2000	2340	2220	117	111	70-158	5	
cis-1,2-Dichloroethene	ug/L	ND	2000	2000	2190	2080	107	101	67-148	5	
Tetrachloroethene	ug/L	15100	2000	2000	17600	21200	126	305	70-139	18	E,M1
Trichloroethene	ug/L	2710	2000	2000	4850	5470	107	138	70-149	12	
Vinyl chloride	ug/L	ND	2000	2000	2050	1990	102	99	55-172	3	
1,2-Dichloroethane-d4 (S)	%						102	103	70-130		
4-Bromofluorobenzene (S)	%						100	101	70-130		
Toluene-d8 (S)	%						99	99	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

QC Batch: 599412
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92520439006, 92520439014, 92520439018, 92520439019, 92520439020

METHOD BLANK: 3160164 Matrix: Water
Associated Lab Samples: 92520439006, 92520439014, 92520439018, 92520439019, 92520439020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/11/21 14:10	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/11/21 14:10	
Tetrachloroethene	ug/L	ND	1.0	02/11/21 14:10	
Trichloroethene	ug/L	ND	1.0	02/11/21 14:10	
Vinyl chloride	ug/L	ND	1.0	02/11/21 14:10	
1,2-Dichloroethane-d4 (S)	%	104	70-130	02/11/21 14:10	
4-Bromofluorobenzene (S)	%	116	70-130	02/11/21 14:10	
Toluene-d8 (S)	%	117	70-130	02/11/21 14:10	

LABORATORY CONTROL SAMPLE: 3160165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	53.3	107	70-132	
cis-1,2-Dichloroethene	ug/L	50	44.6	89	70-130	
Tetrachloroethene	ug/L	50	48.1	96	70-130	
Trichloroethene	ug/L	50	45.3	91	70-130	
Vinyl chloride	ug/L	50	44.7	89	59-142	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			91	70-130	
Toluene-d8 (S)	%			108	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3160166 3160167

Parameter	Units	92520439006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	500	500	673	697	135	139	70-158	4	
cis-1,2-Dichloroethene	ug/L	ND	500	500	608	662	120	131	67-148	8	
Tetrachloroethene	ug/L	4140	500	500	4730	4560	117	83	70-139	4	
Trichloroethene	ug/L	1040	500	500	1630	1650	118	123	70-149	2	
Vinyl chloride	ug/L	ND	500	500	525	564	105	113	55-172	7	
1,2-Dichloroethane-d4 (S)	%						108	104	70-130		
4-Bromofluorobenzene (S)	%						108	107	70-130		
Toluene-d8 (S)	%						119	118	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

QC Batch: 599416
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92520439007, 92520439008, 92520439011, 92520439015

METHOD BLANK: 3160178 Matrix: Water
Associated Lab Samples: 92520439007, 92520439008, 92520439011, 92520439015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/11/21 14:31	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/11/21 14:31	
Tetrachloroethene	ug/L	ND	1.0	02/11/21 14:31	
Trichloroethene	ug/L	ND	1.0	02/11/21 14:31	
Vinyl chloride	ug/L	ND	1.0	02/11/21 14:31	
1,2-Dichloroethane-d4 (S)	%	78	70-130	02/11/21 14:31	
4-Bromofluorobenzene (S)	%	107	70-130	02/11/21 14:31	
Toluene-d8 (S)	%	98	70-130	02/11/21 14:31	

LABORATORY CONTROL SAMPLE: 3160179

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	53.2	106	70-132	
cis-1,2-Dichloroethene	ug/L	50	49.1	98	70-130	
Tetrachloroethene	ug/L	50	47.6	95	70-130	
Trichloroethene	ug/L	50	50.6	101	70-130	
Vinyl chloride	ug/L	50	50.7	101	59-142	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3160180 3160181

Parameter	Units	92520439007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	2000	2000	2680	2410	134	120	70-158	10	
cis-1,2-Dichloroethene	ug/L	ND	2000	2000	2370	2180	117	107	67-148	9	
Tetrachloroethene	ug/L	16700	2000	2000	19000	18600	117	95	70-139	2	
Trichloroethene	ug/L	3840	2000	2000	6360	6150	126	115	70-149	3	
Vinyl chloride	ug/L	ND	2000	2000	2570	2320	128	116	55-172	10	
1,2-Dichloroethane-d4 (S)	%						100	101	70-130		
4-Bromofluorobenzene (S)	%						101	101	70-130		
Toluene-d8 (S)	%						97	99	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HYDROPUNCH REMEDIAL
Pace Project No.: 92520439

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92520439001	**HP-01 (5-9)**	EPA 8260D	598106		
92520439002	**HP-01 (10-14)**	EPA 8260D	598106		
92520439003	**HP-01 (14-19)**	EPA 8260D	598106		
92520439004	**HP-01 (19-23.5)**	EPA 8260D	598106		
92520439005	**DUP-02**	EPA 8260D	598106		
92520439006	**HP-02 (7-11)**	EPA 8260D	599412		
92520439007	**HP-02 (11-15)**	EPA 8260D	599416		
92520439008	**HP-03 (8-12)**	EPA 8260D	599416		
92520439009	**HP-03 (13-17)**	EPA 8260D	599041		
92520439010	**HP-03 (18-22)**	EPA 8260D	599041		
92520439011	**HP-04 (9-13)**	EPA 8260D	599416		
92520439012	**HP-04 (14-18)**	EPA 8260D	599041		
92520439013	**HP-04 (19-23)**	EPA 8260D	599041		
92520439014	**HP-05 (8-12)**	EPA 8260D	599412		
92520439015	**HP-05 (13-17)**	EPA 8260D	599416		
92520439016	**HP-05 (18-22)**	EPA 8260D	599041		
92520439017	**TRIP BLANK**	EPA 8260D	598504		
92520439018	**HP-01A (11-15)**	EPA 8260D	599412		
92520439019	**HP-01A (16-20)**	EPA 8260D	599412		
92520439020	**HP-01A (21-25)**	EPA 8260D	599412		

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Arcadis

Project #: **WO# : 92520439**

92520439

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other: ____

Custody Seal Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Date/Initials Person Examining Contents: 2T 02/04/21

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☒ IR Gun ID: 92T064 ☒ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 2.6 Correction Factor: Add/Subtract (°C) -0.1

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 2.5

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☒ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	4.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☒ No	☐ N/A	8.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☒ No	☐ N/A	10.
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: ____ Date/Time: ____

Project Manager SCURF Review: ____ Date: ____

Project Manager SRF Review: ____ Date: ____

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

Project #

WO# : 92520439

PM: KLH1 Due Date: 02/11/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

Project # **WO# : 92520439**

PM: KLH1 Due Date: 02/11/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																													
3																													
4																													
5																													
6																													
7																													
8																1													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 2

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: Arcadis	Report To: ~~Bob Campion~~ AND MATT PELTON	Attention:	
Address: 1228 Commerce St	Copy To: CHRIS BAGLEY	Company Name:	
Conover, NC 28613	CHRISTOPHER.BAGLEY@ARCADIS.COM	Address:	Regulatory Agency
Email: MATTHEW.PELTON@ARCADIS.COM	Purchase Order #:	Pace Quote:	
Phone: 919-415-2303 Fax	Project Name: Hydropunch Remedial Investigation 30053008	Pace Project Manager: kevin.herring@pacelabs.com,	State / Location
Requested Due Date: STANDARD TAT	Project #:	Pace Profile #: 10403	NC

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: 8260	Residual Chlorine (Y/N)	625204
1	HP-01 (5-9)	WT	G	—	—	2/1/21	1225		3				3						✓		
2	HP-01 (10-14)	WT	G	—	—	2/1/21	1350		3				3						✓		
3	HP-01 (14-19)	WT	G	—	—	2/1/21	1410		3				3						✓		
4	HP-01 (19-23.5)	WT	G	—	—	2/1/21	1435		3				3						✓		
5	DUP-02	WT	G	—	—	2/1/21	—		3				3						✓		
6	HP-02 (7-11)	WT	G	—	—	2/1/21	1720		3				3						✓		
7	HP-02 (11-15)	WT	G	—	—	2/1/21	1740		3				3						✓		
8	HP-03 (8-12)	WT	G	—	—	2/2/21	1055		3				3						✓		
9	HP-03 (13-17)	WT	G	—	—	2/2/21	1115		3				3						✓		
10	HP-03 (18-22)	WT	G	—	—	2/2/21	1135		3				3						✓		
11	HP-04 (9-13)	WT	G	—	—	2/2/21	1405		3				3						✓		
12	HP-04 (14-18)	WT	G	—	—	2/2/21	1425		3				3						✓		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	ARCADIS	2/4/21	0800	PACE HOU	2-9-21	0810	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MATT CREEL

SIGNATURE of SAMPLER: DATE Signed: 2/4/21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.1	Y	N	Y

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:

Company:	Arcadis
Address:	1228 Commerce St SEE PAGE 1 OF 2
Conover, NC 28613	
Email:	~~ray.penley@ga.com~~
Phone:	Fax:
Requested Due Date:	

Section B
Required Project Information:

Report To:	~~HOLD @ FedEx for Ray Penley~~
Copy To:	SEE PAGE 1 OF 2
Purchase Order #:	
Project Name:	~~CE Hickory - 2020 Annual GW Monitoring~~
Project #:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	kevin.herring@pacelabs.com,
Pace Profile #:	10403

Page : 2 Of 2

Regulatory Agency
State / Location
NC

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): 8260	6020 Cr	Residual Chlorine (Y/N)	
1	MP-04 (19-23)	WT	G	-	-	2/2/21	1445		9				9						✓			G2520439
2	HP-05 (8-12)	WT	G	-	-	2/2/21	1615		3				3						✓			MS/MSD
3	HP-05 (13-17)	WT	G	-	-	2/2/21	1630		3				3						✓			
4	HP-05 (18-22)	WT	G	-	-	2/2/21	1645		3				3						✓			
5	TRIP BLANK	WT	G	-	-	-	-		2				2						✓			TRIP BLANK
6	HP-01A (11-15)	WT	G	-	-	2/3/21	1455		3				3						✓			
7	HP-01A (16-20)	WT	G	-	-	2/3/21	1510		3				3						✓			
8	HP-01A (21-25)	WT	G	-	-	2/3/21	1530		3				3						✓			
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature] / Arcadis	2/4/21	0800	[signature] PACE HK	2-4-21	1510	2.5 Y N Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt Creel

SIGNATURE of SAMPLER: [signature]

DATE Signed: 2/4/21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

February 16, 2021

Matthew Pelton
ARCADIS
5420 Wade Park Blvd
Suite 350
Raleigh, NC 27607

RE: Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

Dear Matthew Pelton:

Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Chris Bagley, Arcadis
Kristen Lowder, Arcadis
Ray Penley, General Electric
Bob Witsell

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92521239001	**HP 01A**	EPA 8260D	CL	8	PASI-C
92521239002	**HP 01**	EPA 8260D	CL	8	PASI-C
92521239003	**HP 02**	EPA 8260D	CL	8	PASI-C
92521239004	**HP 04**	EPA 8260D	CL	8	PASI-C
92521239005	**HP 06**	EPA 8260D	CL	8	PASI-C
92521239006	**HP 08**	EPA 8260D	CL	8	PASI-C
92521239007	**HP 09**	EPA 8260D	CL	8	PASI-C
92521239008	**TRIP BLANK**	EPA 8260D	BSH	8	PASI-C

PASI-C = Pace Analytical Services - Charlotte

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

Sample: HP 01A **Lab ID: 92521239001** Collected: 02/09/21 10:44 Received: 02/09/21 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	2.0	2		02/12/21 07:58	75-35-4	
cis-1,2-Dichloroethene	**7.5**	ug/L	2.0	2		02/12/21 07:58	156-59-2	
Tetrachloroethene	**186**	ug/L	2.0	2		02/12/21 07:58	127-18-4	
Trichloroethene	**91.3**	ug/L	2.0	2		02/12/21 07:58	79-01-6	
Vinyl chloride	ND	ug/L	2.0	2		02/12/21 07:58	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	2		02/12/21 07:58	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	2		02/12/21 07:58	17060-07-0	
Toluene-d8 (S)	101	%	70-130	2		02/12/21 07:58	2037-26-5	

Sample: HP 01 **Lab ID: 92521239002** Collected: 02/09/21 10:54 Received: 02/09/21 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	4.0	4		02/12/21 08:16	75-35-4	
cis-1,2-Dichloroethene	**58.3**	ug/L	4.0	4		02/12/21 08:16	156-59-2	
Tetrachloroethene	**276**	ug/L	4.0	4		02/12/21 08:16	127-18-4	
Trichloroethene	**378**	ug/L	4.0	4		02/12/21 08:16	79-01-6	
Vinyl chloride	ND	ug/L	4.0	4		02/12/21 08:16	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	4		02/12/21 08:16	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	4		02/12/21 08:16	17060-07-0	
Toluene-d8 (S)	99	%	70-130	4		02/12/21 08:16	2037-26-5	

Sample: HP 02 **Lab ID: 92521239003** Collected: 02/09/21 11:02 Received: 02/09/21 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	100	100		02/12/21 09:10	75-35-4	
cis-1,2-Dichloroethene	**171**	ug/L	100	100		02/12/21 09:10	156-59-2	
Tetrachloroethene	**17300**	ug/L	100	100		02/12/21 09:10	127-18-4	
Trichloroethene	**4640**	ug/L	100	100		02/12/21 09:10	79-01-6	
Vinyl chloride	ND	ug/L	100	100		02/12/21 09:10	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	100		02/12/21 09:10	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	100		02/12/21 09:10	17060-07-0	
Toluene-d8 (S)	99	%	70-130	100		02/12/21 09:10	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

Sample: HP 04 **Lab ID: 92521239004** Collected: 02/09/21 11:20 Received: 02/09/21 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	100	100		02/12/21 09:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	100	100		02/12/21 09:46	156-59-2	
Tetrachloroethene	**10200**	ug/L	100	100		02/12/21 09:46	127-18-4	
Trichloroethene	**1780**	ug/L	100	100		02/12/21 09:46	79-01-6	
Vinyl chloride	ND	ug/L	100	100		02/12/21 09:46	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	100		02/12/21 09:46	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	100		02/12/21 09:46	17060-07-0	
Toluene-d8 (S)	101	%	70-130	100		02/12/21 09:46	2037-26-5	

Sample: HP 06 **Lab ID: 92521239005** Collected: 02/09/21 13:06 Received: 02/09/21 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	12.5	12.5		02/12/21 08:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	12.5	12.5		02/12/21 08:34	156-59-2	
Tetrachloroethene	**1600**	ug/L	12.5	12.5		02/12/21 08:34	127-18-4	
Trichloroethene	**280**	ug/L	12.5	12.5		02/12/21 08:34	79-01-6	
Vinyl chloride	ND	ug/L	12.5	12.5		02/12/21 08:34	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	12.5		02/12/21 08:34	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	12.5		02/12/21 08:34	17060-07-0	
Toluene-d8 (S)	101	%	70-130	12.5		02/12/21 08:34	2037-26-5	

Sample: HP 08 **Lab ID: 92521239006** Collected: 02/09/21 13:20 Received: 02/09/21 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	2.0	2		02/12/21 07:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.0	2		02/12/21 07:39	156-59-2	
Tetrachloroethene	**23.7**	ug/L	2.0	2		02/12/21 07:39	127-18-4	
Trichloroethene	**214**	ug/L	2.0	2		02/12/21 07:39	79-01-6	
Vinyl chloride	ND	ug/L	2.0	2		02/12/21 07:39	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	2		02/12/21 07:39	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	2		02/12/21 07:39	17060-07-0	
Toluene-d8 (S)	101	%	70-130	2		02/12/21 07:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

Sample: HP 09 **Lab ID: 92521239007** Collected: 02/09/21 13:30 Received: 02/09/21 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 07:21	75-35-4	
cis-1,2-Dichloroethene	**2.4**	ug/L	1.0	1		02/12/21 07:21	156-59-2	
Tetrachloroethene	**14.0**	ug/L	1.0	1		02/12/21 07:21	127-18-4	
Trichloroethene	**166**	ug/L	1.0	1		02/12/21 07:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 07:21	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		02/12/21 07:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		02/12/21 07:21	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		02/12/21 07:21	2037-26-5	

Sample: TRIP BLANK **Lab ID: 92521239008** Collected: 02/09/21 00:00 Received: 02/09/21 16:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/11/21 00:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/11/21 00:28	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/11/21 00:28	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/11/21 00:28	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/11/21 00:28	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		02/11/21 00:28	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	1		02/11/21 00:28	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		02/11/21 00:28	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

QC Batch: 599041
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92521239008

METHOD BLANK: 3158007 Matrix: Water
Associated Lab Samples: 92521239008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/10/21 23:52	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/10/21 23:52	
Tetrachloroethene	ug/L	ND	1.0	02/10/21 23:52	
Trichloroethene	ug/L	ND	1.0	02/10/21 23:52	
Vinyl chloride	ug/L	ND	1.0	02/10/21 23:52	
1,2-Dichloroethane-d4 (S)	%	101	70-130	02/10/21 23:52	
4-Bromofluorobenzene (S)	%	103	70-130	02/10/21 23:52	
Toluene-d8 (S)	%	99	70-130	02/10/21 23:52	

LABORATORY CONTROL SAMPLE: 3158008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	51.4	103	70-132	
cis-1,2-Dichloroethene	ug/L	50	48.3	97	70-130	
Tetrachloroethene	ug/L	50	46.3	93	70-130	
Trichloroethene	ug/L	50	48.2	96	70-130	
Vinyl chloride	ug/L	50	46.8	94	59-142	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3158009 3158010

Parameter	Units	92520439013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	2000	2000	2340	2220	117	111	70-158	5	
cis-1,2-Dichloroethene	ug/L	ND	2000	2000	2190	2080	107	101	67-148	5	
Tetrachloroethene	ug/L	15100	2000	2000	17600	21200	126	305	70-139	18	E,M1
Trichloroethene	ug/L	2710	2000	2000	4850	5470	107	138	70-149	12	
Vinyl chloride	ug/L	ND	2000	2000	2050	1990	102	99	55-172	3	
1,2-Dichloroethane-d4 (S)	%						102	103	70-130		
4-Bromofluorobenzene (S)	%						100	101	70-130		
Toluene-d8 (S)	%						99	99	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

QC Batch: 599384
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92521239001, 92521239002, 92521239003, 92521239004, 92521239005, 92521239006, 92521239007

METHOD BLANK: 3159950 Matrix: Water
Associated Lab Samples: 92521239001, 92521239002, 92521239003, 92521239004, 92521239005, 92521239006, 92521239007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/11/21 23:48	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/11/21 23:48	
Tetrachloroethene	ug/L	ND	1.0	02/11/21 23:48	
Trichloroethene	ug/L	ND	1.0	02/11/21 23:48	
Vinyl chloride	ug/L	ND	1.0	02/11/21 23:48	
1,2-Dichloroethane-d4 (S)	%	100	70-130	02/11/21 23:48	
4-Bromofluorobenzene (S)	%	96	70-130	02/11/21 23:48	
Toluene-d8 (S)	%	100	70-130	02/11/21 23:48	

LABORATORY CONTROL SAMPLE: 3159951

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	55.3	111	70-132	
cis-1,2-Dichloroethene	ug/L	50	50.3	101	70-130	
Tetrachloroethene	ug/L	50	48.8	98	70-130	
Trichloroethene	ug/L	50	50.5	101	70-130	
Vinyl chloride	ug/L	50	50.5	101	59-142	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159952 3159953

Parameter	Units	92521239005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	250	250	322	305	129	122	70-158	5	
cis-1,2-Dichloroethene	ug/L	ND	250	250	293	284	113	110	67-148	3	
Tetrachloroethene	ug/L	1600	250	250	1930	1940	135	138	70-139	0	
Trichloroethene	ug/L	280	250	250	571	556	116	110	70-149	3	
Vinyl chloride	ug/L	ND	250	250	283	272	113	109	55-172	4	
1,2-Dichloroethane-d4 (S)	%						97	94	70-130		
4-Bromofluorobenzene (S)	%						99	99	70-130		
Toluene-d8 (S)	%						102	101	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521239

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92521239001	**HP 01A**	EPA 8260D	599384		
92521239002	**HP 01**	EPA 8260D	599384		
92521239003	**HP 02**	EPA 8260D	599384		
92521239004	**HP 04**	EPA 8260D	599384		
92521239005	**HP 06**	EPA 8260D	599384		
92521239006	**HP 08**	EPA 8260D	599384		
92521239007	**HP 09**	EPA 8260D	599384		
92521239008	**TRIP BLANK**	EPA 8260D	599041		

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐ Atlanta ☐

Sample Condition Upon Receipt

Client Name: Arcadis

Project

WO# : 92521239

92521239

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other:____

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Date/Initials Person Examining Contents: 2-10-21 AMP

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 92T064 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 4.7 **Correction Factor:** Add/Subtract (°C) -0.1

Cooler Temp Corrected (°C): 4.6

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	9.
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☑ No	☐ N/A	10.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO# : 92521239**

PM: KLH1 Due Date: 02/16/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3												
2																3												
3																3												
4																3												
5																3												
6																3												
7																3												
8																2												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical®
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 **Of** 1

Section A
Required Client Information:

Company:	Arcadis
Address:	1228 Commerce St
	Conover, NC 28613
Email:	ray.penley@ge.com
Phone:	Fax
Requested Due Date:	

Section B
Required Project Information:

Report To:	HOLD @ FedEx for Ray Penley
Copy To:	
Purchase Order #:	
Project Name:	GE Hickory - ~~[illegible]~~ GW Monitoring
Project #:	Hydro Punch

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	kevin.herring@pacelabs.com,
Pace Profile #:	10403

Regulatory Agency
State / Location
NC

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260	6020 Cr	Residual Chlorine (Y/N)	92521239
1	HP 01A	W	G	2-9-21	1044				3				✓						✓			Shipped on
2	HP 01	W	G	2-9-21	1054				3				✓						✓			ice
3	HP 02	W	G	2-9-21	1102				3				✓						✓			
4	HP 04	W	G	2-9-21	1120				3				✓						✓			
5	HP 06	W	G	2-9-21	1306				3				✓						✓			
6	HP 08	W	G	2-9-21	1320				3				✓						✓			
7	HP 09	W	G	2-9-21	1330				3				✓						✓			
8	Trip blank	W							2				✓						✓			
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Ray Penley	2-9-21	1648	Erick Hernandez/Pace	~~[illegible]~~ 2/9/21	1648	4.6	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ray Penley

SIGNATURE of SAMPLER: Ray Penley   DATE Signed: 2-9-21

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

February 17, 2021

Matthew Pelton
ARCADIS
5420 Wade Park Blvd
Suite 350
Raleigh, NC 27607

RE: Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Dear Matthew Pelton:

Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Chris Bagley, Arcadis
Kristen Lowder, Arcadis
Ray Penley, General Electric
Bob Witsell

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92521527001	**RW-1**	EPA 8260D	CL	8	PASI-C
92521527002	**RW-2**	EPA 8260D	CL	8	PASI-C
92521527003	**RW-3**	EPA 8260D	CL	8	PASI-C
92521527004	**RW-4**	EPA 8260D	CL	8	PASI-C
92521527005	**RW-5**	EPA 8260D	CL	8	PASI-C
92521527006	**RW-6**	EPA 8260D	CL	8	PASI-C
92521527007	**RW-7**	EPA 8260D	CL	8	PASI-C
92521527008	**RW-8**	EPA 8260D	CL	8	PASI-C
92521527009	**RW-9**	EPA 8260D	CL	8	PASI-C
92521527010	**RW-10**	EPA 8260D	CL	8	PASI-C
92521527011	**RW-11**	EPA 8260D	CL	8	PASI-C
92521527012	**RW-12**	EPA 8260D	CL	8	PASI-C
92521527013	**RW-13**	EPA 8260D	CL	8	PASI-C
92521527014	**RW-14**	EPA 8260D	CL	8	PASI-C
92521527015	**RW-15**	EPA 8260D	CL	8	PASI-C
92521527016	**RW-16**	EPA 8260D	CL	8	PASI-C
92521527017	**RW-17**	EPA 8260D	CL	8	PASI-C
92521527018	**RW-18**	EPA 8260D	CL	8	PASI-C
92521527019	**RW-19**	EPA 8260D	CL	8	PASI-C
92521527020	**RW-21**	EPA 8260D	CL	8	PASI-C
92521527021	**RW-22**	EPA 8260D	CL	8	PASI-C
92521527022	**RW-23**	EPA 8260D	CL	8	PASI-C
92521527023	**TRIP BLANK**	EPA 8260D	CL	8	PASI-C

PASI-C = Pace Analytical Services - Charlotte

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Sample: RW-1 **Lab ID: 92521527001** Collected: 02/10/21 11:27 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 00:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/12/21 00:43	156-59-2	
Tetrachloroethene	**14.4**	ug/L	1.0	1		02/12/21 00:43	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/12/21 00:43	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 00:43	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		02/12/21 00:43	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		02/12/21 00:43	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		02/12/21 00:43	2037-26-5	

Sample: RW-2 **Lab ID: 92521527002** Collected: 02/10/21 11:23 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 01:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/12/21 01:01	156-59-2	
Tetrachloroethene	**16.6**	ug/L	1.0	1		02/12/21 01:01	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/12/21 01:01	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 01:01	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		02/12/21 01:01	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		02/12/21 01:01	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		02/12/21 01:01	2037-26-5	

Sample: RW-3 **Lab ID: 92521527003** Collected: 02/10/21 11:18 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 01:19	75-35-4	
cis-1,2-Dichloroethene	**2.1**	ug/L	1.0	1		02/12/21 01:19	156-59-2	
Tetrachloroethene	**44.5**	ug/L	1.0	1		02/12/21 01:19	127-18-4	
Trichloroethene	**6.5**	ug/L	1.0	1		02/12/21 01:19	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 01:19	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		02/12/21 01:19	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		02/12/21 01:19	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		02/12/21 01:19	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Sample: RW-4 **Lab ID: 92521527004** Collected: 02/10/21 11:13 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 01:37	75-35-4	
cis-1,2-Dichloroethene	**8.8**	ug/L	1.0	1		02/12/21 01:37	156-59-2	
Tetrachloroethene	**9.3**	ug/L	1.0	1		02/12/21 01:37	127-18-4	
Trichloroethene	**40.9**	ug/L	1.0	1		02/12/21 01:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 01:37	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		02/12/21 01:37	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		02/12/21 01:37	17060-07-0	
Toluene-d8 (S)	103	%	70-130	1		02/12/21 01:37	2037-26-5	

Sample: RW-5 **Lab ID: 92521527005** Collected: 02/10/21 11:09 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 01:55	75-35-4	
cis-1,2-Dichloroethene	**30.3**	ug/L	1.0	1		02/12/21 01:55	156-59-2	
Tetrachloroethene	**38.5**	ug/L	1.0	1		02/12/21 01:55	127-18-4	
Trichloroethene	**90.7**	ug/L	1.0	1		02/12/21 01:55	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 01:55	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		02/12/21 01:55	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		02/12/21 01:55	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		02/12/21 01:55	2037-26-5	

Sample: RW-6 **Lab ID: 92521527006** Collected: 02/10/21 11:04 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 02:13	75-35-4	
cis-1,2-Dichloroethene	**43.0**	ug/L	1.0	1		02/12/21 02:13	156-59-2	
Tetrachloroethene	**52.8**	ug/L	1.0	1		02/12/21 02:13	127-18-4	
Trichloroethene	**106**	ug/L	1.0	1		02/12/21 02:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 02:13	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		02/12/21 02:13	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		02/12/21 02:13	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		02/12/21 02:13	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Sample: RW-7 **Lab ID: 92521527007** Collected: 02/10/21 10:59 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	4.0	4		02/15/21 15:29	75-35-4	
cis-1,2-Dichloroethene	**151**	ug/L	4.0	4		02/15/21 15:29	156-59-2	
Tetrachloroethene	**215**	ug/L	4.0	4		02/15/21 15:29	127-18-4	
Trichloroethene	**372**	ug/L	4.0	4		02/15/21 15:29	79-01-6	
Vinyl chloride	ND	ug/L	4.0	4		02/15/21 15:29	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	4		02/15/21 15:29	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	4		02/15/21 15:29	17060-07-0	
Toluene-d8 (S)	102	%	70-130	4		02/15/21 15:29	2037-26-5	

Sample: RW-8 **Lab ID: 92521527008** Collected: 02/10/21 10:55 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	10.0	10		02/15/21 16:41	75-35-4	
cis-1,2-Dichloroethene	**574**	ug/L	10.0	10		02/15/21 16:41	156-59-2	
Tetrachloroethene	**946**	ug/L	10.0	10		02/15/21 16:41	127-18-4	
Trichloroethene	**1060**	ug/L	10.0	10		02/15/21 16:41	79-01-6	
Vinyl chloride	ND	ug/L	10.0	10		02/15/21 16:41	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	10		02/15/21 16:41	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	10		02/15/21 16:41	17060-07-0	
Toluene-d8 (S)	101	%	70-130	10		02/15/21 16:41	2037-26-5	

Sample: RW-9 **Lab ID: 92521527009** Collected: 02/10/21 10:50 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	10.0	10		02/16/21 16:17	75-35-4	
cis-1,2-Dichloroethene	**220**	ug/L	10.0	10		02/16/21 16:17	156-59-2	
Tetrachloroethene	**843**	ug/L	10.0	10		02/16/21 16:17	127-18-4	
Trichloroethene	**345**	ug/L	10.0	10		02/16/21 16:17	79-01-6	
Vinyl chloride	ND	ug/L	10.0	10		02/16/21 16:17	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	10		02/16/21 16:17	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	10		02/16/21 16:17	17060-07-0	
Toluene-d8 (S)	100	%	70-130	10		02/16/21 16:17	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Sample: RW-10 **Lab ID: 92521527010** Collected: 02/10/21 10:43 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 03:26	75-35-4	
cis-1,2-Dichloroethene	**1.4**	ug/L	1.0	1		02/12/21 03:26	156-59-2	
Tetrachloroethene	**14.0**	ug/L	1.0	1		02/12/21 03:26	127-18-4	
Trichloroethene	**7.6**	ug/L	1.0	1		02/12/21 03:26	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 03:26	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		02/12/21 03:26	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		02/12/21 03:26	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		02/12/21 03:26	2037-26-5	

Sample: RW-11 **Lab ID: 92521527011** Collected: 02/10/21 10:39 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 03:44	75-35-4	
cis-1,2-Dichloroethene	**1.8**	ug/L	1.0	1		02/12/21 03:44	156-59-2	
Tetrachloroethene	**17.2**	ug/L	1.0	1		02/12/21 03:44	127-18-4	
Trichloroethene	**10.1**	ug/L	1.0	1		02/12/21 03:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 03:44	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		02/12/21 03:44	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		02/12/21 03:44	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		02/12/21 03:44	2037-26-5	

Sample: RW-12 **Lab ID: 92521527012** Collected: 02/10/21 10:35 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 04:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/12/21 04:02	156-59-2	
Tetrachloroethene	**4.9**	ug/L	1.0	1		02/12/21 04:02	127-18-4	
Trichloroethene	**2.0**	ug/L	1.0	1		02/12/21 04:02	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 04:02	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		02/12/21 04:02	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130	1		02/12/21 04:02	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		02/12/21 04:02	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Sample: RW-13 **Lab ID: 92521527013** Collected: 02/10/21 10:29 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 04:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/12/21 04:20	156-59-2	
Tetrachloroethene	**16.9**	ug/L	1.0	1		02/12/21 04:20	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/12/21 04:20	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 04:20	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		02/12/21 04:20	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		02/12/21 04:20	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		02/12/21 04:20	2037-26-5	

Sample: RW-14 **Lab ID: 92521527014** Collected: 02/10/21 10:24 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 04:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/12/21 04:38	156-59-2	
Tetrachloroethene	**5.5**	ug/L	1.0	1		02/12/21 04:38	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/12/21 04:38	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 04:38	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		02/12/21 04:38	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		02/12/21 04:38	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		02/12/21 04:38	2037-26-5	

Sample: RW-15 **Lab ID: 92521527015** Collected: 02/10/21 10:16 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	5.0	5		02/15/21 15:47	75-35-4	
cis-1,2-Dichloroethene	**57.4**	ug/L	5.0	5		02/15/21 15:47	156-59-2	
Tetrachloroethene	**421**	ug/L	5.0	5		02/15/21 15:47	127-18-4	
Trichloroethene	**48.7**	ug/L	5.0	5		02/15/21 15:47	79-01-6	
Vinyl chloride	ND	ug/L	5.0	5		02/15/21 15:47	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	5		02/15/21 15:47	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	5		02/15/21 15:47	17060-07-0	
Toluene-d8 (S)	104	%	70-130	5		02/15/21 15:47	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Sample: RW-16 **Lab ID: 92521527016** Collected: 02/10/21 10:11 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	50.0	50		02/16/21 17:29	75-35-4	
cis-1,2-Dichloroethene	**2000**	ug/L	50.0	50		02/16/21 17:29	156-59-2	
Tetrachloroethene	**788**	ug/L	50.0	50		02/16/21 17:29	127-18-4	
Trichloroethene	**9170**	ug/L	50.0	50		02/16/21 17:29	79-01-6	
Vinyl chloride	ND	ug/L	50.0	50		02/16/21 17:29	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	50		02/16/21 17:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	50		02/16/21 17:29	17060-07-0	
Toluene-d8 (S)	100	%	70-130	50		02/16/21 17:29	2037-26-5	

Sample: RW-17 **Lab ID: 92521527017** Collected: 02/10/21 10:07 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	10.0	10		02/15/21 16:23	75-35-4	
cis-1,2-Dichloroethene	**838**	ug/L	10.0	10		02/15/21 16:23	156-59-2	
Tetrachloroethene	**64.5**	ug/L	10.0	10		02/15/21 16:23	127-18-4	
Trichloroethene	**936**	ug/L	10.0	10		02/15/21 16:23	79-01-6	
Vinyl chloride	ND	ug/L	10.0	10		02/15/21 16:23	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	10		02/15/21 16:23	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	10		02/15/21 16:23	17060-07-0	
Toluene-d8 (S)	107	%	70-130	10		02/15/21 16:23	2037-26-5	

Sample: RW-18 **Lab ID: 92521527018** Collected: 02/10/21 10:02 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	12.5	12.5		02/16/21 16:35	75-35-4	
cis-1,2-Dichloroethene	**103**	ug/L	12.5	12.5		02/16/21 16:35	156-59-2	
Tetrachloroethene	**48.7**	ug/L	12.5	12.5		02/16/21 16:35	127-18-4	
Trichloroethene	**1630**	ug/L	12.5	12.5		02/16/21 16:35	79-01-6	
Vinyl chloride	ND	ug/L	12.5	12.5		02/16/21 16:35	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	12.5		02/16/21 16:35	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	12.5		02/16/21 16:35	17060-07-0	
Toluene-d8 (S)	100	%	70-130	12.5		02/16/21 16:35	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Sample: RW-19 **Lab ID: 92521527019** Collected: 02/10/21 10:00 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 06:09	75-35-4	
cis-1,2-Dichloroethene	**12.4**	ug/L	1.0	1		02/12/21 06:09	156-59-2	
Tetrachloroethene	**160**	ug/L	1.0	1		02/12/21 06:09	127-18-4	
Trichloroethene	**30.6**	ug/L	1.0	1		02/12/21 06:09	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 06:09	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		02/12/21 06:09	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		02/12/21 06:09	17060-07-0	
Toluene-d8 (S)	102	%	70-130	1		02/12/21 06:09	2037-26-5	

Sample: RW-21 **Lab ID: 92521527020** Collected: 02/10/21 13:10 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 06:27	75-35-4	
cis-1,2-Dichloroethene	**1.6**	ug/L	1.0	1		02/12/21 06:27	156-59-2	
Tetrachloroethene	**10.4**	ug/L	1.0	1		02/12/21 06:27	127-18-4	
Trichloroethene	**128**	ug/L	1.0	1		02/12/21 06:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 06:27	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		02/12/21 06:27	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		02/12/21 06:27	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		02/12/21 06:27	2037-26-5	

Sample: RW-22 **Lab ID: 92521527021** Collected: 02/10/21 13:16 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	20.0	20		02/16/21 16:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	20.0	20		02/16/21 16:53	156-59-2	
Tetrachloroethene	**1990**	ug/L	20.0	20		02/16/21 16:53	127-18-4	
Trichloroethene	**264**	ug/L	20.0	20		02/16/21 16:53	79-01-6	
Vinyl chloride	ND	ug/L	20.0	20		02/16/21 16:53	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	20		02/16/21 16:53	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	20		02/16/21 16:53	17060-07-0	
Toluene-d8 (S)	100	%	70-130	20		02/16/21 16:53	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Sample: RW-23 **Lab ID: 92521527022** Collected: 02/10/21 13:25 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	40.0	40		02/16/21 17:11	75-35-4	
cis-1,2-Dichloroethene	**183**	ug/L	40.0	40		02/16/21 17:11	156-59-2	
Tetrachloroethene	**3830**	ug/L	40.0	40		02/16/21 17:11	127-18-4	
Trichloroethene	**1850**	ug/L	40.0	40		02/16/21 17:11	79-01-6	
Vinyl chloride	ND	ug/L	40.0	40		02/16/21 17:11	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	40		02/16/21 17:11	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	40		02/16/21 17:11	17060-07-0	
Toluene-d8 (S)	100	%	70-130	40		02/16/21 17:11	2037-26-5	

Sample: TRIP BLANK **Lab ID: 92521527023** Collected: 02/10/21 00:00 Received: 02/10/21 16:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		02/12/21 00:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/12/21 00:25	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/12/21 00:25	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		02/12/21 00:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/12/21 00:25	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		02/12/21 00:25	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		02/12/21 00:25	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		02/12/21 00:25	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

QC Batch: 599383
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92521527001, 92521527002, 92521527003, 92521527004, 92521527005, 92521527006, 92521527010, 92521527011, 92521527012, 92521527013, 92521527014, 92521527019, 92521527023

METHOD BLANK: 3159945 Matrix: Water
Associated Lab Samples: 92521527001, 92521527002, 92521527003, 92521527004, 92521527005, 92521527006, 92521527010, 92521527011, 92521527012, 92521527013, 92521527014, 92521527019, 92521527023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/12/21 00:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/12/21 00:07	
Tetrachloroethene	ug/L	ND	1.0	02/12/21 00:07	
Trichloroethene	ug/L	ND	1.0	02/12/21 00:07	
Vinyl chloride	ug/L	ND	1.0	02/12/21 00:07	
1,2-Dichloroethane-d4 (S)	%	94	70-130	02/12/21 00:07	
4-Bromofluorobenzene (S)	%	95	70-130	02/12/21 00:07	
Toluene-d8 (S)	%	102	70-130	02/12/21 00:07	

LABORATORY CONTROL SAMPLE: 3159946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	54.1	108	70-132	
cis-1,2-Dichloroethene	ug/L	50	48.2	96	70-130	
Tetrachloroethene	ug/L	50	49.3	99	70-130	
Trichloroethene	ug/L	50	49.8	100	70-130	
Vinyl chloride	ug/L	50	48.2	96	59-142	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159947 3159948

Parameter	Units	92521527001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	23.3	24.2	117	121	70-158	4	
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.7	21.3	104	106	67-148	3	
Tetrachloroethene	ug/L	14.4	20	20	36.1	35.1	109	103	70-139	3	
Trichloroethene	ug/L	ND	20	20	22.4	22.0	109	107	70-149	2	
Vinyl chloride	ug/L	ND	20	20	19.3	19.8	96	99	55-172	2	
1,2-Dichloroethane-d4 (S)	%						105	108	70-130		
4-Bromofluorobenzene (S)	%						104	104	70-130		
Toluene-d8 (S)	%						101	100	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

QC Batch: 599384
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92521527020

METHOD BLANK: 3159950 Matrix: Water
Associated Lab Samples: 92521527020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/11/21 23:48	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/11/21 23:48	
Tetrachloroethene	ug/L	ND	1.0	02/11/21 23:48	
Trichloroethene	ug/L	ND	1.0	02/11/21 23:48	
Vinyl chloride	ug/L	ND	1.0	02/11/21 23:48	
1,2-Dichloroethane-d4 (S)	%	100	70-130	02/11/21 23:48	
4-Bromofluorobenzene (S)	%	96	70-130	02/11/21 23:48	
Toluene-d8 (S)	%	100	70-130	02/11/21 23:48	

LABORATORY CONTROL SAMPLE: 3159951

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	55.3	111	70-132	
cis-1,2-Dichloroethene	ug/L	50	50.3	101	70-130	
Tetrachloroethene	ug/L	50	48.8	98	70-130	
Trichloroethene	ug/L	50	50.5	101	70-130	
Vinyl chloride	ug/L	50	50.5	101	59-142	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159952 3159953

Parameter	Units	92521239005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	250	250	322	305	129	122	70-158	5	
cis-1,2-Dichloroethene	ug/L	ND	250	250	293	284	113	110	67-148	3	
Tetrachloroethene	ug/L	1600	250	250	1930	1940	135	138	70-139	0	
Trichloroethene	ug/L	280	250	250	571	556	116	110	70-149	3	
Vinyl chloride	ug/L	ND	250	250	283	272	113	109	55-172	4	
1,2-Dichloroethane-d4 (S)	%						97	94	70-130		
4-Bromofluorobenzene (S)	%						99	99	70-130		
Toluene-d8 (S)	%						102	101	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

QC Batch: 599806
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92521527007, 92521527008, 92521527015, 92521527017

METHOD BLANK: 3162171 Matrix: Water
Associated Lab Samples: 92521527007, 92521527008, 92521527015, 92521527017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/15/21 11:53	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/15/21 11:53	
Tetrachloroethene	ug/L	ND	1.0	02/15/21 11:53	
Trichloroethene	ug/L	ND	1.0	02/15/21 11:53	
Vinyl chloride	ug/L	ND	1.0	02/15/21 11:53	
1,2-Dichloroethane-d4 (S)	%	98	70-130	02/15/21 11:53	
4-Bromofluorobenzene (S)	%	99	70-130	02/15/21 11:53	
Toluene-d8 (S)	%	105	70-130	02/15/21 11:53	

LABORATORY CONTROL SAMPLE: 3162172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	47.6	95	70-132	
cis-1,2-Dichloroethene	ug/L	50	44.3	89	70-130	
Tetrachloroethene	ug/L	50	48.4	97	70-130	
Trichloroethene	ug/L	50	48.0	96	70-130	
Vinyl chloride	ug/L	50	39.7	79	59-142	
1,2-Dichloroethane-d4 (S)	%			87	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3162173 3162174

Parameter	Units	92521875005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	26.8	23.8	134	119	70-158	12	
cis-1,2-Dichloroethene	ug/L	ND	20	20	24.4	22.1	122	110	67-148	10	
Tetrachloroethene	ug/L	ND	20	20	22.1	19.3	110	96	70-139	13	
Trichloroethene	ug/L	ND	20	20	24.3	20.2	122	101	70-149	18	
Vinyl chloride	ug/L	ND	20	20	22.3	20.3	111	102	55-172	9	
1,2-Dichloroethane-d4 (S)	%						120	115	70-130		
4-Bromofluorobenzene (S)	%						104	104	70-130		
Toluene-d8 (S)	%						101	103	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

QC Batch: 600340
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92521527009, 92521527016, 92521527018, 92521527021, 92521527022

METHOD BLANK: 3164546 Matrix: Water
Associated Lab Samples: 92521527009, 92521527016, 92521527018, 92521527021, 92521527022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	02/16/21 15:58	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/16/21 15:58	
Tetrachloroethene	ug/L	ND	1.0	02/16/21 15:58	
Trichloroethene	ug/L	ND	1.0	02/16/21 15:58	
Vinyl chloride	ug/L	ND	1.0	02/16/21 15:58	
1,2-Dichloroethane-d4 (S)	%	101	70-130	02/16/21 15:58	
4-Bromofluorobenzene (S)	%	97	70-130	02/16/21 15:58	
Toluene-d8 (S)	%	100	70-130	02/16/21 15:58	

LABORATORY CONTROL SAMPLE: 3164547

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	52.5	105	70-132	
cis-1,2-Dichloroethene	ug/L	50	51.0	102	70-130	
Tetrachloroethene	ug/L	50	50.4	101	70-130	
Trichloroethene	ug/L	50	53.9	108	70-130	
Vinyl chloride	ug/L	50	46.1	92	59-142	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3164548 3164549

Parameter	Units	92521527016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	1000	1000	1040	1080	104	108	70-158	3	
cis-1,2-Dichloroethene	ug/L	2000	1000	1000	2920	2940	92	94	67-148	1	
Tetrachloroethene	ug/L	788	1000	1000	1730	1780	94	100	70-139	3	
Trichloroethene	ug/L	9170	1000	1000	10100	10400	97	124	70-149	3	E
Vinyl chloride	ug/L	ND	1000	1000	858	890	86	89	55-172	4	
1,2-Dichloroethane-d4 (S)	%						97	96	70-130		
4-Bromofluorobenzene (S)	%						95	96	70-130		
Toluene-d8 (S)	%						100	99	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GE HICKORY HYDROPUNCH
Pace Project No.: 92521527

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92521527001	**RW-1**	EPA 8260D	599383		
92521527002	**RW-2**	EPA 8260D	599383		
92521527003	**RW-3**	EPA 8260D	599383		
92521527004	**RW-4**	EPA 8260D	599383		
92521527005	**RW-5**	EPA 8260D	599383		
92521527006	**RW-6**	EPA 8260D	599383		
92521527007	**RW-7**	EPA 8260D	599806		
92521527008	**RW-8**	EPA 8260D	599806		
92521527009	**RW-9**	EPA 8260D	600340		
92521527010	**RW-10**	EPA 8260D	599383		
92521527011	**RW-11**	EPA 8260D	599383		
92521527012	**RW-12**	EPA 8260D	599383		
92521527013	**RW-13**	EPA 8260D	599383		
92521527014	**RW-14**	EPA 8260D	599383		
92521527015	**RW-15**	EPA 8260D	599806		
92521527016	**RW-16**	EPA 8260D	600340		
92521527017	**RW-17**	EPA 8260D	599806		
92521527018	**RW-18**	EPA 8260D	600340		
92521527019	**RW-19**	EPA 8260D	599383		
92521527020	**RW-21**	EPA 8260D	599384		
92521527021	**RW-22**	EPA 8260D	600340		
92521527022	**RW-23**	EPA 8260D	600340		
92521527023	**TRIP BLANK**	EPA 8260D	599383		

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☒ Huntersville ☒ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GE (Arcadis)

Project #: WO# : 92521527

92521527

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace ☐ Other:____

Custody Seal Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Date/Initials Person Examining Contents: 2-10 CU LP

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☒ IR Gun ID: 92T064

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temp: 5.3 **Correction Factor:** Add/Subtract (°C) -0.1

Cooler Temp Corrected (°C): 5.2

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

				Comments/Discrepancy:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☐ No	☒ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☐ No	☒ N/A	4.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☒ N/A	8.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	9. RW-10 has headspace in one vial. RW16 has headspace in one vial.
Headspace in VOA Vials (>5-6mm)?	☒ Yes	☐ No	☐ N/A	10.
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project #

WO# : 92521527

PM: KLH1 Due Date: 02/17/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																3													
3																3													
4																3													
5																3													
6																3													
7																3													
8																3													
9																3													
10																3													
11																3													
12																3													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO# : 92521527**

PM: KLH1 Due Date: 02/17/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AGOU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3													
2																3													
3																3													
4																3													
5																3													
6																3													
7																3													
8																3													
9																3													
10																3													
11																2													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:	Section C Invoice Information:	
Company:	GE (Arcadis)	Report To: Ray Penley	Attention:	
Address:	1611 Indian Springs Dr	Copy To:	Company Name:	Regulatory Agency
Conover, NC 28613			Address:	
Email:		Purchase Order #:	Pace Quote:	
Phone:	Fax:	Project Name: TerraCore/VOC's	Pace Project Manager: kevin.herring@pacelabs.com,	State / Location
Requested Due Date:		Project #:	Pace Profile #: stock	NC

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: VOC's 8260	VOC's	Residual Chlorine (Y/N)	9252527
1	RW - 1	WT	G	2-10-21	1127				3				✓						✓			Shipped
2	RW - 2	WT	G		1123				3				✓						✓			on ice
3	RW - 3	WT	G		1118				3				✓						✓			
4	RW - 4	WT	G		1113				3				✓						✓			
5	RW - 5	WT	G		1109				3				✓						✓			
6	RW - 6	WT	G		1104				3				✓						✓			
7	RW - 7	WT	G		1059				3				✓						✓			
8	RW - 8	WT	G		1055				3				✓						✓			
9	RW - 9	WT	G		1050				3				✓						✓			
10	RW - 10	WT	G		1043				3				✓						✓			
11	RW - 11	WT	G		1039				3				✓						✓			
12	RW - 12	WT	G	✓	1035				3				✓						✓			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Ray Penley GE	2-10-21	1655	PACE HCL	2-10-21	1655	5.2	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ray Penley

SIGNATURE of SAMPLER: Ray Penley DATE Signed: 2-10-21

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 2 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GE (Arcadis)	Report To:	Ray Penley	Attention:	
Address:	1611 Indian Springs Dr	Copy To:		Company Name:	
	Conover, NC 28613			Address:	
Email:		Purchase Order #:		Pace Quote:	
Phone:	Fax:	Project Name:	TerraCore/VOC's	Pace Project Manager:	kevin.herring@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	stock

Regulatory Agency

State / Location: NC

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: VOC's	VOC's	Residual Chlorine (Y/N)	9252527
1	RW-13	WT		2-10-21	1029				3				✓						✓			shipped
2	RW-14	WT			1024				3				✓						✓			on ice
3	RW-15	WT			1016				3				✓						✓			
4	RW-16	WT			1011				3				✓						✓			
5	RW-17	WT			1007				3				✓						✓			
6	RW-18	WT			1002				3				✓						✓			
7	RW-19	WT			1000				3				✓						✓			
8	RW-21	WT			1310				3				✓						✓			
9	RW-22	WT			1316				3				✓						✓			
10	RW-23	WT			1325				3				✓						✓			
11	Trip blank	WT		✓					2				✓						✓			
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] GE	2-10-21	1655	[signature] PACE MVL	2-10-21	1655	5.2	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RAY PENLEY

SIGNATURE of SAMPLER: [signature] DATE Signed: 2-10-21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

March 25, 2021

Matthew Pelton
ARCADIS
5420 Wade Park Blvd
Suite 350
Raleigh, NC 27607

RE: Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

Dear Matthew Pelton:

Enclosed are the analytical results for sample(s) received by the laboratory on March 18, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Charlotte

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Chris Bagley, Arcadis
Kristen Lowder, Arcadis
Ray Penley, General Electric
Bob Witsell

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92528626001	**BR-3 (36-60)**	EPA 8260D	BSH	8	PASI-C
92528626002	**BR-3 (60-84)**	EPA 8260D	BSH	8	PASI-C
92528626003	**BR-3 (80-100)**	EPA 8260D	SAS	8	PASI-C
92528626004	**BR-2 (60-80)**	EPA 8260D	BSH	8	PASI-C
92528626005	**BR-2 (80-100)**	EPA 8260D	SAS	8	PASI-C
92528626006	**DUP-1 (031721)**	EPA 8260D	SAS	8	PASI-C
92528626007	**BR-1 (60-80)**	EPA 8260D	SAS	8	PASI-C
92528626008	**BR-1 (80-100)**	EPA 8260D	SAS	8	PASI-C
92528626009	**TB-1 (031821)**	EPA 8260D	CL	8	PASI-C

PASI-C = Pace Analytical Services - Charlotte

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

Sample: BR-3 (36-60) **Lab ID: 92528626001** Collected: 03/16/21 16:30 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	10.0	10		03/24/21 03:25	75-35-4	
cis-1,2-Dichloroethene	**28.1**	ug/L	10.0	10		03/24/21 03:25	156-59-2	
Tetrachloroethene	**1220**	ug/L	10.0	10		03/24/21 03:25	127-18-4	
Trichloroethene	**376**	ug/L	10.0	10		03/24/21 03:25	79-01-6	
Vinyl chloride	ND	ug/L	10.0	10		03/24/21 03:25	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	10		03/24/21 03:25	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-130	10		03/24/21 03:25	17060-07-0	
Toluene-d8 (S)	97	%	70-130	10		03/24/21 03:25	2037-26-5	

Sample: BR-3 (60-84) **Lab ID: 92528626002** Collected: 03/16/21 18:05 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	4.0	4		03/24/21 03:43	75-35-4	
cis-1,2-Dichloroethene	**15.0**	ug/L	4.0	4		03/24/21 03:43	156-59-2	
Tetrachloroethene	**481**	ug/L	4.0	4		03/24/21 03:43	127-18-4	
Trichloroethene	**148**	ug/L	4.0	4		03/24/21 03:43	79-01-6	
Vinyl chloride	ND	ug/L	4.0	4		03/24/21 03:43	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	4		03/24/21 03:43	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130	4		03/24/21 03:43	17060-07-0	
Toluene-d8 (S)	97	%	70-130	4		03/24/21 03:43	2037-26-5	

Sample: BR-3 (80-100) **Lab ID: 92528626003** Collected: 03/17/21 09:45 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	20.0	20		03/25/21 13:50	75-35-4	
cis-1,2-Dichloroethene	**34.8**	ug/L	20.0	20		03/25/21 13:50	156-59-2	
Tetrachloroethene	**3040**	ug/L	20.0	20		03/25/21 13:50	127-18-4	
Trichloroethene	**569**	ug/L	20.0	20		03/25/21 13:50	79-01-6	
Vinyl chloride	ND	ug/L	20.0	20		03/25/21 13:50	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	20		03/25/21 13:50	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130	20		03/25/21 13:50	17060-07-0	
Toluene-d8 (S)	102	%	70-130	20		03/25/21 13:50	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

Sample: BR-2 (60-80) **Lab ID: 92528626004** Collected: 03/17/21 13:00 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	10.0	10		03/24/21 04:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	10.0	10		03/24/21 04:19	156-59-2	
Tetrachloroethene	**1220**	ug/L	10.0	10		03/24/21 04:19	127-18-4	
Trichloroethene	**110**	ug/L	10.0	10		03/24/21 04:19	79-01-6	
Vinyl chloride	ND	ug/L	10.0	10		03/24/21 04:19	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	10		03/24/21 04:19	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130	10		03/24/21 04:19	17060-07-0	
Toluene-d8 (S)	97	%	70-130	10		03/24/21 04:19	2037-26-5	

Sample: BR-2 (80-100) **Lab ID: 92528626005** Collected: 03/17/21 14:55 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	25.0	25		03/25/21 14:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	25.0	25		03/25/21 14:26	156-59-2	
Tetrachloroethene	**2300**	ug/L	25.0	25		03/25/21 14:26	127-18-4	
Trichloroethene	**203**	ug/L	25.0	25		03/25/21 14:26	79-01-6	
Vinyl chloride	ND	ug/L	25.0	25		03/25/21 14:26	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	25		03/25/21 14:26	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130	25		03/25/21 14:26	17060-07-0	
Toluene-d8 (S)	101	%	70-130	25		03/25/21 14:26	2037-26-5	

Sample: DUP-1 (031721) **Lab ID: 92528626006** Collected: 03/17/21 00:00 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	20.0	20		03/25/21 14:08	75-35-4	
cis-1,2-Dichloroethene	**32.9**	ug/L	20.0	20		03/25/21 14:08	156-59-2	
Tetrachloroethene	**3070**	ug/L	20.0	20		03/25/21 14:08	127-18-4	
Trichloroethene	**548**	ug/L	20.0	20		03/25/21 14:08	79-01-6	
Vinyl chloride	ND	ug/L	20.0	20		03/25/21 14:08	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	20		03/25/21 14:08	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130	20		03/25/21 14:08	17060-07-0	
Toluene-d8 (S)	100	%	70-130	20		03/25/21 14:08	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

Sample: BR-1 (60-80) **Lab ID: 92528626007** Collected: 03/18/21 10:05 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	2.5	2.5		03/25/21 13:14	75-35-4	
cis-1,2-Dichloroethene	**2.5**	ug/L	2.5	2.5		03/25/21 13:14	156-59-2	
Tetrachloroethene	**97.2**	ug/L	2.5	2.5		03/25/21 13:14	127-18-4	
Trichloroethene	**364**	ug/L	2.5	2.5		03/25/21 13:14	79-01-6	
Vinyl chloride	ND	ug/L	2.5	2.5		03/25/21 13:14	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	2.5		03/25/21 13:14	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130	2.5		03/25/21 13:14	17060-07-0	
Toluene-d8 (S)	99	%	70-130	2.5		03/25/21 13:14	2037-26-5	

Sample: BR-1 (80-100) **Lab ID: 92528626008** Collected: 03/18/21 11:50 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	4.0	4		03/24/21 05:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	4.0	4		03/24/21 05:49	156-59-2	
Tetrachloroethene	**197**	ug/L	4.0	4		03/24/21 05:49	127-18-4	
Trichloroethene	**535**	ug/L	4.0	4		03/24/21 05:49	79-01-6	
Vinyl chloride	ND	ug/L	4.0	4		03/24/21 05:49	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	4		03/24/21 05:49	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130	4		03/24/21 05:49	17060-07-0	
Toluene-d8 (S)	106	%	70-130	4		03/24/21 05:49	2037-26-5	

Sample: TB-1 (031821) **Lab ID: 92528626009** Collected: 03/18/21 00:00 Received: 03/18/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level Landfill	Analytical Method: EPA 8260D Pace Analytical Services - Charlotte							
1,1-Dichloroethene	ND	ug/L	1.0	1		03/23/21 01:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/23/21 01:39	156-59-2	
Tetrachloroethene	ND	ug/L	1.0	1		03/23/21 01:39	127-18-4	
Trichloroethene	ND	ug/L	1.0	1		03/23/21 01:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/23/21 01:39	75-01-4	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		03/23/21 01:39	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		03/23/21 01:39	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		03/23/21 01:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

QC Batch: 608289
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92528626009

METHOD BLANK: 3204534 Matrix: Water
Associated Lab Samples: 92528626009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	03/23/21 01:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/23/21 01:21	
Tetrachloroethene	ug/L	ND	1.0	03/23/21 01:21	
Trichloroethene	ug/L	ND	1.0	03/23/21 01:21	
Vinyl chloride	ug/L	ND	1.0	03/23/21 01:21	
1,2-Dichloroethane-d4 (S)	%	92	70-130	03/23/21 01:21	
4-Bromofluorobenzene (S)	%	101	70-130	03/23/21 01:21	
Toluene-d8 (S)	%	107	70-130	03/23/21 01:21	

LABORATORY CONTROL SAMPLE: 3204535

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	48.2	96	70-132	
cis-1,2-Dichloroethene	ug/L	50	44.0	88	70-130	
Tetrachloroethene	ug/L	50	49.0	98	70-130	
Trichloroethene	ug/L	50	49.5	99	70-130	
Vinyl chloride	ug/L	50	37.7	75	59-142	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE SAMPLE: 3205098

Parameter	Units	92526962027 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	20	21.6	108	70-158	
cis-1,2-Dichloroethene	ug/L	ND	20	17.9	90	67-148	
Tetrachloroethene	ug/L	ND	20	17.0	85	70-139	
Trichloroethene	ug/L	ND	20	20.0	100	70-149	
Vinyl chloride	ug/L	ND	20	16.9	84	55-172	
1,2-Dichloroethane-d4 (S)	%				97	70-130	
4-Bromofluorobenzene (S)	%				98	70-130	
Toluene-d8 (S)	%				99	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

SAMPLE DUPLICATE: 3205097

Parameter	Units	92526962018 Result	Dup Result	RPD	Qualifiers
1,1-Dichloroethene	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Trichloroethene	ug/L	ND	ND		
Vinyl chloride	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	97	94		
4-Bromofluorobenzene (S)	%	99	100		
Toluene-d8 (S)	%	106	102		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

QC Batch: 608597
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92528626001, 92528626002, 92528626004

METHOD BLANK: 3205756 Matrix: Water
Associated Lab Samples: 92528626001, 92528626002, 92528626004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	03/23/21 22:52	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/23/21 22:52	
Tetrachloroethene	ug/L	ND	1.0	03/23/21 22:52	
Trichloroethene	ug/L	ND	1.0	03/23/21 22:52	
Vinyl chloride	ug/L	ND	1.0	03/23/21 22:52	
1,2-Dichloroethane-d4 (S)	%	81	70-130	03/23/21 22:52	
4-Bromofluorobenzene (S)	%	98	70-130	03/23/21 22:52	
Toluene-d8 (S)	%	99	70-130	03/23/21 22:52	

LABORATORY CONTROL SAMPLE: 3205757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	46.0	92	70-132	
cis-1,2-Dichloroethene	ug/L	50	45.9	92	70-130	
Tetrachloroethene	ug/L	50	57.7	115	70-130	
Trichloroethene	ug/L	50	56.9	114	70-130	
Vinyl chloride	ug/L	50	40.6	81	59-142	
1,2-Dichloroethane-d4 (S)	%			83	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3205758 3205759

Parameter	Units	92528822006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	18.6	18.9	93	94	70-158	2	
cis-1,2-Dichloroethene	ug/L	ND	20	20	18.2	18.7	91	93	67-148	2	
Tetrachloroethene	ug/L	ND	20	20	25.5	25.6	118	119	70-139	0	
Trichloroethene	ug/L	ND	20	20	22.6	23.4	113	117	70-149	3	
Vinyl chloride	ug/L	ND	20	20	16.1	16.6	81	83	55-172	3	
1,2-Dichloroethane-d4 (S)	%						81	81	70-130		
4-Bromofluorobenzene (S)	%						98	97	70-130		
Toluene-d8 (S)	%						97	97	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

QC Batch: 608600
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92528626008

METHOD BLANK: 3205777 Matrix: Water
Associated Lab Samples: 92528626008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	03/23/21 23:23	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/23/21 23:23	
Tetrachloroethene	ug/L	ND	1.0	03/23/21 23:23	
Trichloroethene	ug/L	ND	1.0	03/23/21 23:23	
Vinyl chloride	ug/L	ND	1.0	03/23/21 23:23	
1,2-Dichloroethane-d4 (S)	%	83	70-130	03/23/21 23:23	
4-Bromofluorobenzene (S)	%	100	70-130	03/23/21 23:23	
Toluene-d8 (S)	%	107	70-130	03/23/21 23:23	

LABORATORY CONTROL SAMPLE: 3205778

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	50.7	101	70-132	
cis-1,2-Dichloroethene	ug/L	50	50.1	100	70-130	
Tetrachloroethene	ug/L	50	58.0	116	70-130	
Trichloroethene	ug/L	50	61.8	124	70-130	
Vinyl chloride	ug/L	50	47.6	95	59-142	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3205779 3205780

Parameter	Units	92528634009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	59.5	57.9	119	116	70-158	3	
cis-1,2-Dichloroethene	ug/L	ND	50	50	51.7	55.7	101	109	67-148	7	
Tetrachloroethene	ug/L	340	50	50	409	406	138	131	70-139	1	
Trichloroethene	ug/L	ND	50	50	58.5	60.4	117	121	70-149	3	
Vinyl chloride	ug/L	ND	50	50	51.5	53.9	103	108	55-172	5	
1,2-Dichloroethane-d4 (S)	%						100	93	70-130		
4-Bromofluorobenzene (S)	%						101	100	70-130		
Toluene-d8 (S)	%						102	95	70-130		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

QC Batch: 609196
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV Low Level Landfill
Laboratory: Pace Analytical Services - Charlotte
Associated Lab Samples: 92528626003, 92528626005, 92528626006, 92528626007

METHOD BLANK: 3208630 Matrix: Water
Associated Lab Samples: 92528626003, 92528626005, 92528626006, 92528626007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	1.0	03/25/21 12:56	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/25/21 12:56	
Tetrachloroethene	ug/L	ND	1.0	03/25/21 12:56	
Trichloroethene	ug/L	ND	1.0	03/25/21 12:56	
Vinyl chloride	ug/L	ND	1.0	03/25/21 12:56	
1,2-Dichloroethane-d4 (S)	%	108	70-130	03/25/21 12:56	
4-Bromofluorobenzene (S)	%	98	70-130	03/25/21 12:56	
Toluene-d8 (S)	%	101	70-130	03/25/21 12:56	

LABORATORY CONTROL SAMPLE: 3208631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	47.6	95	70-132	
cis-1,2-Dichloroethene	ug/L	50	49.2	98	70-130	
Tetrachloroethene	ug/L	50	46.1	92	70-130	
Trichloroethene	ug/L	50	47.5	95	70-130	
Vinyl chloride	ug/L	50	43.6	87	59-142	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3208632 3208633

Parameter	Units	92528626007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	60.9	54.6	122	109	70-158	11	
cis-1,2-Dichloroethene	ug/L	2.5	50	50	62.2	56.6	119	108	67-148	9	
Tetrachloroethene	ug/L	97.2	50	50	157	148	120	102	70-139	6	
Trichloroethene	ug/L	364	50	50	429	405	130	83	70-149	6	
Vinyl chloride	ug/L	ND	50	50	55.6	51.3	111	103	55-172	8	
1,2-Dichloroethane-d4 (S)	%						106	104	70-130		
4-Bromofluorobenzene (S)	%						100	100	70-130		
Toluene-d8 (S)	%						98	99	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GE HICKORY BEDROCK
Pace Project No.: 92528626

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92528626001	**BR-3 (36-60)**	EPA 8260D	608597		
92528626002	**BR-3 (60-84)**	EPA 8260D	608597		
92528626003	**BR-3 (80-100)**	EPA 8260D	609196		
92528626004	**BR-2 (60-80)**	EPA 8260D	608597		
92528626005	**BR-2 (80-100)**	EPA 8260D	609196		
92528626006	**DUP-1 (031721)**	EPA 8260D	609196		
92528626007	**BR-1 (60-80)**	EPA 8260D	609196		
92528626008	**BR-1 (80-100)**	EPA 8260D	608600		
92528626009	**TB-1 (031821)**	EPA 8260D	608289		

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Arcadis

Project #: WO# : 92528626

92528626

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other:____

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 3-19-21 AMP

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 92T064 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 3.6 **Correction Factor:** Add/Subtract (°C) 0.0°C

Cooler Temp Corrected (°C): 3.6

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	9.
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☑ No	☐ N/A	10.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO# : 92528626**

PM: KLH1 Due Date: 03/25/21

CLIENT: 92-ARCADIS

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																3												
2																3												
3																3												
4																3												
5																3												
6																3												
7																9												
8																3												
9																2												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Arcadis	Report To: ~~Matt Creel~~ CHRIS BAGLEY	Attention:
Address: 14 Lowell Street	Copy To: CHRISTOPHER.BAGLEY@ARCADIS.COM	Company Name:
Travelers Rest, SC 29690	Purchase Order #:	Address:
Email: ~~Matt.Creel@arcadis.com~~ CHRIS.BAGLEY@ARCADIS.COM	Project Name: GE Hickory Bedrock	Pace Quote:
Phone: 919-608-2569 Fax:	Project #: 30053006	Pace Project Manager: kevin.herring@pacelabs.com
Requested Due Date: STANDARD		Pace Profile #: 10403

Regulatory Agency

State / Location: SC

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260	TRIP BLANKS	8260	Residual Chlorine (Y/N)
1	BR-3 (36-60)			-	-	3/17/21	1630		3				3						✓			
2	BR-3 (60-84)			-	-	3/17/21	1805		3				3						✓			
3	BR-3 (80-100)			-	-	3/17/21	0945		3				3						✓			
4	BR-2 ~~(36-60)~~ (60-80)			-	-	3/17/21	1300		3				3						✓			
5	BR-2 (80-100)			-	-	3/17/21	1455		3				3						✓			
6	DUP-1 (031721)			-	-	3/17/21	-		3				3						✓			
7	BR-1 (60-80)			-	-	3/18/21	1005		9				9						✓			MS/MSD
8	BR-1 (80-100)			-	-	3/18/21	1150		3				3						✓			
9	TB-1 (031821)			-	-	-	-		2				2						✓			TRIP BLANK
10																						
11																						
12																						

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature] /ARCADIS	3/18/21	1200	ADPACE HVL	3/18/21	1650	3.6	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MATT CREEL

SIGNATURE of SAMPLER: [signature] DATE Signed: 3/18/21

Attachment 5

RAS Expansion Design Drawings

SCALE(S) AS INDICATED

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name
MATTHEW T. PELTON
Professional Engineer's No.
029382

State	Date Signed	Project Mgr.
NC	07/20/2021	MTP
Designed by	Drawn by	Checked by
ATZ	NAP	PJH

ARCADIS Design & Consultancy for natural and built assets

ARCADIS G&M OF NORTH CAROLINA, INC.

GE HICKORY FACILITY, CONOVER, NORTH CAROLINA
PROPOSED RAS EXPANSION PLAN

PLAN VIEW

CIVIL

ARCADIS Project No.
30006303

Date
MAY 27, 2021

ARCADIS
5420 WADE PARK BLVD #350
RALEIGH, NC 27607
TEL. 919.854.1282

C-01

LEGEND

- PROPERTY LINE
- PARCEL BOUNDARY
- EXISTING FENCE
- EXISTING CONVEYANCE PIPING
- CREEK ALIGNMENT
- MW-11 EXISTING MONITORING WELL LOCATION
- RW-21 EXISTING RECOVERY WELL LOCATION
- RW-24 PROPOSED RECOVERY WELL LOCATION
- C-5 EXISTING STREAM SAMPLE LOCATION
- S-8 EXISTING STREAM GAUGE LOCATION
- R-22 EXISTING WELL LOCATION

SCALE(S) AS INDICATED

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING:

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name
MATTHEW T. PELTON
Professional Engineer's No.
029382

State	Date Signed	Project Mgr.
NC	07/20/2021	MTP
Designed by	Drawn by	Checked by
ATZ	NAP	PJH

ARCADIS Design & Consultancy for natural and built assets

ARCADIS G&M OF NORTH CAROLINA, INC.

GE HICKORY FACILITY, CONOVER, NORTH CAROLINA
PROPOSED RAS EXPANSION PLAN

SITE DEVELOPMENT PLAN

CIVIL

ARCADIS Project No.
30006303

Date
MAY 27, 2021

ARCADIS
5420 WADE PARK BLVD #350
RALEIGH, NC 27607
TEL. 919.854.1282

C-02

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
C:\Users\NPawlowski\ARCADIS\Bagley, Chris - GE Hickory_RAS System Files\RAS Expansion 20213\30006303 - C-02.dwg LAYOUT: C-02 SAVED: 7/22/2021 10:24 AM ACADVER: 23.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/22/2021 10:25 AM BY: PAWLOWSKI, NICK

LEGEND

HS	HAND SWITCH
LISH	LEVEL INDICATOR SWITCH HIGH
SP	SAMPLE PORT
YC	STATUS CONTROL
LT	LEVEL TRANSDUCER

BALL VALVE

CHECK VALVE

GLOBE VALVE

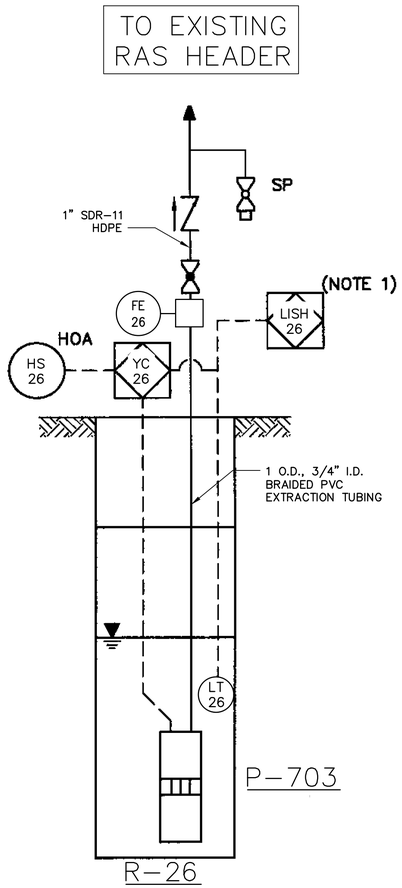
WATER TABLE

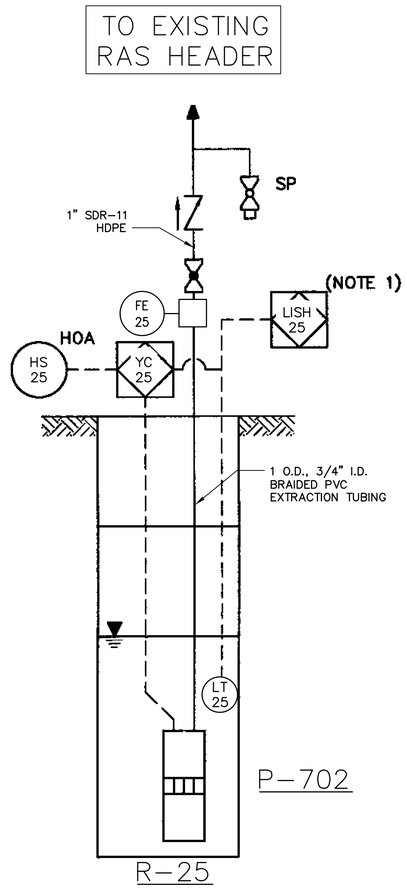
FE 26 — FLOW METER

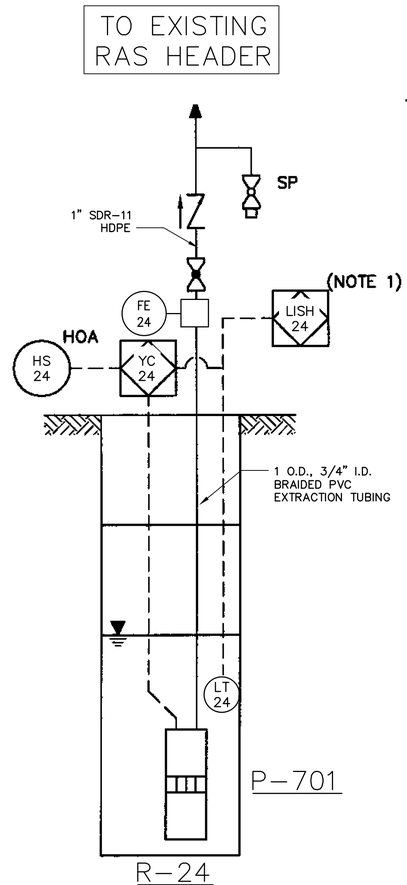
SUBMERSIBLE PUMP

HS 26 — LOCAL MOUNTED INSTRUMENT

YC 26 — PLC INTERLOCK







NOTES:

1. EQUALIZATION TANK WATER LEVEL, SHUTS DOWN RAS SYSTEM POWER

SCALE(S) AS INDICATED

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: **MATTHEW T. PELTON**
Professional Engineer's No.: 029382

State	Date Signed	Project Mgr.
NC	07/20/2021	MTP

Designed by	Drawn by	Checked by
ATZ	NAP	PJH

ARCADIS Design & Consultancy for natural and built assets

ARCADIS G&M OF NORTH CAROLINA, INC.

GE HICKORY FACILITY, CONOVER, NORTH CAROLINA
PROPOSED RAS EXPANSION PLAN

PIPING AND INSTRUMENTATION DIAGRAM

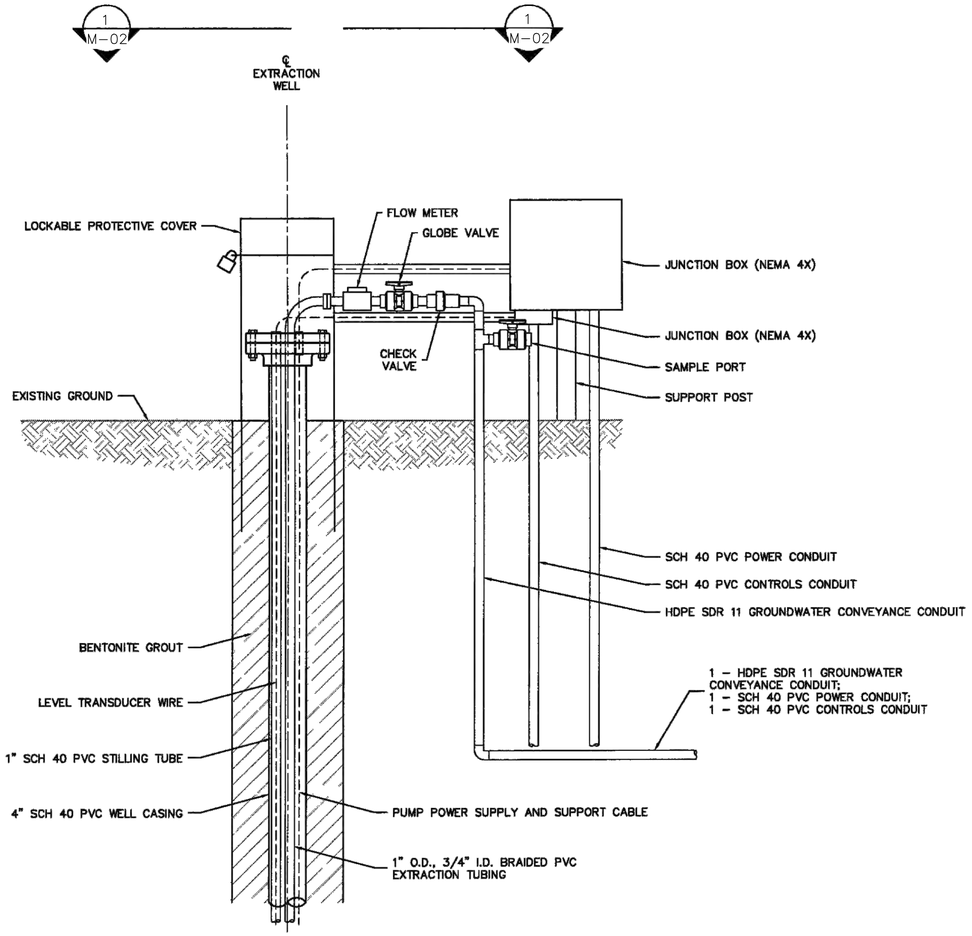
CIVIL

ARCADIS Project No. 30006303

Date MAY 27, 2021

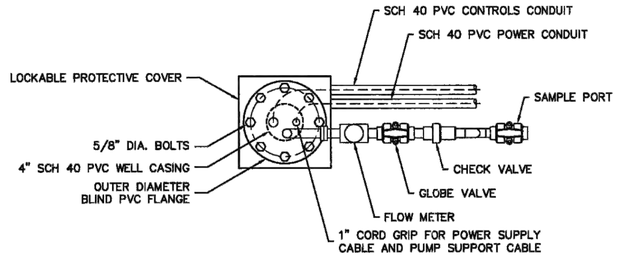
ARCADIS
5420 WADE PARK BLVD #350
RALEIGH, NC 27607
TEL. 919.854.1282

M-01

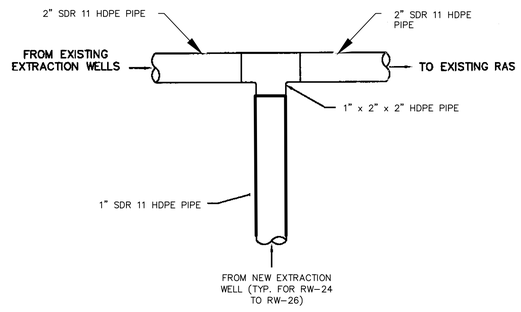


DETAIL
EXTRACTION WELL VAULT (PROFILE)
SCALE: 1" = 8"

NOTES:
1. THE GROUNDWATER CONVEYANCE CONDUIT INSTALLED ABOVE GRADE SHALL BE INSULATED WITH AN INSULATION HAVING A MINIMUM R FACTOR OF 6.5 DETERMINED AT 75° F IN ACCORDANCE WITH ASTM C–177



1 M-02 **SECTION**
EXTRACTION WELL VAULT (PLAN VIEW)
SCALE: 1" = 8"



DETAIL
NEW EXTRACTION WELL TIE IN DETAIL
(PLAN VIEW)
SCALE: NTS

NOTES:
1. REPAIR SURFACE TO PRE–EXISTING CONDITION AFTER INSTALLATION
2. CONTROLS AND POWER TIE INS SHALL USE 2" SCH 40 PVC CONDUIT

SCALE(S) AS INDICATED

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING:

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name
MATTHEW T. PELTON
Professional Engineer's No.
029382

State	Date Signed	Project Mgr.
NC	07/20/2021	MTP
Designed by	Drawn by	Checked by
ATZ	NAP	PJH

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ARCADIS G&M OF NORTH CAROLINA, INC.

GE HICKORY FACILITY, CONOVER, NORTH CAROLINA
PROPOSED RAS EXPANSION PLAN

EXTRACTION WELLHEAD CONSTRUCTION DETAILS

CIVIL

ARCADIS Project No.
30006303

Date
MAY 27, 2021

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5420 WADE PARK BLVD #350
RALEIGH, NC 27607
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M-02