FINAL

REMEDIAL INVESTIGATION REPORT ADDENDUM

Camp Hero, Montauk, New York

Revision: 0

Prepared for:

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U.S. Army Corps of Engineers
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Formerly Used Defense Site Project Number: C02NY002403
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ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
ADR	automated data review
AOC	Area of Concern
AST	aboveground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
AWT	AWT Environmental Services, Inc.
BaP	benzo(a)pyrene
BaP PAHs	benzo(a)pyrene equivalent polycyclic aromatic hydrocarbons
bgs	below ground surface
CAMP	Community Air Monitoring Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	chemical of concern
COPC	chemical of potential concern
CSM	conceptual site model
DD	Decision Document
DER	Division of Environmental Remediation
DERP	Defense Environmental Restoration Program
DL	detection limit
DNA	deoxyribonucleic acid
DO	dissolved oxygen
DoD	Department of Defense
DSA	data sensitivity analysis
DU	decision unit
ELCR	excess lifetime cancer risk
ELLE	Eurofins Lancaster Laboratories Environmental, LLC.
EM	Engineer Manual
EMCX	Environmental and Munitions Center of Expertise
EPC	exposure point concentration
ERA	ecological risk assessment
FedEx	Federal Express
FPS	Fixed-Pulse Radar Surveillance
FUDS	Formerly Used Defense Site
GPS	global positioning system
HHRA	Human Health Risk Assessment
HHSE	Human Health Screening Evaluation
HI	hazard index
HTRW	hazardous, toxic, and radioactive waste
IDW	investigation-derived waste
JV	joint venture
KM	Kaplan Meier
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LICAP	Long Island Commission for Aquifer Protection
LNAPL	light non-aqueous phase liquid

LOD	limit of detection
LOQ	limit of quantitation
MCL	maximum contaminant level
MDC	maximum detected concentration
MEC	munitions and explosives of concern
MEK	methyl ethyl ketone
mg/L	milligram per liter
MS	matrix spike
MSD	matrix spike duplicate
NAD	North American Vertical Datum
NAVD	North American Vertical Datum
ND	non-detect
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
NTU	nephelometric turbidity unit
NYNHP	New York Natural Heritage Program
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSOPRHP	New York State Office of Parks, Recreation, and Historic Preservation
ORP	oxidation-reduction potential
PAH	polycyclic aromatic hydrocarbon
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness, and Sensitivity
PCB	polychlorinated biphenyl
PDT	project delivery team
PID	photoionization detector
PM	particulate matter
PP	Proposed Plan
PVC	polyvinyl chloride
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
QSM	Quality Systems Manual
RAGS	Risk Assessment Guidance for Superfund
RI	Remedial Investigation
RPD	relative percent difference
RSL	regional screening levels
RTK	real time kinematic
SC	specific conductivity
SCWA	Suffolk County Water Authority
SEA	stream exposure area
STORET	Storage and Retrieval
SVOC	semivolatile organic compound
TEF	toxicity equivalence factor
TEQ	toxicity equivalence

THQ	target hazard quotient
TOGS	Technical & Operational Guidance Series
TR	target risk
UCL	upper confidence limit
UFP	Uniform Federal Policy
UGA	Upper Glacial Aquifer
US	United States
USACE	United States Army Corps of Engineers
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
USFWS	United States Fisheries and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UU/UE	unlimited use and unrestricted exposure
UXO	unexploded ordnance
VI	vapor intrusion
VISL	vapor intrusion screening levels
VOC	volatile organic compound

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EXECUTIVE SUMMARY

This Remedial Investigation (RI) Report Addendum is being submitted by the United States (US) Army Corps of Engineers (USACE) for the former Camp Hero (referred to as "Camp Hero") located in Montauk, New York. This work is being completed under the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS) for Hazardous, Toxic, and Radioactive Waste (HTRW), Project Number C02NY002403. The project elements are performed under the DERP FUDS program in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process (42 US Code, 1980), as amended by the Superfund Amendments and Reauthorization Act of 1986.

Camp Hero was utilized by the Department of Defense (DoD) for various activities from 1942 to 1982 and is now a New York State (NYS) Park. The USACE has conducted several environmental studies and response actions at the Camp Hero to date. Extensive field investigations were conducted between 2016 and 2017, as part of the RI, to evaluate whether potential releases related to former military operations may pose a risk to humans or the environment. An RI Report was issued in January 2019 (AECOM-Tidewater JV, 2019a), and a Proposed Plan (PP) was issued in September 2019 (AECOM-Tidewater JV, 2019b), both of which indicated that no further action (no action) is required for all media throughout the FUDS. The documents were issued in coordination with support agencies consisting of the NYS Department of Environmental Conservation (NYSDEC), NYS Department of Health (NYSDOH), and NYS Office of Parks, Recreation, and Historic Preservation (NYSOPRHP). Both the RI and PP were accepted by the regulatory stakeholders.

A public meeting for the PP was hosted by USACE in October 2019 and interested members of the public were invited to comment on the PP during a 45-day Public Comment Period from 1 October 2019 to 15 November 2019. During the public meeting and comment period for the PP, public concerns were raised regarding to the potential for historical Camp Hero activities to have impacted deep groundwater (i.e., the Upper Glacial Aquifer [UGA]) that may be used as a drinking water source. The Phase IV RI activities described in this document were designed to address those public concerns.

As stated in the January 2021 Final Phase IV RI Quality Assurance Project Plan (QAPP), the purpose of the Phase IV RI was to determine if chemical constituents attributable to historical DoD activities at Camp Hero are present in the groundwater of the UGA at unacceptable risk levels for a small set of residential receptors to the southwest of Camp Hero. The Phase IV RI accomplished the following goals:

- A well reconnaissance and synoptic gauging event was completed of six offsite UGA wells and eight onsite UGA wells screened within the UGA in the vicinity of Camp Hero. Three rounds of synoptic water level gauging were completed to refine the understanding of the groundwater flow direction in the UGA.

- Deep boreholes with continuous soil sampling was conducted to document the lithology and hydrogeologic units at two locations between area of known subsurface impacts at decision unit (DU)01 and potential receptors (drinking water wells) along Old Montauk Highway, to the southwest of Camp Hero. Soil samples were analyzed for geotechnical parameters (grain size and percent moisture) to support understanding of lithologic units. The depth of the UGA and well screen intervals for two permanent nested monitoring wells were determined using lithology of the borings at each location.

- DU01 is a 1.0-acre area at Camp Hero established during the RI QAPP (AECOM-Tidewater JV 2017b) to assess potential impacts from former Building 203 and associated underground storage tanks (USTs). The purpose of establishing DU01 was to provide a realistic exposure area surrounding Building 203 and the USTs that is representative for both human health and ecological receptors risk analysis. DU01 data were compared with Phase IV RI data to determine if historical DoD activities at Camp Hero have impacted UGA groundwater between known subsurface impacts associated with DU01 and potential receptors (drinking water wells) along Old Montauk Highway, to the southwest of Camp Hero.

- Four new permanent monitoring wells were installed in two locations in the south-southwest corner of Camp Hero, between DU01 and the closest potential human receptors along Old Montauk Highway. The four new wells consist of two well pairs, one in the shallow portion of the UGA, and one in the deeper horizon in an attempt to mimic the depths of the older and newer drinking water wells servicing the private residences along Old Montauk Highway, respectively. as well as three existing UGA wells within Camp Hero boundary and seven offsite UGA wells.

- Two rounds (December 2020 and February 2021) of groundwater samples were collected from seven onsite and seven offsite UGA monitoring wells. The samples were analyzed for a comprehensive list consisting of 71 volatile organic constituents (VOCs), 49 semi-volatile organic compounds (SVOCs), 17 polycyclic aromatic hydrocarbons (PAHs), 9 polychlorinated biphenyls (PCBs), and 26 metals to evaluate the deep aquifer at and in the vicinity of Camp Hero. In total, each sample collected was analyzed for 172 unique constituents. The data were compared to human health screening levels to determine if the potential for unacceptable risk levels exist. Statistics were used to determine that the two rounds of data were statistically similar enough to combine when comparing to screening levels and performing risk assessment. Statistics were also used to evaluate levels of naturally occurring constituents (iron and manganese) to local/background groundwater conditions.

The UGA flow direction from DU01 is west, southwest, south, and southeast based on the three synoptic water gauging events, including one at low and one at high tide. The south and southwesterly flow direction from DU01 is generally toward the closest potential human receptors (drinking water wells) located south of Old Montauk Highway. The geological mapping and geotechnical analysis confirmed a competent clay confining layer in the southwest corner of Camp Hero where the four new UGA wells were installed. Review of available boring logs of existing deep wells also indicated a thick clay later exists in other areas of Camp Hero. However, the UGA is recharged with fresh water somewhere within Montauk Point and Camp Hero could include pathways to the UGA that have not yet been identified.

Groundwater data obtained from the onsite and offsite wells detected a variety of low-level detections of VOCs, SVOCs, PAHs, PCBs, and metals. A total of 44 constituents were detected at least once with only two VOCs, one SVOC, and twelve metals exceeding the most conservative screening level (SL). None of the individual PAHs or PCBs exceeded a SL. Seven non-hazardous CERCLA metals and essential nutrients were not screened (barium, calcium, iron, magnesium, manganese, potassium, and sodium). Data was compared to the following criteria (SLs):

- USEPA 2021 residential tap water risk screening levels (RSLs)
- USEPA 2021 residential vapor intrusion screening levels (VISLs)
- USEPA 2018 maximum contaminant levels (MCLs)
- New York State (NYS) Department of Environmental Conservation, Technical and Operational Guidance Series (TOGS), 1.1.1. Groundwater Effluent Limitations (Table 5; Class GA) (1998, 1999, 2000, and 2004)
- NYS 2022 Department of Health MCLs

Figure ES-1 provides a summary of where detected compounds above SLs were identified. CERCLA hazardous constituents that exceeded the most conservative SL was advanced to the human health screening evaluation (HHSRE).

A fate and transport analysis was completed on the detected constituents including a review of source identification. A summary of the source identification is provided below:

- Metals with relatively high results are naturally occurring and non-hazardous CERCLA (barium, iron, and manganese)
- Low level detections of constituents with mostly spatial distribution throughout onsite and offsite wells.
- Determining if the source of detected constituents is from Department of Defense activities is difficult to determine due to the 40+ years of elapsed time since Camp Hero FUDS was

operational, natural degradation likely for some constituents such as VOCs, and the relative immobility of others (SVOCs, PAHs, and PCBs)

- Spatial distribution of constituents between onsite and offsite wells indicates strong potential source from the widespread use of septic drain fields throughout Montauk Point and/or anthropogenic.

The HHSE is a screening level evaluation using risk-based screening levels and standard exposure parameters and toxicity factors. This evaluation was conducted to determine the potential for adverse health effects due to the most conservative risk which is based on a resident's exposure to tap water. The goal of the HHSE was to determine if constituents attributable to historical DoD activities at Camp Hero are present in the UGA groundwater at concentrations that produce unacceptable risk to a hypothetical future onsite resident, current and future offsite residents living southwest of Camp Hero, onsite Park workers, and the public that visits the Montauk Point State Park and the Montauk Lighthouse and Museum located northeast and adjacent to Camp Hero.

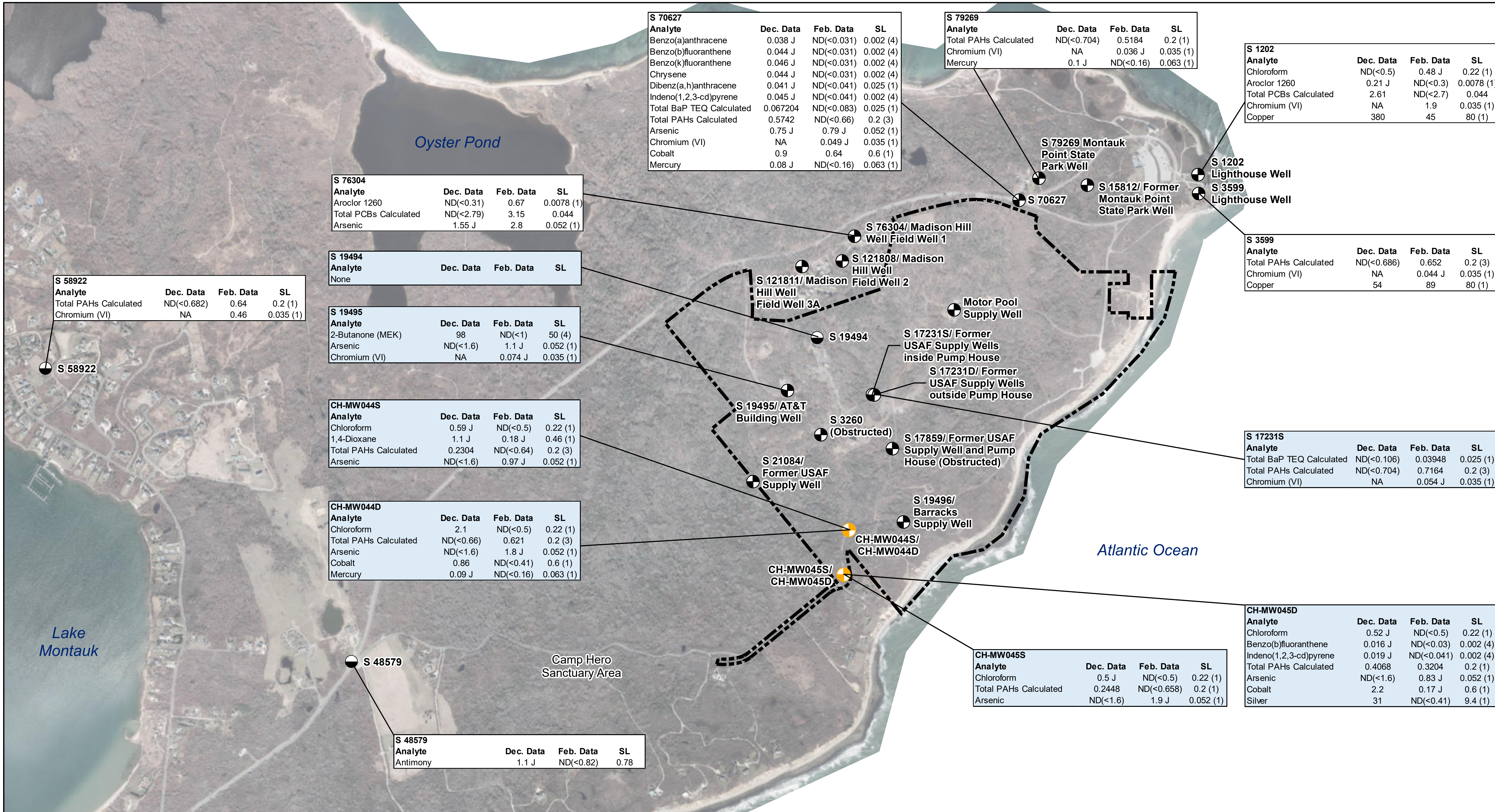
The HHSE treated the onsite and offsite groundwater data as separate study areas. In addition, each monitoring well was treated as its own drinking water source. Risk-based screening and a cumulative screen evaluation were conducted for the onsite study area, offsite study area, and for each onsite and offsite well (i.e., well-by-well evaluation).

The tap water screening levels addressed the following groundwater-related exposure pathways: ingestion of drinking water, dermal contact, and inhalation of vapors (if volatile groundwater chemicals of potential concern [COPCs] were identified). Also, US Environmental Protection Agency (USEPA) residential vapor intrusion screening levels (VISLs) were used to conservatively evaluate the potential for vapor intrusion (VI). The risk-based screening results identified one chemical, chloroform, as a potential groundwater VI COPC; however, the cumulative screening evaluation results were acceptable (i.e., below the USEPA cumulative cancer risk and non-cancer hazard thresholds of 1E-04 and 1, respectively). Thus, VI was eliminated as a groundwater pathway of concern.

The HHSE did not identify any adverse health effects from drinking water from the UGA groundwater for onsite hypothetical residents, offsite residents living southwest of Camp Hero, and the public at the Montauk Point State Park and the Montauk Lighthouse and Museum located northeast and adjacent to Camp Hero.

In conclusion, the four goals of the Phase IV RI were completed. Most constituents analyzed were at non-detected or very low concentrations. The source of detected constituents could be attributed to Camp Hero FUDS activities, widespread use of septic tanks in Montauk Point, and/or anthropogenic. Regardless of the source, a HHSE concluded that there were no actionable risks from drinking the UGA groundwater directly beneath or in the vicinity of Camp Hero. Thus, based on this limited deep groundwater aquifer investigation, the no action determination that was recommended at the conclusion of the RI remains appropriate for Camp Hero under CERCLA.

It is recommended that the Decision Document proceed with a no action determination, including a Responsiveness Summary to address the public comments received in writing and verbally during the public meeting. The shallow monitoring wells used in the previous phases of the RI should be properly abandoned including the wells associated with DU01 since this non-CERCLA petroleum site is officially closed by NYSDEC.



S 70627

Analyte	Dec. Data	Feb. Data	SL
Benzo(a)anthracene	0.038 J	ND(<0.031)	0.002 (4)
Benzo(b)fluoranthene	0.044 J	ND(<0.031)	0.002 (4)
Benzo(k)fluoranthene	0.046 J	ND(<0.031)	0.002 (4)
Chrysene	0.044 J	ND(<0.031)	0.002 (4)
Dibenz(a,h)anthracene	0.041 J	ND(<0.041)	0.025 (1)
Indeno(1,2,3-cd)pyrene	0.045 J	ND(<0.041)	0.002 (4)
Total BaP TEQ Calculated	0.067204	ND(<0.083)	0.025 (1)
Total PAHs Calculated	0.5742	ND(<0.66)	0.2 (3)
Arsenic	0.75 J	0.79 J	0.052 (1)
Chromium (VI)	NA	0.049 J	0.035 (1)
Cobalt	0.9	0.64	0.6 (1)
Mercury	0.08 J	ND(<0.16)	0.063 (1)

S 79269

Analyte	Dec. Data	Feb. Data	SL
Total PAHs Calculated	ND(<0.704)	0.5184	0.2 (1)
Chromium (VI)	NA	0.036 J	0.035 (1)
Mercury	0.1 J	ND(<0.16)	0.063 (1)

S 1202

Analyte	Dec. Data	Feb. Data	SL
Chloroform	ND(<0.5)	0.48 J	0.22 (1)
Aroclor 1260	0.21 J	ND(<0.3)	0.0078 (1)
Total PCBs Calculated	2.61	ND(<2.7)	0.044
Chromium (VI)	NA	1.9	0.035 (1)
Copper	380	45	80 (1)

S 76304

Analyte	Dec. Data	Feb. Data	SL
Aroclor 1260	ND(<0.31)	0.67	0.0078 (1)
Total PCBs Calculated	ND(<2.79)	3.15	0.044
Arsenic	1.55 J	2.8	0.052 (1)

S 19494

Analyte	Dec. Data	Feb. Data	SL
None			

S 58922

Analyte	Dec. Data	Feb. Data	SL
Total PAHs Calculated	ND(<0.682)	0.64	0.2 (1)
Chromium (VI)	NA	0.46	0.035 (1)

S 19495

Analyte	Dec. Data	Feb. Data	SL
2-Butanone (MEK)	98	ND(<1)	50 (4)
Arsenic	ND(<1.6)	1.1 J	0.052 (1)
Chromium (VI)	NA	0.074 J	0.035 (1)

S 3599

Analyte	Dec. Data	Feb. Data	SL
Total PAHs Calculated	ND(<0.686)	0.652	0.2 (3)
Chromium (VI)	NA	0.044 J	0.035 (1)
Copper	54	89	80 (1)

CH-MW044S

Analyte	Dec. Data	Feb. Data	SL
Chloroform	0.59 J	ND(<0.5)	0.22 (1)
1,4-Dioxane	1.1 J	0.18 J	0.46 (1)
Total PAHs Calculated	0.2304	ND(<0.64)	0.2 (3)
Arsenic	ND(<1.6)	0.97 J	0.052 (1)

S 17231S

Analyte	Dec. Data	Feb. Data	SL
Total BaP TEQ Calculated	ND(<0.106)	0.03948	0.025 (1)
Total PAHs Calculated	ND(<0.704)	0.7164	0.2 (3)
Chromium (VI)	NA	0.054 J	0.035 (1)

CH-MW044D

Analyte	Dec. Data	Feb. Data	SL
Chloroform	2.1	ND(<0.5)	0.22 (1)
Total PAHs Calculated	ND(<0.66)	0.621	0.2 (3)
Arsenic	ND(<1.6)	1.8 J	0.052 (1)
Cobalt	0.86	ND(<0.41)	0.6 (1)
Mercury	0.09 J	ND(<0.16)	0.063 (1)

CH-MW045D

Analyte	Dec. Data	Feb. Data	SL
Chloroform	0.52 J	ND(<0.5)	0.22 (1)
Benzo(b)fluoranthene	0.016 J	ND(<0.03)	0.002 (4)
Indeno(1,2,3-cd)pyrene	0.019 J	ND(<0.041)	0.002 (4)
Total PAHs Calculated	0.4068	0.3204	0.2 (1)
Arsenic	ND(<1.6)	0.83 J	0.052 (1)
Cobalt	2.2	0.17 J	0.6 (1)
Silver	31	ND(<0.41)	9.4 (1)

CH-MW045S

Analyte	Dec. Data	Feb. Data	SL
Chloroform	0.5 J	ND(<0.5)	0.22 (1)
Total PAHs Calculated	0.2448	ND(<0.658)	0.2 (1)
Arsenic	ND(<1.6)	1.9 J	0.052 (1)

S 48579

Analyte	Dec. Data	Feb. Data	SL
Antimony	1.1 J	ND(<0.82)	0.78

MAP LOCATION

Camp Hero Built Features

- New UGA Monitoring Well Location
- Deep Aquifer Well Location
- USGS Test Well Location
- Camp Hero State Park Boundary

Notes
Analytical results shaded in blue represent on-site wells.
Units are in ug/L.
SL = Screening Level.
The most conservative of the state and United States Environmental Protection Agency human health SLs was selected for the contaminants of potential concern selection process; the sources are:
(1) USEPA residential tap water RSLs (USEPA, 2021a).
(2) USEPA residential VISLs (USEPA, 2021b).
(3) USEPA MCL (USEPA, 2018).
(4) NYSDEC TOGS, 1.1.1. Groundwater Effluent Limitations (Table 5; Class GA) (NYSDEC, 1998, 1999, 2000, and 2004).
(5) NYSDOH MCLs (NYSDOH, 2022).

0 600 1,200 Feet
1 inch = 1,200 feet

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December 2020 and February 2021 Sample Results Exceedances Above Screening Levels

Camp Hero Phase IV Remedial Investigation Report Addendum
Montauk, New York

PROJECT NO.	PREPARED BY:	DATE:	
60443903	JB	February 2022	Figure ES-1

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1 INTRODUCTION

The United States (US) Army Corps of Engineers (USACE) is completing a Remedial Investigation (RI), Proposed Plan (PP), and Decision Document (DD) for the former Camp Hero (referred to throughout this report as "Camp Hero"), located in Montauk, Suffolk County, New York. This work is being completed under the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS) for Hazardous, Toxic, and Radioactive Waste (HTRW), Project Number C02NY002403. The project elements are performed under the DERP FUDS program in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process (42 US Code 1980), as amended by the Superfund Amendments and Reauthorization Act of 1986. This Phase IV RI Report Addendum was prepared by the AECOM–Tidewater Joint Venture (JV), in coordination with the USACE New England and New York Districts, as well as the USACE Environmental and Munitions Center of Expertise (EMCX). This group of professionals is referred to within this report as the project delivery team (PDT).

The USACE has conducted several environmental studies and response actions at Camp Hero to date. Extensive field investigations were conducted between 2016 and 2017, as part of the RI, to evaluate whether potential releases related to former military operations may pose a risk to humans or the environment. An RI Report was issued in January 2019 (AECOM-Tidewater JV, 2019a), and a PP was issued in September 2019 (AECOM-Tidewater JV, 2019b), both of which indicated that no further action (no action) is required for all media throughout the FUDS. The documents were issued in coordination with support agencies consisting of the New York State (NYS) Department of Environmental Conservation (NYSDEC), NYS Department of Health (NYSDOH), and NYS Office of Parks, Recreation, and Historic Preservation (NYSOPRHP). Both the RI and PP were accepted by the regulatory stakeholders.

A public meeting for the PP was hosted by USACE in October 2019 and interested members of the public were invited to comment on the PP during a 45-day Public Comment Period from 1 October 2019 to 15 November 2019. During the public meeting and comment period for the PP, public concerns were raised regarding to the potential for historical Camp Hero activities to have impacted deep groundwater (i.e., the Upper Glacial Aquifer [UGA]) that may be used as a drinking water source. The public concerns primarily referenced the historic petroleum release at Decision Unit (DU) 01 from former Building 203 underground storage tanks (USTs) and operations. DU01 is a 1.0-acre area at Camp Hero established during the RI QAPP (AECOM-Tidewater JV 2017b) to assess potential impacts from former Building 203 and associated USTs. The purpose of establishing DU01 was to provide a realistic exposure area surrounding Building 203 and the USTs that is representative for both human health and ecological receptors risk analysis. During the RI, petroleum was identified in the subsurface at former Building 203, where two large USTs and associated contaminated soils were previously removed in 1993. The RI activities at DU01 are summarized in this report in **Section 1.3**, Summary of the Remedial Investigation and Proposed Plan. The Phase IV RI activities described in this document were designed to address those public concerns.

1.1 Investigation Purpose

The purpose of the Phase IV RI is to determine if chemical constituents attributable to historical Department of Defense (DoD) activities at Camp Hero are present in the groundwater of the UGA at unacceptable risk levels for a small set of residential receptors to the southwest of Camp Hero. The RI Report concluded that the shallow perched groundwater lenses beneath the areas investigated at Camp Hero, called Decision Units (DUs), were not hydraulically connected to drinking water resources in Suffolk County, and that there was limited to no potential for migration of chemical constituents from the shallow perched groundwater to the deeper groundwater in the UGA. Although the shallow perched groundwater lenses beneath Camp Hero were sampled and evaluated as part of the RI, the deep groundwater in the UGA was not characterized due to the presence of confining layers underlying the perched water lenses that impede vertical movement of water and because there was no evidence of vertical or horizontal contaminant migration in soil, sediment, surface water, or groundwater at the identified release areas. However, due to the complex geology of the glacial deposition environment, there was potential for perched water to leach into the UGA through areas where more permeable subsurface units may exist, or the subsurface confining units may be thin. Due to this uncertainty, the USACE decided to conduct sampling of the UGA to address the public's concern about potential impacts from Camp Hero activities to drinking water sources.

The goals of the Phase IV investigation were as follows:

- **Goal 1** – Complete a well reconnaissance and synoptic gauging event of up to 20 existing wells screened within the UGA in the vicinity of Camp Hero. The groundwater gauging data will be used to refine the understanding of the groundwater flow direction in the UGA.
- **Goal 2** – Complete deep boreholes with continuous soil sampling to document the lithology and hydrogeologic units at two locations between known subsurface impacts associated with DU01 and potential receptors (drinking water wells) along Old Montauk Highway, to the southwest of Camp Hero. Analyze soil samples for geotechnical parameters (grain size and percent moisture) to support understanding of lithologic units. Based on the lithology of the borings, determine the depth of the UGA and select well screen intervals for two permanent nested monitoring wells at each location.
- **Goal 3** – Determine if historical DoD activities at Camp Hero have impacted UGA groundwater between known subsurface impacts associated with DU01 and potential receptors (drinking water wells) along Old Montauk Highway, to the southwest of Camp Hero. Collect groundwater samples from four new permanent monitoring wells installed in the boreholes described in Goal 2 above and up to three existing UGA wells within Camp Hero boundary to determine whether volatile

organic constituents (VOCs), semivolatile organic constituents (SVOCs), polychlorinated biphenyls (PCBs), and metals attributable to Camp Hero FUDS activities are present or absent in the UGA. Compare the data to human health screening levels to determine if the potential for unacceptable risk levels exist, as well as complete a statistical comparison of data to local/background groundwater conditions in order to evaluate levels of naturally occurring constituents (e.g., dissolved iron).

- **Goal 4** – Collect groundwater samples from up to eight existing UGA wells in close proximity of Camp Hero that could reasonably be considered representative of local UGA groundwater conditions, with analysis of similar constituents provided in Goal 3 above. Use statistical methods (including, but not limited to, BTVs, geochemical evaluations, or hypothesis testing) to compare on-site groundwater data to local/background groundwater conditions.

1.2 Site Description and Background

Camp Hero was established in early 1942 as a Coastal Defense Installation to defend the approaches to New York. Three self-sufficient weapon batteries and supporting facilities were constructed, which included barracks, mess halls, hospital facilities, a motor repair shop, a recreation facility, sentry boxes, and water supply and sewage facilities. Ammunition stored at Camp Hero included anti-aircraft munitions, high explosive rounds, armor piercing rounds, and various other projectiles. Camp Hero's weaponry was periodically test-fired over water.

Camp Hero was placed on inactive status in 1947 and ultimately declared surplus by the Department of the Army in late 1949. Between 1949 and 1980, portions of the property were transferred to the Department of the Air Force for an aircraft control and warning station or used for firing range and field exercises by the Department of the Army.

In 1974, when some of the on-site military uses were still active, portions of the property were transferred from the DoD to the state of New York. Following the departure of the last military personnel in 1980, the DoD declared the remainder of the property to be surplus federal land. Over the next few years, the property was divided and deeded to the state and the Town of East Hampton, with the final land transfer to the state occurring in 1984.

Camp Hero is now used as Camp Hero State Park (**Figure 1-1**), and it is owned by the state of New York and operated under the jurisdiction of the NYSOPRHP. The park consists of 469 acres and is bound by Montauk Highway (Route 27) to the north, the Atlantic Ocean to the south, Montauk Point State Park to the east, and an undeveloped sanctuary area to the west. The landscape includes wooded areas, freshwater wetlands, and seaside bluffs (**Figure 1-2**).

The park contains hiking trails and roadways leading to former military buildings, picnic areas, and recreational areas. Although the Fixed-Pulse Radar Surveillance (FPS)-35 Radar Tower and Antenna

("Radar Tower") was listed under the National Register of Historic Places (NRHP) in 2002, only two facilities on the park are active at this time: a vehicle maintenance shop used by the NYSOPRHP, and a building utilized as a residence for a park officer. The developed portion of the site is fenced, and the inactive buildings and bunkers have been sealed; however, some portions of these areas may be accessible to trespassers.

1.3 Summary of the Remedial Investigation and Proposed Plan

An RI was completed at Camp Hero to identify and summarize the nature and extent of potential releases and impacts in site media from former military operations, and to subsequently quantify whether unacceptable risks are posed to human health or ecological receptors associated with exposure to constituents from these historical operations. A historical records review conducted in 2015, as part of the RI, identified 45 potential Areas of Concern (AOCs) at Camp Hero; two additional AOCs were identified in 2016, for a total of 47 AOCs. These AOCs included former waste disposal and coal storage areas, abandoned drum locations, formerly documented and alleged USTs and aboveground storage tanks (ASTs), a Motor Pool building, and other areas associated with historical DoD operations. Previous investigations at Camp Hero have included UST and AST closures and reports, focused site assessments, and sitewide surveys and reports. Refer to the Final RI Report for Camp Hero (AECOM-Tidewater JV, 2019a) for a detailed discussion of historical investigation reports and the soil, sediment, surface water, and groundwater sampling and evaluations conducted in support of the RI.

The RI Report compiled and evaluated data obtained from approximately 1,300 soil, sediment, surface water, and groundwater samples collected between May 2016 and June 2017 during three phases of field investigation: Phase I, Phase II, and Phase III. The analyses performed varied between AOCs based on the reasons for concern at that AOC, and included VOCs, SVOCs, energetics (munitions), PCBs, and metals. After the first two phases of investigation, the AOCs warranting further evaluation were grouped into 18 geometric DUs for the assessment of soil. Streams in the vicinity of the DUs were grouped into eight stream exposure areas (SEAs) for the assessment of surface water and sediment. The RI data evaluation focused on surface soil and subsurface soil collected from the DUs, surface water and sediment collected from the downgradient SEAs, and groundwater data collected from across the site. The RI Report included a human health risk assessment (HHRA) and an ecological risk assessment (ERA) that evaluated the potential for risks to human and ecological receptors exposed to environmental media associated with the DUs and SEAs at Camp Hero. The RI concluded that there is no unacceptable site-related risk to human health or the environment due to releases regulated under CERCLA.

During the RI, residual light non-aqueous phase liquid (LNAPL) was identified in the subsurface at the former Building 203 (DU01), where two large USTs and associated contaminated soils were previously removed in 1993. A sample of the LNAPL was submitted for fingerprint analysis and was found to be consistent with weathered diesel/Number 2 fuel oil. Data collected during the RI field investigation delineated the vertical and horizontal extent of LNAPL. The data also indicated the LNAPL is stable (i.e., immobile) and not recoverable, and natural processes are depleting the LNAPL source mass. Despite the presence of LNAPL, chemicals of concern (COCs) representing human health and ecological risk under CERCLA were not identified in soil, groundwater, surface water, or sediment associated with DU01. Because no COCs presenting risk were identified at DU01 during the risk evaluation, no action for DU01 is required under the CERCLA program.

Although petroleum is exempt under CERCLA, the USACE is voluntarily working with the NYSDEC to address LNAPL in perched groundwater at the former Building 203 (DU01). A NYSDEC Spill Number (PC-1602757) was opened, and a Technical Memorandum was prepared under the NYSDEC Spills Response Program in accordance with Article Twelve of the NYS Navigation Law. The Technical Memorandum indicated that, based on the 1993 site remediation efforts (over excavation and off-site disposal of soil at the UST locations), LNAPL stability, lack of mobility/recoverability, and evidence of active source depletion, no action is required under the NYSDEC program. The Technical Memorandum was approved by the NYSDEC, and the NYSDEC Spill Number was subsequently closed.

The sitewide groundwater sampling and evaluation in the RI focused on the perched groundwater lenses to assess whether groundwater were being impacted by historical activities associated with the DUs. The 43 monitoring wells installed to support this evaluation had total depths ranging from 15 to 40 feet below ground surface (bgs), and the depth to groundwater in these wells ranged from 6 to 28 feet bgs across the site. As reported in the RI, the shallow perched groundwater at Camp Hero is unsuitable for drinking based on the perched groundwater characteristics and Suffolk County drinking water well standards (AECOM-Tidewater JV, 2019a).

The USACE issued a PP in September 2019 that indicated that no action is required for all media throughout the FUDS (AECOM-Tidewater JV, 2019b). The PP was issued in coordination with support agencies consisting of the NYSDEC, NYSDOH, and NYSOPRHP. The USACE hosted a public meeting for the PP in October 2019 and invited interested members of the public to comment on the PP during a 45-day Public Comment Period from 1 October 2019 to 15 November 2019. Public concerns were raised relative to the potential for impacts to drinking water from historical activities at Camp Hero. Sampling of the deeper groundwater in the UGA was not conducted as part of the previous RI field efforts. Therefore, sampling of the UGA is being conducted as part of the Phase IV RI to assess the potential for contaminants associated with historical activities to have migrated down to this deeper aquifer and potentially have migrated downgradient of the Camp Hero boundary.

1.4 Report Organization

This Phase IV RI Report Addendum is organized into the following sections:

- **Section 1.0: Introduction** – provides an introduction to the project, including the investigation purpose, the site description and history, a summary of the RI and PP for the site, and the organization of this report.
- **Section 2.0: Field Investigation** – provides descriptions of the field investigation activities for the Phase IV field effort, deviations from the Phase IV RI Quality Assurance Project Plan (QAPP) Addendum (AECOM-Tidewater JV, 2021), and a data usability assessment, including a discussion of Precision, Accuracy, Representativeness, Comparability, Completeness, and Sensitivity (PARCCS).
- **Section 3.0: Conceptual Site Model** – presents the conceptual site model (CSM), which describes the relationship between environmental study areas within Camp Hero and the deep groundwater of the UGA. The CSM is intended to supplement the CSM of the investigation areas presented in the RI Report (AECOM-Tidewater JV, 2019a).
- **Section 4.0: Nature and Extent of Contamination** – presents the nature and extent of the detected chemicals in deep groundwater within the UGA at and surrounding Camp Hero during the Phase IV field effort.
- **Section 5.0: Chemical Fate and Transport** – presents the fate and transport of chemicals posing potential risks in the UGA at Camp Hero.
- **Section 6.0: Risk Assessment** – contains the Human Health Screening Evaluation (HHSE), which evaluates whether chemicals present in deep groundwater within the UGA that are attributable to past Camp Hero activities have the potential to cause unacceptable adverse health effects to human receptors.
- **Section 7.0: Conclusions and Recommendations** – provides the conclusions and recommendations of the Phase IV RI.
- **Section 8.0: References** – lists the references used in this report.

The following appendices are included in this Phase IV RI Report Addendum:

- **Appendix A –** contains the figures referred to in this report.
- **Appendix B –** includes the tables referred to in this report. **Appendix B1** provides the tables referenced in the main body of the report. **Appendix B2** provide a comprehensive table of Phase IV RI groundwater analytical results.
- **Appendix C –** provides the field documentation from the Phase IV RI, including the following sub-appendices:

  - **Appendix C1 –** includes the daily reports completed during the Phase IV field effort. The daily reports also include photographs from the field effort.
  - **Appendix C2 –** contains the community air monitoring results. Continuous air monitoring was completed during Phase III field investigation downwind of intrusive activities, in accordance with the modified generic NYSDOH Generic Community Air Monitoring Plan (CAMP), Attachment 1A of the NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation (NYSDEC, 2010).
  - **Appendix C3 –** includes the well boring and construction logs for the new permanent monitoring wells installed during the Phase IV field effort.
  - **Appendix C4 –** provides the well development forms for the new permanent monitoring wells installed during the Phase IV field effort and existing UGA wells that were redeveloped prior to sampling.
  - **Appendix C5 –** contains the groundwater sampling forms for all wells sampled during the Phase IV field effort.
  - **Appendix C6 –** includes the land surveying report and data form the Phase IV field effort.
  - **Appendix C7 –** provides the investigation-derived waste (IDW) disposal documentation from the Phase IV field effort.
- **Appendix D –** contains the analytical laboratory reports and data validation reports for the Phase IV field effort, including the following sub-appendices:
  - **Appendix D1 –** provides the Eurofins Lancaster Laboratories Environmental, LLC (ELLE) laboratory reports.
  - **Appendix D2 –** includes the data validation reports for the analytical data.
  - **Appendix D3 –** contains GeoTesting Express laboratory report for the geotechnical data.
- **Appendix E –** includes reference material documenting significant components of the analytical data evaluation, including summary statistics of the Phase IV analytical results and documentation of the PAH/PCB totals calculations.
- **Appendix F –** provides the tables references in the HHSE (**Section 6.0**).

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2 FIELD INVESTIGATION

This section provides an overview of the field tasks completed as part of the Phase IV RI. The Phase IV RI field effort consisted of three separate mobilizations. The first mobilization was conducted from 5 to 8 October 2020 and included site reconnaissance to locate existing monitoring and supply wells screened in the UGA for purposes of groundwater gauging and potential redevelopment and sampling. A synoptic round of groundwater elevations was also collected from available wells.

The second mobilization was conducted from 30 November to 13 December 2020 and included a rare plant survey, community air monitoring and anomaly avoidance during intrusive activities, the installation and development of four new permanent UGA monitoring wells onsite at Camp Hero, redevelopment of existing UGA monitoring and supply wells onsite and offsite, collection of groundwater samples from new and existing UGA wells onsite and offsite, collection of soil samples for geotechnical laboratory analysis, collection of synoptic groundwater elevations, IDW management, collection of IDW samples, and land surveying.

The third mobilization was conducted from 22 to 27 February 2021 and included redevelopment of one existing UGA well (Madison Hill Well Field #1), collection of groundwater samples from new and existing onsite and offsite UGA wells, collection of synoptic groundwater elevations, and IDW management. One field team member returned to the site on 10 May 2021 to oversee removal of IDW from the site. Additional details for each task are provided in the subsections below.

The field investigation was conducted in accordance with the approved Phase IV RI QAPP Addendum, except as specifically noted in **Section 2.13** (AECOM-Tidewater JV, 2021). Figures discussed in this section are presented in **Appendix A**. Tables discussed in this section are presented in **Appendix B1**, while tables of all analytical results are presented in **Appendix B2**. Field documentation is provided in **Appendix C**, including daily field reports (**Appendix C1**), community air monitoring data (**Appendix C2**), well boring and construction logs for the wells installed during the Phase IV RI (**Appendix C3**), well development forms (**Appendix C4**), groundwater sampling forms (**Appendix C5**), the land surveying report (**Appendix C6**), and IDW documentation (**Appendix C7**).

2.1 Coordination with Stakeholders

Project kick-off meetings were held prior to the Phase IV field effort to initiate coordination with stakeholders. Each mobilization was coordinated with the Camp Hero State Park Superintendent, Tom Dess, to ensure activities did not impact park visitors or conflict with seasonal work restrictions. USACE-coordinated access to US Geological Survey (USGS) monitoring wells in the vicinity of Camp Hero with the USGS prior to accessing the wells. Additionally, USACE coordinated access to offsite wells at the Madison Hills neighborhood, to the north of Camp Hero, with the Town of East Hampton and Suffolk County Water Authority (SCWA) prior to visiting the wells. USACE coordinated access to the existing wells at the Montauk Point Lighthouse facilities with the site manager prior to sampling the wells.

During prior phases of the RI, the New York Natural Heritage Program (NYNHP) and NYSOPRHP were consulted regarding Camp Hero RI activities, with particular focus on the botanical survey of rare and endangered species. The information obtained at that time was used to minimize impacts to vegetation and local threatened and endangered species during the Phase IV field effort, consistent with Phases I through III of the RI.

Additionally, during prior phases of the RI, coordination letters were submitted to the NYSDEC Region 1 Office, the US Fish and Wildlife Service (USFWS) New York Field Office and the Shinnecock Nation regarding planned Camp Hero activities. The coordination letters indicated the USACE's intent to conduct a RI at Camp Hero, with the purpose of assessing whether the former DoD activities may have resulted in adverse environmental conditions. Copies of coordination correspondence are available in RI Report (AECOM-Tidewater JV, 2019a).

2.2 Site Reconnaissance

The locations of historic and currently active UGA supply and observation wells on and in the vicinity of Camp Hero within Montauk Point were researched using available online databases and publications. The UGA wells considered for sampling were limited to the Montauk Point area since there is a saltwater divide between the aquifer beneath Camp Hero and the one west of Montauk Point that was not considered to be of similar groundwater conditions due to differing subsurface geology. The well locations were mapped, and site reconnaissance was conducted in October 2020 to document the presence or absence and condition of each of the wells. An assessment of whether or not a well could be utilized for potential groundwater sampling and the depth to groundwater were gauged at each existing well. Active supply wells were not gauged for safety reasons. In addition to the four newly installed onsite wells, a total of three onsite and seven offsite existing UGA wells were identified within the Montauk Point that could be accessed and sampled. The location and condition of existing UGA wells identified during the site reconnaissance, and the Phase IV RI Addendum UGA new well locations are shown on **Figure 2-1** (**Appendix A**).

The groundwater was gauged at six offsite UGA wells and eight onsite UGA wells during the site reconnaissance. Three former supply wells were not gauged due to blockages in the well casing or were inaccessible, and three current supply wells were active and were not gauged. Two of three former Madison Hills Well Field wells, #2 (S 121808) and #3A (S 121811), were equipped with pit-less adaptors in the well casings, which restricted groundwater gauging and prevented sampling access in those wells. Additional details on groundwater gauging are provided in **Section 2.10**.

2.3 Rare Plant Survey

A botanical survey for rare and threatened species at Camp Hero was completed during the Phase IV field event, prior to any vegetation removal activities. Prior to the earlier phases of the RI, the NYNHP identified four rare plant species that have been historically reported within Camp Hero State Park: Little-leaf Tick-trefoil, Fringed boneset, Blunt mountain-mint, and Southern arrowwood (NYNHP, 2010).

Prior to the botanical survey field activities, the AECOM botanist researched the habitat requirements, phenology, critical diagnostic characteristics, and morphologically similar congeners for the target plant species identified as potentially occurring in the vicinity of the Camp Hero DUs by the NYNHP. Botanical references and regional field manuals were consulted for the northeastern US as well as Flora of North America.

During the Phase IV field investigation, the new monitoring well installation locations were surveyed for the four rare plant species. If any rare plant species were identified, they were marked with flagging. Consistent with the past phases of the RI, one of the target rare plant species, *Viburnum dentatum* var. *venosum* (Southern arrowwood), was encountered with frequently within the work areas. While all larger specimens were flagged, a small number of sites also had numerous seedlings that were almost impossible to avoid without employing extraordinary measures. In consultation with the NYSDEC, NYNHP, and NYSOPRHC during previous phases of the RI, it was concluded that the destruction of a few seedlings during the course of further remedial investigation at Camp Hero would be acceptable, in light of the large and stable population of *Viburnum dentatum* var. *venosum*.

2.4 Anomaly Avoidance

An unexploded ordinance (UXO) Probability Assessment for Intrusive Investigation at Camp Hero, completed by USACE Baltimore District, determined that the Camp Hero RI activities had a low probability of encountering munitions and explosives of concern (MEC), except for areas H and K, which would not be entered at any point during RI field activities (USACE 2016a; 2016b). However, as a precautionary measure, anomaly avoidance was conducted by a UXO Technician II during intrusive Phase IV field investigation with a hand-held magnetometer, in accordance with Engineer Manual (EM) 385-1-97. “Anomaly avoidance” is defined as the avoidance of surface MEC and any subsurface anomalies where the specific activity can be moved to another location. The new permanent monitoring well installation locations were examined by the UXO Tech II. No munitions items were observed during investigation activities. Additionally, all field personnel, including AECOM employees and subcontractors, completed Ordnance Recognition Training prior to the start of field activities.

2.5 Community Air Monitoring

Continuous air monitoring was completed downwind of the drill rig during intrusive activities (i.e., monitoring well installation), in accordance with the modified generic NYSDOH Generic CAMP, Attachment 1A of the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation. The CAMP establishes air monitoring activities that were to be implemented to protect the community from any potential airborne releases that could result from field activities associated with the RI, as necessary (NYSDEC, 2010). Parameters monitored included VOCs and aerosol concentrations corresponding to particulate matter $(PM)_1$, $PM_{2.5}$, and PM_{10} size fractions. No exceedances of thresholds established in the NYSDOH Generic CAMP were observed during Phase IV field investigation. Data from Phase IV field investigation air monitoring are included in this report as **Appendix C2**.

2.6 Monitoring Well Installation

In December 2020, four new UGA monitoring wells (two sets of "nested" wells) were installed via sonic drilling methods to assess the UGA at two locations. The well locations are approximately 1,250 feet south and topographically downgradient of investigation area DU01. Potential residential receptors (drinking water wells) are located further south and southwest of the new UGA well locations on the south side of Old Montauk Highway. The locations of the new UGA wells are shown on **Figure 2-1** in **Appendix A**. A shallow and a deep well were installed into the UGA at each of the two nested well locations. At each nested well location, the top of the 10-foot shallow well screen was installed immediately below the clay confining unit (Montauk Till Member) and into the top portion of the UGA. The top of the 10-foot deep well screen was installed 40 feet below the clay confining unit and UGA interface, into a deeper portion of the UGA, to mimic potential receptor drinking water well screen depths prescribed by local well construction permit requirements.

Nested monitoring wells CH-MW044S (shallow) and CH-MW044D (deep) were installed to a total depth of 120 and 157 feet bgs, respectively. Nested monitoring wells CH-MW045S (shallow) and CH-MW045D (deep) were installed to 95 and 136 feet bgs, respectively. Well construction information is provided in **Table 2-1** in **Appendix B**. The wells were constructed with new 2-inch diameter poly-vinyl chloride (PVC) 10-foot screens and casing. The nested UGA well heads were completed as above ground stick-up type wells inside a locking protective well cover in a concrete well pad at each of the nested well locations. Well boring and construction logs are provided in **Appendix C3**.

The drilling method to install the wells utilized a 5-inch outside diameter (4-inch inside diameter) core barrel and a 7-inch outside diameter (6-inch inside diameter) override casing to core and case the borehole to the total depth of each well. The 7-inch override casing was utilized to keep the borehole open and to prevent potential vertical migration of water from the overlying till to seep downward to the UGA. The two monitoring wells at each nested well location were constructed inside the same 7-inch sonic casing with the deep well screen and riser, filter sand, bentonite seal, and choker sand all emplaced first followed by the shallow well construction. The 7-inch casing was pulled upward incrementally as the wells were constructed. The incremental pulling and vibration of the 7-inch sonic casing assisted in condensing of well materials emplaced around the well screen and riser and also helped to prevent potential bridging of well materials.

Equipment used for subsurface sonic drilling was decontaminated prior to each use. The drilling team placed plastic sheeting under the sonic drill rig to act as a potential containment barrier should an unexpected leak occur. Subsurface drilling and well installation were conducted in accordance with the approved Phase IV RI QAPP Addendum (AECOM-Tidewater JV, 2021).

2.7 Soil Geotechnical Sample Collection

Continuous soil cores were collected during drilling of new UGA wells for lithologic logging and collection of grain size analysis (ASTM D6913/D7928) and percent moisture (ASTM D2216) samples to document subsurface lithology at each nested well location. Soil within each 5-foot long core barrel was extruded from the core barrel into a plastic sleeve within the sonic drive casing. The soil core was placed horizontally on clean plastic sheeting for logging and sampling. The soil core was screened for VOCs immediately with a photoionization detector (PID) upon opening the sleeve. The soil core was logged for descriptions by the AECOM field geologist, and observations and measurements were recorded on a soil boring log. At a minimum, depth interval, recovery thickness, PID concentrations, moisture, relative density, color (using a Munsell soil color chart), and texture were recorded using the Unified Soil Classification System (USCS). Additional observations included groundwater or perched water depth, organic material, and/or color changes.

The continuous soil cores were collected from ground surface to 137 feet and 157 feet bgs at the nested well locations. The soil samples for geotechnical laboratory analysis of percent moisture and grain size were collected at a rate of one sample per 10 feet of boring. Discrete soil samples were collected at 10-foot intervals at CH-MW044D and composite soil samples were collected over each 10-foot interval at CH-MW045D. The geotechnical sample results are provided in **Table 2-2** (**Appendix B1**). Well boring logs that present the field lithologic logging of the continuous borehole cuttings, including the laboratory geotechnical sample analysis, are also provided in **Appendix C3**. The geotechnical laboratory report is provided in **Appendix D3**.

2.8 Well Development and Redevelopment of UGA Wells

Initial development of the newly installed Phase IV RI UGA wells CH-MW044S, CH-MW44D, CH-MW045S, and CH-MW045D was conducted by using air lift methodology. Using the air lift method, compressed air was injected through decontaminated hosing near the bottom of each well screen and surged up and down the well. The groundwater in each well was lifted by the air pressure to the top of the well and diverted into IDW containers. A total of 500 gallons of groundwater were removed from the nested well pair CH-MW044S and CH-MW44D, and 200 gallons of groundwater were removed from the nested well pair CH-MW045S and CH-MW045D. This volume includes the volume of water used during the sonic well boring installation at each of the nested wells and development of the well. Water quality parameters, including dissolved oxygen (DO), specific conductance (SC), oxidation reduction potential (ORP), pH, temperature, and turbidity were measured using a multi-parameter water quality meter and recorded to determine progress of development. The water volume and water quality parameters are provided in **Appendix C4.**

Following initial development of the Phase IV RI UGA wells, the wells were further developed with a submersible pump. A minimum of three times the standing water volume was removed from the Phase IV RI UGA wells during development activities. Water quality parameters, including DO, SC, ORP, pH, temperature, salinity, and turbidity were measured using a multi-parameter water quality meter and recorded to determine progress of redevelopment. Each well was developed until clear (silt-free) water was produced with a minimum of three stable water quality readings. The multi-parameter water quality meter was calibrated initially and continually throughout its usage each day during all development activities, as needed. A calibration check was performed at the end of each day. The well development forms are provided in **Appendix C4.**

Redevelopment of former UGA supply and observation wells onsite and in the vicinity of Camp Hero scheduled for sampling in the Phase IV RI QAPP Addendum was completed by a combination of surging the pump intake up and down in the wells and over-pumping groundwater from the wells as described above for the newly installed Phase IV RI UGA wells. At certain former UGA supply and observation wells, redevelopment proved difficult in the field because of a combination of factors: the supply wells were dormant for decades in some cases; former well supply equipment remaining in well casings; and the deep depth and large diameter of former supply wells. At a limited number of wells, the targeted turbidity water quality parameter of 10 nephelometric turbidity units (NTUs) could not be attained during development activities due to well conditions.

Redevelopment (and groundwater sampling) of Madison Hills Well Field #2 (S 121808) and Madison Hills Well Field #3A (S 121811) could not be accomplished due to the presence of a pit-less adapter in each well casing below ground. The pit-less adapter acts as a sanitary seal and prevented sampling equipment from being placed down the wells. The Former Madison Hill supply wells have also been disconnected from the former electrical supply, and the pumps could not be turned on as an alternative sample collection method. At Madison Hills Well Field #1 (S 76304) a restriction on the groundwater pumping equipment that could be used was encountered due to former well supply piping in the well. The restriction resulted in a lower rate of groundwater that could be pumped during redevelopment activities. The depth and large diameter of Madison Hills Well Field #1 (S 76304), in combination with the restricted pumping methods, resulted in a loss of pumping efficiency during redevelopment. During the redevelopment of Madison Hills Well Field #1 (S 76304) in December 2020, only 260 gallons of the targeted 290 gallons were removed during development prior to sampling. In addition, the turbidity water quality parameter did not stabilize during redevelopment and was recorded at 41 NTUs, above the target level of 10 NTUs, when redevelopment was terminated prior to the December 2020 groundwater sample collection. During the February 2021 sampling event at this well, turbidity in the pre-sample development water stabilized below 10 NTUs prior to sampling. Based on groundwater sample results discussed in **Section 4.0**, there appeared to be no impact from the higher NTUs in the December 2020 sample.

All reusable development equipment was properly decontaminated after each use in accordance with the Phase IV RI QAPP Addendum (AECOM-Tidewater JV, 2021). Development groundwater generated was containerized, managed, and disposed of as IDW.

2.9 Groundwater Sample Collection

Two rounds (December 2020 and February 2021) of groundwater samples were collected from a total of 14 UGA wells: seven onsite UGA wells, including the four newly installed permanent monitoring wells, and seven offsite UGA wells, as summarized on **Table 2-3**. The locations of the wells are shown on **Figure 2-1**. Newly installed wells were sampled at least 24 hours after completion of development/redevelopment in accordance with the QAPP Addendum (AECOM-Tidewater JV, 2021). Groundwater sampling forms are provided in **Appendix C5**.

For monitoring wells and supply wells where the well was accessible, wells were purged via low-flow sampling techniques using a bladder or peristaltic pump and disposable tubing. Water clarity was visually monitored, and water quality parameters, including DO, SC, ORP, pH, temperature, and turbidity, will be measured using a flow-through cell. Readings were collected every 5 minutes until the well produced clear (silt-free) water with a minimum of 3 stable water quality readings. The multi-parameter water quality meter was calibrated initially and continually throughout its usage each day, as needed, and a calibration check was performed at the end of each day. Samples were collected once the water quality parameters reach stabilization, as described below. Non-disposable sampling equipment was decontaminated between each well.

As described above, at Madison Hills Well Field #1 (S 76304), a restriction on the groundwater pumping equipment that could be used was encountered due to former well supply piping in the well. resulting in a loss of pumping efficiency during redevelopment and sampling. For this reason, the well was sampled using a Waterra pump and disposable tubing, rather than a peristaltic pump. In December 2020, although the turbidity of the water was recorded at 41 NTUs at the time redevelopment was terminated, the turbidity did not decrease below 248 NTU when the field crew returned to sample the well approximately 48 hours later. During the February 2021 sampling event at this well, a Waterra pump was again used for sampling, and the turbidity in the pre-sample development water stabilized below 10 NTUs prior to sampling.

For wells being actively used for drinking water, groundwater samples were collected from an existing tap. The samples were collected from taps in areas free of excessive dust, rain, snow, or other sources of cross-contamination. Taps were selected that were free of devices that could cause potential cross-contamination, such as screens, aeration devices, hoses, purification devices, or swiveled faucets. The faucet was visually checked to be sure it was clean. Samples were collected from a tap which is high enough to put a bottle underneath without contacting the mouth of the container with the faucet. The tap was opened and allowed to thoroughly flush for approximately 2 to 3 minutes. Once the lines were flushed, the flow was adjusted to fill the sample bottleware.

Samples were collected in laboratory-supplied bottleware for VOCs, SVOCs, PCBs, and metals, including hexavalent chromium and mercury. Both total (unfiltered) and dissolved (filtered) samples were collected for metals (including hexavalent chromium and mercury). Filtered samples were field-filtered using a clean, disposable, in-line filter. The pH of dissolved and total hexavalent samples was adjusted in accordance with the procedures outlined in the QAPP Addendum (AECOM-Tidewater JV, 2021).

2.10 Synoptic Groundwater Gauging

The depth to groundwater was measured at available UGA wells at Camp Hero and in the vicinity of Camp Hero in October 2020, December 2020, and February 2021. The four newly installed Phase IV RI Addendum wells (CH-MW044S, CH-MW044D, CH-MW045S, and CH-MW045D) were included in the December 2020 and February 2021 gauging events. A total of 10 UGA wells on Camp Hero and four UGA wells offsite (in the vicinity) were gauged in December 2020 and February 2021. The wells included in the gauging events and a summary of the data are shown on **Table 2-4**.

A consistent flow direction of the UGA at Camp Hero was observed from the UGA well gauging events in October 2020, December 2020, and February 2021. **Figure 2-2** shows the location of UGA wells gauged at Camp Hero, a summary of the UGA groundwater measurements, and the groundwater contours based on the December 2020 gauging. **Figure 2-3** shows the location of UGA wells gauged at Camp Hero, a summary of the UGA groundwater measurements, and the groundwater contours based on the February 2021 gauging. **Figure 2-3** also shows contours based on low tide and high tide gauging. The groundwater flow direction was found to be consistent between the low and high tide measurements, and the UGA flow direction at Camp Hero is from topographically high areas radially outward toward lower areas under artesian pressure. Additional interpretation of the groundwater elevation data is presented in **Section 3.3** below.

2.11 Land Surveying

The top of well casing and ground surface for the four newly installed monitoring wells (CH-MW044S, CH-MW044D, CH-MW045S, and CH-MW045D) and UGA wells utilized for groundwater gauging (except USGS wells with available survey data) were surveyed by a New York licensed surveyor during the Phase IV field investigation. The land surveying report is included as **Appendix C6**.

Data were obtained using the State Plane Coordinate System, Long Island Zone 3104, with horizontal data using the North American Datum (NAD 83) and vertical data using the North American Vertical Datum (NAVD 88). The horizontal control for the locations was surveyed to at least (+/-) 0.10 foot and the vertical control for the locations was surveyed to at least (+/-) 0.01 foot. Equipment utilized included a Trimble R8 Global Positioning System (GPS) with a tripod data system Ranger collector and Nikon NIVO 5M Prismless Total Station.

The Trimble R8 GPS was utilized with the real time kinematic (RTK) satellite navigation GPS system connected in real time to New York Precision's RTK Base Network. This is a spatial reference network of continuously operating Global Navigation Satellite System reference stations encompassing Long Island, New York City, and parts of Westchester, New York, into Connecticut. The equipment and associated procedures achieve sub-centimeter positioning for surveying applications or sub-meter positioning for

GIS mapping applications. The locations of all Base Stations are determined using the National Oceanic and Atmospheric Administration's (NOAA) Online Positioning User Service, and raw GPS data are automatically processed using standard National Geodetic Survey data and models to compute an accurate position. All base stations are constantly monitored for movement and positional accuracy. The Nikon NIVO 5M Prismless Total Station was utilized in locations of heavy tree and brush cover for a portion of collected points.

2.12 Investigation-Derived Waste Management

IDW generated during the Phase IV field activities was managed pursuant to applicable Federal, State, and local regulations and guidance, including the US Environmental Protection Agency (USEPA) Management of Investigation-Derived Wastes during Site Inspections (USEPA, 1992), USACE guidance (USACE, 2013), and NYSDEC Technical Guidance for Site Investigation and Remediation (NYSDEC, 2010).

Liquid IDW from well installation, development, and sampling was stored in a 6,300-gallon poly tank provided by the waste hauler. Solid (soil) IDW from well installation was stored in eight 55-gallon drums. The drums and poly tank were properly labeled and indicated the generator, contact information, contents, and date of generation. The drums and tank were stored at the Camp Hero State Park Motor Pool building, with the permission of State Park Superintendent Mr. Tom Dess.

Analytical samples of the solid and liquid IDW were collected on 13 December 2020 and submitted to the laboratory for waste classification. **Table 2-5** (**Appendix B1**) presents the IDW analytical results compared to regulatory levels. Based on the results, the liquid IDW was characterized as non-hazardous. Because the pH levels in the soil in the drums (pH 12.4) exceeded the disposal criteria, the solid IDW was treated as hazardous waste.

AWT Environmental Services, Inc. (AWT) (Sayreville, New Jersey) was contracted to transport and dispose of IDW accumulated on site. AWT transported the liquid IDW (2,353 gallons from the poly tank) to disposal facility Clean Water of New York (Staten Island, New York) on 10 May 2021 under non-hazardous waste manifest (#17349-1). AWT transported the solid IDW (eight drums with soil cuttings) to Cycle Chem (Elizabeth, New Jersey) for disposal on 10 May 2021 under hazardous waste manifest (#021325245 JJK). Final waste documentation, including the analytical laboratory package of results, is included in **Appendix C7**.

2.13 Deviations from the Phase IV RI QAPP Addendum

The Phase IV field investigation was generally completed to the scope that was provided in the Phase IV RI QAPP Addendum (AECOM-Tidewater JV, 2021). However, some deviations to the QAPP and field decisions made within the contingencies established in the QAPP occurred during the field effort following discussions between the USACE and AECOM team.

Deviations from the Phase IV RI QAPP Addendum included the following:

- At Madison Hills Well Field #1 (S 76304) a restriction on the groundwater pumping equipment that could be used was encountered due to former well supply piping in the well. The restriction resulted in a lower rate of groundwater that could be pumped during redevelopment activities. The depth and large diameter of Madison Hills Well Field #1 (S 76304), in combination with the restricted pumping methods, resulted in a loss of pumping efficiency during redevelopment. During the redevelopment of Madison Hills Well Field #1 (S 76304) in December 2020, only 260 gallons of the targeted 290 gallons were removed during development prior to sampling. In addition, the turbidity water quality parameter did not stabilize during redevelopment and was recorded at 41 NTUs, above the target level of 10 NTUs, when redevelopment was terminated prior to the December 2020 groundwater sample collection. When the field crew returned to sample the well approximately 48 hours later, the turbidity did not decrease below 248 NTUs. During the February 2021 sampling event at this well, turbidity in the pre-sample development water stabilized below 10 NTUs prior to sampling. Due to the pump restrictions at this well, samples were collected via Waterra pump and disposable tubing, rather than a peristaltic pump.
- In December 2020, six samples (CH-MW044S-1220, CH-MW044D-1220, CH-MW045D-1220, S70627-1220, S76304-1220, and S76304-1220D) did not meet the recommended method prep hold times for SVOCs via 8270D and 8270D SIM due to delayed delivery via Federal Express (FedEx) delivery services. Analyte detects were qualified as described below in **Section 2.14**.
- Redevelopment and groundwater sampling of Madison Hills Well Field #2 (S 121808) and Madison Hills Well Field #3A (S 121811) could not be accomplished due to the presence of a pit-less adapter in each well casing below ground. The pit-less adapter acts as a sanitary seal and prevented sampling equipment from being placed down the wells. The Former Madison Hill supply wells have also been disconnected from the former electrical supply and the pumps could not be turned on as an alternative sample collection method.

Field decisions made within the contingencies established in the QAPP included the following:

- At certain former UGA supply and observation wells, redevelopment proved difficult in the field because of a combination of factors: the supply wells were dormant, for decades in some cases; former well supply equipment remaining in well casings; and the deep depth and large diameter of former supply wells. At a limited number of wells, the targeted turbidity water quality parameter of 10 NTUs could not be attained during development activities due to well conditions.

2.14 Data Validation

Data validation was conducted on the FUDSChem Automated Data Review (ADR) output for the Camp Hero analytical data. The program performed an ADR of the project samples and produced validation outlier reports and assigned qualifiers; the reports and qualifiers were reviewed and approved by the AECOM chemists. Analytical data packages were validated at a Level 2a to ensure compliance with specified analytical, Quality Assurance (QA)/Quality Control (QC) requirements, data reduction procedures, data reporting requirements, and required accuracy, precision, and completeness criteria. These criteria includes, but is not limited to, the following:

- Sample preservation and holding times;
- Blanks (method, rinse, and trip);
- Matrix spike (MS) and MS duplicate (MSD) samples;
- Laboratory and field sample duplicate samples;
- Surrogates; and
- Laboratory control samples.

Analytical results were assessed for accuracy and precision of laboratory analysis to determine the limitations and quantity of data. The quality of the data collected in support of the sampling activity was considered acceptable. Data validation reports are provided in **Appendix D2**.

The data validation process assigned data qualifiers to results that did not meet specified laboratory protocols (J, U, and UJ flags) but were still considered acceptable via the data validation process as well as the "X" qualifier for data that were affected by serious deficiencies and exclusion of the data is recommended by data validation. The validation qualifiers assigned are:

- J: The result is positively identified, and the associated numerical value is an estimated quantity with an unknown bias.
- UJ: The result is not detected above the reported limit of detection (LOD); however, the reported limit is approximate and may or may not represent the actual limit necessary to accurately and precisely measure the analyte in the sample.
- U: The result is not detected above the reported sample LOD.
- X: The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance

or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Hold Time Issues: Six samples (CH-MW044S-1220, CH-MW044D-1220, CH-MW045D-1220, S70627-1220, S76304-1220, and S76304-1220D) did not meet the recommended method prep hold times for 8270D and 8270D SIM due to delayed delivery via FedEx delivery services. Analyte detects were qualified "J" and non-detected (ND) values were qualified "UJ" in the samples.

Nonconformance Issues: The nonconformance concerns addressed during the Phase IV field investigation data validation are listed below by analytical method:

- SVOCs via Method SW8270D:

  Issue: laboratory control samples (LCSs) recovered outside acceptable limits for dimethyl phthalate and butyl benzyl phthalate. The lab re-extracted the samples outside of recommended extraction hold times.

  The first set of data was reported and qualified. **Affected Samples**: S19494-1220 (in sample delivery group [SDG] number 410-23193); S79269-1220D (in SDG number 410-23807); CH-MW044S-0221, S48579-0221, S19494-0221, S19495-0221, S1202-0221, S70627-0221, S3599-0221, CH-MW045S-0221, CH-MW044D-0221, CH-MW045D-0221, and S58922-0221 (in SDG number 410-30212); S17231S-0221, S17231S-0221D, S79269-0221, S79269-0221D (in SDG number 410-30714); and S76304-0221 (in SDG number 410-30726).

- SVOCs via method SW8270D:

  Issue: The original analyses of several samples had low surrogate recoveries; the lab re-extracted the samples outside of recommended extraction hold times and all samples have acceptable surrogate recoveries. First set of data was reported and qualified.

  Affected Samples: S19494-1220 (in SDG number 410-23193); S79269-1220 (in SDG number 410-23807); and CH-MW045S-0221, CH-MW045D-0221 (in SDG number 410-30212).

- PAHs via Method SW8270D SIM:

  Issue: Due to a known mis-spike of LCS for prep batch 410-77182, the associated samples were re-prep but outside holding time with acceptable limits. First set of data was reported and qualified. The qualified field sample results were considered usable as estimated values with a negative bias.

  Affected Samples: CH-MW044S-1220, S3599-1220, S1202-1220, and S58922-1220 (in SDG number 410-23807).

- PAHs via method SW8270D SIM:

  Issue: The original analyses of several samples had low surrogate recoveries; the lab re-extracted the samples outside of recommended extraction hold times and all samples have acceptable surrogate recoveries. First set of data was reported and qualified.

  Affected Samples: S79269-1220 (in SDG number 410-23807); CH-MW044D-1220 and S70627-1220 (in SDG number 410-24516); and S17231S-1221D (in SDG number 410-30714).

- Hexavalent Chromium via Method USEPA 218.6:

  Issue: The pH was found to be approximately 8.0-8.5. Data were reported and qualified.

  Affected Samples: S19494-1220 (in SDG number 410-23193); S19495-1220, S48579-1220, S79269-1220, S79269-1220D, CH-MW045S-1220, S58922-1220, S3599-1220, S1202-1220, S17231S-1220 (in SDG number 410-23807); and CH-MW044S-1220, CH-MW044D-1220, CH-MW045D-1220, S70627-1220, S76304-1220, and S76304-1220D (in SDG number 410-24516).

- VOCs via Method SW8260C:

  Issue: Sample was received with headspace. Data were reported and qualified.

  Affected Samples: CH-TB-0221-03 (in SDG number 410-30726).

For additional details regarding the nonconformance issues, see **Appendix D2** (data validation reports).

2.15 Data Usability Assessment

Although the Phase IV data are considered generally usable, some degree of uncertainty is typically encountered. Specific factors that may contribute to the uncertainty of the data evaluation are described below. The following Data Quality Indicators, including PARCCS are important components in assessing data usability. The data validation reports for Phase IV are presented in **Appendix D2** and provide explanations for all qualified data in greater detail, as well as an assessment of data usability.

The percentages in the following sections represent the percent of outliers when compared to the entire dataset. Percentages of QC exceedances were calculated by using all the analytes per method that had an issue divided by the total number of usable analytes multiplied by 100. Overall, the dataset is considered acceptable except for a few rejected results presented in the completeness section.

2.15.1 Precision

Precision refers to the reproducibility of measurements. It is strictly defined as the degree of mutual agreement among independent measurements as the result of the repeated application of the same process under similar or prescribed conditions. Precision reflects random error and may be affected by systematic error. It also reflects variation imposed by a given matrix.

Laboratory precision is measured by the variability associated with duplicate (two) analyses. Multiple LCS analyses, LCS/LCS duplicate (LCSD) relative percent differences (RPDs), and MS/MSD RPDs were evaluated to assess laboratory precision. The LCS recoveries, LCS/LCSD RPDs, and MS/MSD RPDs were within QAPP-specified QC limits, excluding the anomalies presented in the data validation reports, which are summarized in the following sections. Total precision is the measurement of the variability associated with the entire sampling and analytical process. The project QC limits for field duplicate samples are RPD ≤ 30% for water. Field duplicates do not characterize total measurement precision. The statistical design automatically takes the variability of these duplicates into account. Therefore, the non-compliant RPDs summarized in this section of the document do not actually affect any decisions. The RPDs for field duplicate pairs for aqueous matrices outside of the QC limits are as follows:

- VOCs by SW-846 8260C at 0%
- SVOCs by SW-846 8270D at 0%
- PAHs by SW-846 8270D SIM at 0.93%
- PCBs by SW8082A at 0%
- Metals by SW-846 6020B/7470A at 1.37%
- Hexavalent chromium by USEPA Method 218.6 at 1.43%

2.15.2 Accuracy

Accuracy is a measure of confidence between a measured value and an expected or true value. A smaller difference between the measured value of a parameter and its expected value indicates a more accurate measurement. A more precise or reproducible result is more reliable or accurate. Accuracy was assessed for each method, analyte, and matrix by comparing surrogate, LCS, LCSD, and MS/MSD recoveries to the QAPP-specified QC limits. Low percent recoveries indicate a low bias, while high percent recoveries indicate a high bias.

LCSs are prepared by the addition of known concentrations of each analyte to media known to be free of target analytes. LCSs were analyzed for every analytical batch to demonstrate the accuracy of the analytical systems. LCS accuracy limits are matrix- and method-specific. Laboratory control spike duplicate accuracy was expressed as percent recovery and QC limits range between 12% and 140%; laboratory control spike duplicate precision was expressed as RPD and QC limits range between 15% and 35%).

The LCS displayed percent recoveries outside of the QC limits is as follows:

- VOCs by SW-846 8260C at 0%

- SVOCs by SW-846 8270D at 5.52%
- PAHs by SW-846 8270D SIM at 11.28%
- PCBs by SW8082A at 0%
- Metals by SW-846 6020B/7470A at 0%
- Hexavalent chromium by USEPA Method 218.6 at 0%

An MS pair is prepared, analyzed, and reported for all preparation batches. MS pairs demonstrate that the analytical system was in control for the matrix being tested. MS pairs were analyzed for every analytical batch to demonstrate the ability of the laboratory to recover a concentration of a known quantity in site matrix media. MS/MSD accuracy limits are matrix- and method-specific. MSD accuracy was expressed as percent recovery and QC limits range between 10% and 140%; MSD precision was expressed as RPD, and QC limits ranged between 15% and 24%.

The MS/MSD performed on parent samples displayed percent recoveries outside of the QC limits as follows:

- VOCs by SW-846 8260C at 0%
- SVOCs by SW-846 8270D at 0.10%
- PAHs by SW-846 8270D SIM at 0.81%
- PCBs by SW8082A at 0%
- Metals by SW-846 6020B/7470A at 0.12%
- Hexavalent Chromium by USEPA Method 218.6 at 0%

Surrogate constituents were added to all field samples and QC samples for organic analyses during sample preparation. Surrogate constituents are substances with properties that mimic the analytes of interest. Surrogate constituents are unlikely to be found in field samples and are added to demonstrate the laboratory's ability to detect a similar constituent at a known concentration. Expected surrogate recovery percentages vary depending on the method, range between 10% and 148%.

Surrogate percent recoveries not within QC limits are as follows:

- VOCs by SW-846 8260C at 0%
- SVOCs by SW-846 8270D at 2.71%
- PAHs by SW-846 8270D SIM at 6.74%

- PCBs by SW8082A at 0%

Calibration and method blanks consist of media containing no constituents of interest. Calibration blanks are reagent water and are used to determine the zero point for initial and continuing instrument calibrations; calibration blanks above the LOD require laboratory investigation and correction. Method blanks are comprised of media similar to the batch of associated samples; they are prepared and analyzed using the same methodologies as field samples and are used to determine accuracy bias. Analytes in method blanks detected at concentrations greater than the detection limit (DL) may lead to high bias and false positive data.

Percentages of data qualified due to method blank contamination are as follows:

- VOCs by SW-846 8260C at 0%
- SVOCs by SW-846 8270D at 0%
- PAHs by SW-846 8270D SIM at 0.12%
- PCBs by SW8082A at 0%
- Metals by SW-846 6020B/7470A at 0%
- Hexavalent chromium by USEPA Method 218.6 at 0%

2.15.3 Representativeness

Representativeness qualitatively expresses the degree to which the data accurately and precisely depict the characteristics of a population, whether referring to the distribution of chemicals within a sample, a sample within a matrix, or the distribution of a chemical at a site. Factors that affect the representativeness of analytical data include appropriate sample population definitions, proper sample collection and preservation techniques, analytical holding times, use of standard analytical methods, and determination of matrix or analyte interferences.

Field sample collection, preservation, and shipping were performed in accordance with the Uniform Federal Policy (UFP)-QAPP and field SOPs. No quality issues were observed by the field lead during field activities. All preservation techniques were followed by the field staff, and all technical and analytical holding times were met by the laboratory. The laboratory used approved standard methods, as outlined in the UFP-QAPP, for all analyses.

Analytes in field-related blanks were detected at concentrations greater than the DL in either the trip blank or equipment blank samples.

Percentages of data qualified due to blank contamination are as follows:

- VOCs by SW-846 8260C at 0%

- SVOCs by SW-846 8270D at 0%
- PAHs by SW-846 8270D SIM at 0%
- PCBs by SW8082A at 0%
- Metals by SW-846 6020B/7470A at 0.01%
- Hexavalent chromium by USEPA Method 218.6 at 0%

2.15.4 Comparability

Comparability is a qualitative indicator of the confidence with which one dataset can be compared to another dataset. The objective for this QA/QC program is to produce data with the greatest possible degree of comparability. The number of matrices that are sampled and the range of field conditions encountered are considered in determining comparability. Comparability was achieved by using standard methods for sampling and analysis, reporting data in standard units, normalizing results to standard conditions, and using standard and comprehensive reporting formats. Complete field documentation using standardized data collection forms supported the assessment of comparability.

Comparability is the extent to which data from one study can be compared directly to either past data from the current project or data from another study. Using standardized sampling and analytical methods, units of reporting, and site selection procedures helps ensure comparability. Standard field sampling, field documentation using standardized data collection forms, and typical laboratory protocols were used in this investigation.

2.15.5 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount of data expected under normal conditions. Project completeness is determined by evaluating the planned versus actual quantities of data. The number of valid results divided by the number of possible individual analyte results, expressed as a percentage, determines the completeness of the dataset. Results for 2-methylphenol, 4-chloro-3-methylphenol, 4-methylphenol, and benzoic acid in sample CH-MW045D-0221 were qualified "X" by the data validation because the recoveries of acid surrogates in the sample were below 10%. During data usability assessment, these "X" qualified results were reviewed by the AECOM and USACE project team and were considered unusable. ("R" qualifier was used as the final qualifier). For completeness requirements, valid results are all results not qualified with an R-flag after a usability assessment was performed.

Percent completeness for parameters is as follows:

- VOCs by SW-846 8260C at 100%

- SVOCs by SW-846 8270D at 99.7% (constituent acid surrogates were below 10%. For the SVOC analyte group, four non-detect acid constituents were qualified "R" [rejected results] in sample CH-MW045D-0221).
- PAHs by SW-846 8270D SIM at 100%
- PCBs by SW8082A at 100%
- Metals by SW-846 6020B/7470A at 100%
- Hexavalent chromium by USEPA Method 218.6 at 100%

2.15.6 Sensitivity

Sensitivity is the capability of a test method or instrument to discriminate between measurement responses representing different levels (e.g., concentrations) of a variable of interest. The DoD Quality Systems Manual (QSM) measures analytical sensitivity in terms of the DL, LOD, and limit of quantitation (LOQ). To meet the needs of the data users, project data must meet the measurement performance criteria for sensitivity and project limits specified in the QAPP. To meet measurement quality objectives for analytical sensitivity, the LOD for NDs and the LOQs for detected concentrations need to be less than the project's decision limits. To achieve the DQOs for sensitivity outlined in the QAPP, the laboratory reported all field sample results at the lowest possible dilution. QLs may be greater than the project required LOQs due to dilutions. The data validators also flagged all positive results greater than the DL and less than the LOQ "J," as these positive estimate detections were less than the lowest calibration standard. All dilutions were performed appropriately and correctly.

3 CONCEPTUAL SITE MODEL

This section presents the CSM summarizing the hydrology, hydrogeology, and potential receptors and exposure pathways for the UGA at Camp Hero and the surrounding area. The data collected during the Phase IV RI is intended to supplement the CSM of the environmental assessment areas presented in the RI Report (AECOM-Tidewater JV, 2019a).

The 2019 RI presented a CSM that included comprehensive sampling of surface water, sediment, soil, and perched groundwater underlying and adjacent to environmental assessment areas at Camp Hero. In order to further assess the deeper underlying UGA, the Phase IV RI conducted sampling of available UGA wells at Camp Hero and in the vicinity of Camp Hero. In addition, four new UGA wells were installed and sampled at Camp Hero, downgradient of environmental assessment areas to further define the geology, hydrogeology, and the groundwater quality of the UGA.

3.1 Site Description

Camp Hero State Park is located on the eastern tip of the south fork of Long Island, New York, approximately 5 miles east of the Village of Montauk. The park consists of 469 acres and is generally bound by Montauk Highway (Route 27) and Montauk Point State Park to the north, the Atlantic Ocean to the south, the Montauk Point Lighthouse and Museum to the east, and Camp Hero State Park's undeveloped sanctuary area to the west. A residential area is located adjacent to the northwest boundary of the park (Madison Hills) and to the southwest boundary of the park (Old Montauk Highway). Future land use at Camp Hero and the surrounding areas described above are anticipated to remain the same.

3.2 Current Groundwater Use

Groundwater is not currently obtained for drinking water use from the UGA at Camp Hero State Park. Groundwater was historically obtained from several UGA supply wells at Camp Hero by the DoD during use of the property from 1942 to 1974. A portion of Camp Hero (the former AT&T Building/ current park officer building) is now supplied drinking water by SCWA. A UGA well for non-potable purposes also exists at the Camp Hero Motor Pool Building. Although groundwater is not currently obtained for drinking water use from the UGA at Camp Hero State Park, potential future use of the UGA as a drinking water source cannot be ruled out and is included in the risk assessment evaluation of this Phase IV RI Report Addendum.

Groundwater from the UGA is currently obtained for drinking water use via privately owned wells at residences located along Old Montauk Highway to the southwest of Camp Hero State Park. Additionally, groundwater from the UGA is currently obtained for drinking water use at the Montauk Point State Park and the Montauk Lighthouse and Museum located northeast and adjacent to Camp Hero. The Madison Hills residential area located northwest of Camp Hero historically obtained drinking water from the UGA via community supply wells, but this community is now supplied drinking water by SCWA.

3.3 Hydrology

Surface water features at Camp Hero consist primarily of small unnamed drainage streams and wetland areas. The surface water flow at Camp Hero occurs primarily through drainage channels to three small unnamed streams. Two of the streams collect water from the western portion of Camp Hero and flow northwestward to Oyster Pond; the third stream receives surface water from the eastern portion of Camp Hero and flows north to south and discharges to the Atlantic Ocean. Some of the drainage channels and wetlands contain water most of the year because they are underlain by deposits of low permeability till, which inhibit infiltration. Most of these drainage features become seasonally dry at Camp Hero when precipitation is low and evapotranspiration is high (USGS, 1986).

Precipitation that is not lost through evapotranspiration or surface discharge to drainage channels percolates downward into the underlying till and stratified drift unit. The downward movement of water through the till and stratified drift is impeded by interbedded lenses of clay and silt. The water forms perched water lenses due to the presence of silty and clayey sand lenses interbedded with the less permeable lenses of silt and clay. Some perched water moves laterally along the interbedded layers and discharges as seepage into drainage channels, wetlands, and shoreline areas. The remaining water is available to continue moving downward as recharge (USGS, 1986).

The net amount of precipitation that results in recharge of the UGA in the area of Camp Hero and the areas where recharge occurs is difficult to assess. Despite the numerous lenses of perched water, the underlying till and stratified drift unit functions primarily as confining layers that largely inhibit recharge to the underlying UGA (USGS, 1986). Based on review of site conditions, the areas of Camp Hero where the greatest recharge of the UGA would likely occur is in downgradient wetland areas, streams, and swales, where water accumulates most of the year, and infiltrated water is under a downward vertical hydraulic head pressure.

3.4 Hydrogeology

The following section provides a summary of the hydrogeology at Camp Hero. A detailed discussion of the hydrogeology and related figures can be referenced in the RI Report (AECOM-Tidewater JV 2019a). The regional aquifer system in Suffolk County consists of a sequence of unconsolidated deposits overlying crystalline bedrock. The hydrogeologic units, in descending order, are as follows: Pleistocene-aged glacial deposits that form the undifferentiated till and stratified drift that contain perched water; a confining unit consisting of the Montauk Till Member; the UGA, the underlying Marine Clay; the Cretaceous-aged deposits that compose the Magothy aquifer; the underlying Raritan Clay; and the Lloyd aquifer. **Figure 3-1** (**Appendix A**) shows the regional geologic strata and hydrogeologic units. Note that, in the Montauk area, the subsurface lithology below the UGA are saturated with saltwater (USGS, 1986).

The upper 200 feet of these glacial deposits at Camp Hero can be broadly divided into an upper unit, consisting of undifferentiated till and stratified deposits and a lower unit of stratified deposits. Within the upper unit, the lower 20 to 40 feet consist of interbedded clay, silt, and thin lenses of fine brown clay (Montauk Till Member) that act as a confining unit above the UGA. The middle unit is compact clayey and gravelly till (Glaciofluvial deposits), occasionally grading laterally into fine-grained stratified sand deposits. Overlying the compact till are typically moraine and outwash deposits (Ronkonkoma Drift) that range from 0 to 30 feet thick bgs and are composed mostly of lenses of silt, fine to medium sand, and clayey sand (USGS, 1963).

During the previous phases of the RI at Camp Hero, shallow, perched water lenses were encountered in the shallow subsurface, due to the presence of silty sand and clayey sand lenses interbedded with units and less permeable silt and clay, which impede downward movement of water. The perched water lenses are generally small, discontinuous pockets of water temporarily stored in isolated lenses of permeable material. The thicknesses of the interbedded layers of silty sand, silt, and clay layers encountered in the subsurface during the RI were variable at the environmental assessment areas.

The greatest thickness of silt and clay units underlying perched groundwater in the upper unit was documented at DU01 during the 2019 RI. Subsurface silt and clay were encountered at soil boring DU01-S009 from 8.5 feet bgs to the total depth of the borehole at 17 feet bgs and at soil boring DU01-S015 from 8.5 feet bgs to the total depth of the borehole at 29 feet bgs. The result of geotechnical laboratory analysis of hydraulic conductivity of core samples taken at these borings were equivalent to 0.0001 feet per day to 0.0006 feet per day. The very low hydraulic conductivity results of the clay support the observations that the silt and clay layers represent confining lenses underlying the perched water-bearing zone lenses at DU01 (AECOM-Tidewater JV, 2019a).

As described in previous **Section 2.6**, four new permanent UGA monitoring wells (two sets of "nested" wells) were installed during the Phase IV RI via sonic drilling methods to assess the UGA at two locations between the RI site DU01 and the potential residential receptors (drinking water wells) along Old Montauk Highway to the southwest of Camp Hero. The geology encountered at UGA well locations CH-MW044S, CH-MW044D, CH-MW045S, and CH-MW045D is consistent with the summary of regional geologic strata and hydrogeologic units shown in **Figure 3-1**. Borehole logging of the continuous soil cores and grain size analysis at the well locations documented 73 to 93 feet of undifferentiated till and stratified drift overlying 12 to 15 feet of clay (confining unit) above the UGA. The UGA consisted primarily of quartz sand, which was encountered up to 50 feet in thickness at deep wells CH-MW044D and CH-MW045D. A cross-section depicting the lithology at the well locations is provided as **Figure 3-2.** A well-defined and abrupt change in lithology was encountered between the overlying undifferentiated till and stratified drift into the clay unit and also from the clay unit into the underlying UGA.

The upper unit of undifferentiated till and stratified drift consisted primarily of silty sand with interspersed lenses of clayey sand, silt with sand, and clayey sandy in the lower portion of the upper unit. The clay unit was primarily dark grayish brown, lean, with medium plasticity. The UGA consisted primarily of alternating layers of well- to poorly graded quartz sand. Moist to very moist soils were encountered in the upper unit of undifferentiated till and stratified drift and in the clay unit. The quartz sand of the UGA is saturated with groundwater. Groundwater gauging at each newly installed UGA wells measured the potentiometric surface of the groundwater at approximately 40 feet above the interface of the clay unit and UGA.

Published horizontal hydraulic conductivity values of the UGA in the Montauk area range from 190 to 350 feet per day with an average value of 220 feet per day (USGS, 1986). The horizontal conductivity of the overlying clay unit and interbedded layers of silty sand, clayey sand, silt with sand, and silty clay varies considerably in the undifferentiated upper unit.

During previous phases of the RI, testing of the representative hydraulic conductivity of the perched water bearing soils at Camp Hero, was completed at five monitoring wells (CH-MW016, CH-MW018, CH-MW019, CH-MW020, and CH-MW021) at DU01. Wells where testing was completed were screened in undifferentiated deposits of till and stratified drift, with screens starting between 5 feet bgs and 15.5 feet bgs. The hydraulic conductivity results showed that the hydraulic conductivity was variable and ranged at well locations on a sitewide basis from 0.006 feet per day to 1.9 feet per day. This variability of the hydraulic conductivity values across the site is due to the presence and various thicknesses of interbedded layers of silty sand, silt, and clay layers in the undifferentiated till that contains the perched groundwater (AECOM-Tidewater JV, 2019a).

As described in **Section 2.10**, the depth to groundwater was measured in UGA wells onsite at Camp Hero and offsite in the vicinity of Camp Hero in October 2020, December 2020, and February 2021. A consistent flow direction of the UGA at Camp Hero was observed during the three gauging events. As shown on **Figure 2-2** and **Figure 2-3**, the UGA flow direction at Camp Hero is from topographically high areas radially outward toward lower areas presumably under artesian pressure. A UGA groundwater divide trends from northeast to southwest along these elevated areas of Camp Hero, as shown on **Figure 2-2** and **Figure 2-3**.

The flow direction of the UGA from former DoD operational areas and Camp Hero RI environmental assessment areas in the middle to northern portion of Camp Hero is generally to the west and east on either side of the divide (**Figure 2-2** and **Figure 2-3**). The former Madison Hills Well Field potential receptors are located north of Camp Hero RI environmental assessment areas and are not downgradient based on the estimated UGA flow direction. The Montauk Point State Park supply well and the Montauk Point Lighthouse supply well are located in elevated areas northeast of environmental assessment areas and are not downgradient of environmental assessment areas based on the estimated UGA flow direction. In the southern portion of Camp Hero, including the environmental assessment area DU01, the UGA flow is west, southwest, south, and southeast from the UGA groundwater divide. The southwest flow direction radiant from Camp Hero DU01 is toward potential receptors (drinking water wells) south of Old Montauk

Highway. However, the UGA flow direction appears to trend more westerly near the southwest perimeter of Camp Hero and the area of potential receptors south of Old Montauk Highway.

A relatively low gradient of 1.0 to 1.5 feet of the UGA potentiometric surface was measured across Camp Hero during the Phase IV RI. Based on the gradient, the elevation of the potentiometric surface at 40 feet above the clay confining unit at the new UGA wells, and existing well logs showing the clay confining unit present at depth at other supply and observation wells at Camp Hero, it appears the UGA is under confining conditions across Camp Hero.

3.5 Summary of Available Upper Glacial Aquifer Water Quality Data

Available analytical data from historical and current UGA supply wells and monitoring wells in the vicinity of Camp Hero were reviewed from multiple sources. These sources included SCWA Water Quality Reports (SCWA, 2016a-b; SCWA, 2017a-b; SCWA, 2018a-b; SCWA, 2019a-b; SCWA, 2020a-b), USGS National Water Information System (USGS, 2019), Suffolk County Department of Health Services Bureau of Drinking Water supply well testing results, and various USGS peer reviewed reports (USGS, 1986; Perlmutter and DeLuca, 1963; Cartwright, 2004). The Long Island Commission for Aquifer Protection (LICAP) water quality mapping and database known as WaterTraq (LICAP, 2019) and USEPA's Storage and Retrieval (STORET) Water Quality Exchange (USEPA, 2019) were also reviewed for water quality data in the vicinity of Camp Hero. The location of UGA groundwater supply and monitoring wells identified in the Camp Hero area presented on **Figure 2-1**. A summary of information obtained for these UGA supply and monitoring wells in the Camp Hero area is provided in **Table 3-1**.

The water quality analytical data obtained for this review ranges from 1953 to 2016 and contained analyses for water quality parameters, inorganics, metals, VOCs, SVOCs, pesticides, and herbicides. The analytical data was reviewed and compared to USEPA primary and secondary maximum contaminant levels (MCLs) and New York State MCLs (specifically for lead). **Table 3-1** summarizes instances where MCLs were exceeded. Most of the groundwater data results shown on **Table 3-1** are raw data results, meaning the groundwater was not treated prior to analysis. **Table 3-1** provides a summary of the data grouped by location.

Review of the water quality analytical data shows that beyond the Camp Hero footprint, such as at the former Madison Hills residential neighborhood supply wells, there were historical exceedances of the NYSDOH MCL for lead and United States Environmental Protection Agency (USEPA) MCL for arsenic in raw water samples; however, it is extremely unlikely that these exceedances are associated with former Camp Hero FUDS activities. The exceedance of the NYSDOH MCL for lead was a single occurrence (in 1996) at one well, with later data showing no such exceedance for this metal. The occurrence of arsenic in the UGA of Long Island is believed to be naturally occurring and associated with erosion of rocks containing arsenic in the glacial till (SCWA, 2020a). As stated in the 2004 USGS arsenic study, "Aquifer zones with arsenic-bearing iron-oxides or sulfide minerals can be a source of arsenic under oxidizing and reducing conditions, respectively." (USGS, 2004). Based on verbal interviews with an SCDHS representative, the SCWA extended public water supply to the Madison Hills residential neighborhood in 2010 to replace UGA supply wells due to arsenic concentrations in exceedance of the MCL.

Iron and manganese were also identified above the NYSDOH MCLs in many raw UGA water quality samples collected in the Camp Hero area and regionally in Suffolk County (SCWA, 2020). Manganese is a common element in rocks, soil, water, plants, and animals. Manganese occurs naturally in water after dissolving from rocks and soil, and it may also occur if manganese gets into surface or groundwater after improper waste disposal in landfills or steel production. Iron can be elevated in drinking water in areas where there are naturally occurring high concentrations of iron in soil and rocks, and where iron salts are used in the water treatment process. Iron (and lead) can also get into drinking water from corrosion of cast iron, steel, and galvanized iron pipes used for water distribution.

SCWA publishes a supplemental annual water quality report documenting the maximum and average concentrations of these metals measured in raw groundwater samples obtained from UGA supply wells in each SCWA water supply district, including the SCWA Camp Hero and Montauk Point water supply district (SCWA, 2016b; SCWA, 2017b; SCWA, 2018b; SCWA, 2019b; SCWA, 2020b). The SCWA Camp Hero and Montauk Point water supply district draws water from eight well fields located west of Camp Hero. The nearest well field is located approximately 3 miles west of Camp Hero. An annual SCWA water quality report provides the results of treated UGA sample analysis for the various water districts (SCWA, 2016a; SCWA, 2017a; SCWA, 2018a; SCWA, 2019a; SCWA, 2020a). The reports document the presence of iron, manganese, and other metals in the UGA within the region. Naturally occurring metals, which may exceed MCLs in groundwater samples obtained from the UGA during the Phase IV RI, were discussed in the risk characterization section as additional lines of evidence in the uncertainty assessment of the HHSE.

3.6 Potential Human Health Exposure Pathways and Receptors

Potential human receptors include an onsite and offsite future resident. A screening level evaluation was conducted using risk-based screening levels that incorporate standard exposure parameters and toxicity factors. This evaluation was conducted to determine the potential for adverse health effects due to the most conservative risk which is based on a resident's exposure to tap water.

Groundwater-related exposure pathways addressed in the risk-based screening levels include ingestion of drinking water, dermal contact, and inhalation of vapors (if volatile groundwater chemicals of potential concern [COPCs] were identified). The HHSE also evaluated vapor intrusion (VI) as a potential groundwater pathway of concern using USEPA's vapor intrusion screening levels (VISLs).

3.7 Summary of Conceptual Site Model

Precipitation that is not lost through evapotranspiration or surface water runoff to drainage channels percolates downward into the underlying fill material, till, and stratified drift unit. The water forms perched water lenses due to the presence of more permeable silty and clayey sand lenses interbedded with the less permeable lenses of silt and clay. Some perched water moves laterally and discharges as seepage into downgradient drainage channels, wetlands, and shoreline areas. The remaining water continues downward as recharge to the UGA.

The areas of Camp Hero and surrounding vicinity where recharge of the UGA primarily occurs are difficult to define. In elevated areas of Camp Hero where there is more till with greater clay content and steeper slopes, the amount of surface water runoff is greater and downward movement of water as recharge to the UGA is inhibited. Based on site observations and review of literature, the areas of Camp Hero and vicinity with the greatest potential for recharge are located in areas with less slope and less till thickness, such as wetland areas, stream beds, and drainage swales. These areas that accumulate water most of the year likely provide the greatest potential for infiltration and recharge to the UGA. The water that does infiltrate in these areas likely remains under a downward vertical hydraulic pressure that facilitates recharge to the UGA. The surface water, sediment, subsurface soil, and perched water in these areas, if present downgradient of environmental assessment sites, were comprehensively sampled during the first three phases of the Camp Hero RI with no evidence of contaminant migration from the sites.

Based on the Phase IV RI groundwater gauging of supply and observation wells on and in the vicinity of Camp Hero, the UGA flow direction at Camp Hero is from topographically high areas radially outward toward lower areas. A UGA groundwater divide trends from northeast to southwest along the elevated areas of Camp Hero. Based on the gauging results, the former Madison Hill supply wells are located north of Camp Hero and are not directly downgradient of Camp Hero. The Montauk Point State Park supply well and the Montauk Point Lighthouse supply well are located to the northeast of Camp Hero and are not directly downgradient. In the southern portion of Camp Hero, including investigation area DU01, the UGA flow is west, southwest, south, and southeast from DU01. The southwesterly flow direction from DU01 is generally toward potential receptors south of Old Montauk Highway. However, based on the gauging results, the flow direction of the UGA trends more westerly near the southwest perimeter of Camp Hero and the potential receptors.

A relatively low gradient of 1.0 to 1.5 feet of the UGA potentiometric surface was measured at supply wells and observation wells across Camp Hero during the Phase IV RI. The elevation of the potentiometric surface measured at 40 feet above the clay confining unit at the new UGA wells did not vary significantly across Camp Hero. Based on the potentiometric surface measurements and review of site-wide well logs showing the clay confining unit present above the UGA across Camp Hero, it appears the UGA is under confining conditions across Camp Hero and vicinity.

To further assess whether contaminants at historical FUDS activities at Camp Hero could have been transported by groundwater recharge from perched water bearing zones to the UGA, two rounds of groundwater data were collected from seven representative UGA wells at Camp Hero and seven UGA wells in the vicinity of Camp Hero. The groundwater samples were analyzed for a comprehensive list of constituents to determine if there were indications of contaminants at Camp Hero in the UGA that could be reasonably attributed to FUDS activities and have been transported in groundwater to the UGA. As discussed in detail in **Section 4.0** (Nature and Extent of Contamination), a comparison of analytical data in groundwater from onsite and offsite wells indicates a consistent pattern of elevated levels of naturally occurring metals such as iron, manganese, and sodium amongst both onsite and offsite wells. Several metals were found to have widespread distribution, in both the onsite wells and offsite wells, supporting the conclusion that the metals are naturally occurring and not the result of a CERCLA release. The metals and other comprehensive analytical results of the UGA sample analysis are discussed in **Section 4.0** and support the CSM findings that residual contaminants from Camp Hero have not been transported by groundwater from shallow, perched water-bearing zones to the UGA.

4 NATURE AND EXTENT OF CONTAMINATION

Section 4.0 summarizes the groundwater analytical data that were obtained during the Phase IV RI and used for evaluation of potential human health risks. The tables referenced in this section are provided in **Appendix B1.** A comprehensive table of the Phase IV groundwater analytical results is provided in **Appendix B2**, which includes **Tables 4-1, 4-2, and 4-3** that present summary statistics and screen results for all constituents analyzed for the onsite and offsite groundwater study areas. **Table 4-4** presents a comparison of shallow groundwater data from DU01 collected during previous phases of the RI to the UGA (deep) groundwater from onsite wells collected as part of the Phase IV RI. This section provides a discussion of the results and extent of contamination but does not address whether any detected constituents have actionable risk to human receptors; those topics are addressed in **Section 6.0** (HHSE).

The nature and extent of contamination are based on the data collected during the Phase IV investigation only, which focused on the deep groundwater UGA. The 2019 RI Report addresses the full range of media beneath Camp Hero FUDS except for the UGA (AECOM-Tidewater JV, 2019a). While the Phase IV investigation was not intended to represent a comprehensive evaluation of the UGA, sufficient analytical data were obtained to determine the nature and extent of metals, VOCs, SVOCs, and PCBs within the UGA for both onsite and offsite locations. A few general notations are provided below, prior to the discussion of onsite and offsite data.

As noted in previous sections, four newly installed monitoring wells were installed onsite and downgradient from DU01 as part of the Phase IV field effort. These four wells are henceforth referred to as "sentinel wells" to simplify the nature and extent discussion. Also, two rounds of data were obtained to provide a more robust dataset.

A limited statistical evaluation was conducted on the data, as provided in **Appendix E**, and concluded that: (1) the data between the two sampling rounds were statistically similar such that the data could be evaluated together, (2) the data for the naturally occurring metal iron were statistically consistent between onsite and offsite wells for both rounds, and (3) naturally occurring metal total and dissolved manganese from both the December 2020 and February 2021 events were found to be significantly higher in the onsite wells compared to the offsite wells. Iron and manganese were selected for additional statistical evaluation as presented in **Appendix E** due to their elevated number of detections and concentrations compared to other detected constituents.

Data were initially screened against the most conservative SLs that were presented as project action levels in the Camp Hero Phase IV RI Work Plan including: (1) USEPA MCLs, (2) USEPA residential tapwater RSLs, (3) USEPA residential VISLs, (4) NYSDOH MCLs, and (5) NYS Technical and Operational Guidance Series (TOGS). Constituents that exceeded its respective SL was evaluated further in the human health risk assessment.

Due to limitations of chemical analysis procedures, small concentrations cannot be precisely measured. The laboratory instrument can produce a value that is below the LOQ and is referred to as an "estimated" value with a "J" qualifier next to the numerical number. Many of the reported detections from the Phase IV RI sampling events were estimated "J" values.

In both sampling events, hexavalent chromium was analyzed by Method 218.6 with a LOD of 9.0 ug/L. This LOD was well above the hexavalent chromium screening criteria of 0.035 ug/L. Total chromium was analyzed by Method 6020 with a LOD of 0.8 ug/L, which is an order of magnitude lower than the LOD of hexavalent chromium. Upon further evaluation of the data after the February 2021 event, it was determined that the detection level of the analytical method was not low enough, so the February 2021 samples were also sent to a different lab for analysis of hexavalent chromium. The samples were not re-analyzed for total chromium. The hexavalent chromium results were analyzed by a more sensitive method and calculated trivalent chromium values from February 2021 event were primarily used for evaluation due to the lower detection levels of the hexavalent chromium data. Hexavalent and trivalent chromium are the only valent states of chromium that have published screening values. The trivalent chromium was calculated by subtracting the hexavalent chromium result from the total chromium result. Note that this calculation method would conservatively estimate trivalent chromium since there are other valent states of chromium besides hexavalent and trivalent.

PAHs and PCBs were analyzed and evaluated as individual PAHs and arochlors, respectively. In addition, for use in the risk assessments, several totals were also calculated, including total PCBs, total PAHs, and total benzo(a)pyrene (BaP) equivalent PAHs (referred to as total BaP PAHs). There were limited situations where the cumulative (aka "total") number for a group of constituents exceeded the SL, but the individual constituents did not. The approach for calculating these totals is provided in **Appendix E**.

As indicated in **Tables 4-1 and 4-2**, there are four metals (barium, iron, manganese, and sodium) that exceeded screening levels, but are not considered COPCs. Per DoD FUDS policy, constituents that are not classified as hazardous by CERCLA cannot be considered COPCs. Sodium is considered an essential nutrient and as such, was not considered a COPC as explained in the risk assessment section.

For the purposes of this section, constituents that were detected at least once are discussed below.

4.1 Onsite UGA Groundwater Results

The onsite deep UGA groundwater beneath Camp Hero was analyzed from seven wells for a comprehensive list of constituents to determine if there were indications of historical releases that could be reasonably attributed to FUDS activities and measured at levels requiring action. Many VOCs, SVOCs, and PAHs were detected at low levels close to the DL. Multiple metals were detected including arsenic, iron, manganese, and sodium, which are documented to be naturally occurring throughout the Montauk Point and Camp Hero area (AECOM-Tidewater JV, 2019a).

Table 4-1 provides the frequency of detections for each constituent in the onsite wells while **4-3** provides the frequency of detections above the most conservative screening value for detected constituents in groundwater. **Appendix B-2** provides a comprehensive table for all Phase IV data. Additional details for detections in onsite wells for each group of constituents are presented below.

VOCs

Eight VOCs were detected in at least one onsite well but below the most conservative screening level except for two constituents, 2-butanone and chloroform. Constituents detected include common petroleum-based compounds such as benzene, methyl tert-butyl ether (MTBE), o-xylene, and toluene. Other various VOCs were also detected: 2-butanone (also commonly known as methyl ethyl ketone or MEK), acetone, carbon disulfide, and chloroform. The following bulleted list provides a summary of the VOC data:

Constituents Above Screening Levels

- MEK was detected in 5 of the 7 onsite wells during the December 2020 sampling event, but at estimated values provided by the lab that were below the LOQ, except for the former AT&T Building well where MEK in groundwater was detected at 98 ug/L in December 2020, which is above the screening level of 50 ug/L. Of note is that MEK was ND (< LOD) in groundwater from all wells during the February 2021 sampling event including the former AT&T Building well.
- Chloroform was detected in all the sentinel wells during the December 2020 sampling event, with groundwater from only one of the four sentinel wells exceeding the screening level (2.1 ug/L at CH-MW44D). All the groundwater data from the February 2021 sampling event were NDs (< LOD).

Constituents Detected Below Screening Levels

- Except for MTBE, the detections of the petroleum constituents were all estimated values provided by the lab. All results were below screening levels.
  - Benzene was detected as estimated values in sentinel wells CH-MW44S, CH-MW44D, and CH-MW45D in the December 2020 sampling event and only CH-MW44D in the February 2021 sampling event.
  - O-xylene was detected at estimated values in sentinel wells CH-MW44S and CH-MW44D during the December 2020 sampling event only.
  - Toluene was detected at an estimated value in the Former USAF Supply well during the December 2020 sampling event only.

- MTBE was detected in groundwater from one well (onsite USGS test well behind the former barracks building) during both sampling events with both detections at 1.2 ug/L versus the screening level of 10 ug/L.

- Acetone was detected in groundwater from 5 of 7 onsite wells during the December 2020 sampling event with the results estimated values in all but one location: Former AT&T Building well, 28 ug/L versus the screening level of 50 ug/L. In the February 2021 sampling event, 3 of 7 onsite wells had detections of acetone but all results were estimated values.

- Carbon disulfide was detected in only one onsite well during the December 2020 sampling event at a level that was an estimated value. During the February 2021 sampling event, carbon disulfide was detected in four wells, with the highest level of 23 ug/L versus the SL of 60 ug/L detected at CH-MW44D. The remaining three results were estimated values.

SVOCs

Three SVOCs (1,4-dioxane, 2-methylphenol, and 4-methylphenol) were detected in at least one onsite well as described below.

Constituents Above Screening Levels

- 1,4-dioxane was detected in three onsite sentinel wells. This emerging contaminant exceeded the NYSDOH MCL in one well at CH-MW044S from the December 2020 sampling event, with a value of 1.1 micrograms per liter (µg/L), which is just above the NYSDOH MCL of 1.0 µg/L; a federal MCL does not currently exist for this constituent. The detection of 1,4-dioxane groundwater from the same well during the subsequent sampling event in February 2021 was 0.18 µg/L (estimated value since it was reported below the LOQ). Note that analytical results are provided for 1,4-dioxane both in the VOC and SVOC categories, with the latter having a significantly lower LOD. The other two detections were estimated values below the LOQ.

Constituents Detected Below Screening Levels

- 2-methylphenol was detected in one well during the February 2021 sampling event at the former USAF Supply Well with the result an estimated value.

- 4-methylphenol was detected in the same former USAF Supply Well during both sampling events. The result from the December 2020 event was an estimated value while the result from the February 2021 event of 5.2 ug/L was significantly below the screening level of 93 ug/L.

PAHs

Fifteen PAHs were detected at least once in the offsite wells. All were detected at estimated concentrations below the LOQ. However, the BaP TEQ and Total PAH calculated values exceeded the SLs. As discussed further in Section 6 (Risk Assessment), the standard process of calculating the total risk from PAHs conservatively includes the LOD value for each PAH in the calculation when the results are non-detect. Additional information is provided below:

Constituents Detected Above Screening Levels

- Total BaP TEQ (calculated) exceeded screening levels at two wells, CH-MW045D (December 2020) and the Former USAF Supply Well (February 2021). All other results were non-detect.
- Total PAHs (calculated) exceeded the screening level at three sentinel wells during the December 2020 sampling event. Total PAHs exceeded the SL at two sentinel and one additional well (Former USAF Supply Well) during the February 2021 sampling event. The highest level of total PAHs was 0.7 ug/L at Former USAF Supply well versus the SL of 0.2 ug/L.

Constituents Detected Below Screening Levels

Thirteen PAHs were detected in 5 of 7 onsite wells from both sampling events. A listing of the wells and constituents with detections are provided below:

- CH-MW044S: fluoranthene and phenanthrene (December 2020)
- CH-MW044D: fluoranthene (February 2021)
- CH-MW045S: fluoranthene and phenanthrene (December 2020)
- CH-MW045D: benzo(b)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene, naphthalene, and pyrene (December 2020 only); fluoranthene and phenanthrene (both December 2020 and February 2021)
- Former USAF Supply Well: acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, phenanthrene, and pyrene (February 2021 only)

PCBs

All of the individual or total PCBs (calculated) were ND. However, it should be noted that the LOD was greater than the SL, so although all results were ND, a data sensitivity analysis was required as presented in Section 6 (Risk Assessment).

Metals

Only dissolved metals were compared to screening values to be consistent with federal and state guidelines. A total of 19 metals were detected in at least one onsite well with ten metals exceeding SLs one or more times. A comprehensive analysis of the metals detected in the onsite wells is presented below:

Constituents Detected Above Screening Levels

- Arsenic was detected above the SL in groundwater in 5 of 7 on-site wells. It should be noted that the LOD was higher than the SL for this metal. There were not any exceedances of the SL during the December 2020 sampling event whereas all four sentinel wells plus the Former AT&T well exceeded the SL during the February 2021 sampling event. The highest value was 1.9 ug/L (MW-CHMW045S) versus the SL of 0.052 ug/L, which was lower than the highest value found in the offsite wells.
- Chromium (VI) was detected above the SL in groundwater at one onsite well (Former USAF Supply Well) during the February 2021 sampling event (0.054 ug/L versus SL of 0.035 ug/L), which was significantly lower than the highest level detected in the offsite wells. As noted above, hexavalent chromium was not calculated from the December 2020 sampling event.
- Cobalt was detected above the SL in groundwater at one onsite well, CH-MW045D during the December 2020 sampling event only (2.2 ug/L versus SL of 0.6 ug/L), which was higher than the highest result from the offsite wells.
- Manganese was detected above the SL in groundwater at all seven onsite wells for both sampling events. The range of detections above the SL were 110 ug/L to the highest value detected was at well MW-CH045D with a value of 1,300 ug/L versus the SL of 43 ug/L.
- Mercury was detected above the SL in groundwater at one onsite well, CH-MW044D during the December 2020 sampling event with an estimated value of 0.09 ug/L versus the SL of 0.063 ug/L.
- Silver was detected above the SL in groundwater at one onsite well, CH-MW045D during the December 2020 sampling event with an estimated value of 31 ug/L versus the SL of 9.4 ug/L.

Constituents Detected Below Screening Levels

- Aluminum, antimony, calcium, chromium (III), copper, lead, nickel, potassium, and zinc were all detected at various levels below the SL.

4.2 Offsite UGA Groundwater Results

The offsite deep UGA groundwater in the vicinity of Camp Hero was analyzed at seven wells for a comprehensive list of constituents to provide a representation of local/background groundwater conditions. Multiple VOCs, SVOCs, PAHs, and PCBs were detected at low levels close to the DL. Multiple metals were detected, including arsenic, iron, and manganese, which are documented to be naturally occurring throughout the Montauk Point and Camp Hero area (AECOM-Tidewater JV, 2019a). **Table 4-2** provides the frequency of detections for each constituent in the offsite wells while **Table 4-3** provides the frequency of detections above the most conservative screening value for detected constituents in groundwater. **Appendix B-2** provides a comprehensive table for all Phase IV data. As described above, only dissolved metals were compared to screening values to be consistent with federal and state guidelines. Additional details for the offsite well data by constituent group is provided below:

<u>VOCs</u>

Five VOCs were detected only once in one offsite well, all at estimated values that were significantly below the SLs except for chloroform. None of these five SVOCs were detected in any other offsite wells and the detections were limited to one sampling event. Additional details are provided below:

<u>Constituents Above Screening Levels</u>

- Chloroform was detected at an estimated value that was above the SL in groundwater from the Lighthouse Gift Shop well during the February 2021 sampling event. The detected value was 0.5J ug/L versus the SL of 0.22 ug/L.

<u>Constituents Detected Below Screening Levels</u>

- MEK and toluene (Lighthouse Gift Shop well, February 2021 sampling event)
- Acetone and carbon disulfide (Madison Hill Well Field #1, December 2020 sampling event)

<u>SVOCs</u>

One SVOC (1,4-dixoane) was detected at estimated values in groundwater collected from two wells: the Lighthouse Gift Shop well during the December 2021 sampling event (0.1J ug/L versus the SL of 0.46 ug/L) and the Lighthouse Museum Shower well during the February 2021 sampling event (0.2J ug/L).

<u>PAHs</u>

Twelve PAHs were detected at least once in 4 of 7 onsite wells from both sampling events. All but naphthalene were detected at estimated concentrations below the LOQ. Of note is the USGS Route 27 offsite well, which is the shallowest deep aquifer offsite well, had the greatest number (10) of individual constituent PAH detections. However, the BaP TEQ and Total PAH calculated values exceeded the SLs. Additional information is provided below:

Constituents Detected Above Screening Levels

- Total BaP TEQ (calculated) exceeded screening levels at one well during for one sampling event, USGS Route 27 MW (December 2020) with a value of 0.067 ug/L versus the SL of 0.025 ug/L. All other results were non-detect.
- Total PAHs (calculated) exceeded the SL at four offsite wells: Lighthouse Museum Shower well (February 2021 sampling event), USGS Pocahontas Road MW (February 2021 sampling event), USGS Route 27 MW (December 2020 sampling event), and Montauk Point State Park MW (February 2021 sampling event). The highest level of Total PAHs was 0.7 ug/L at the Lighthouse Museum Shower well versus the SL of 0.2 ug/L.

Constituents Detected Below Screening Levels

- Lighthouse Museum Shower Well: naphthalene (February 2021)
- USGS Pocahontas Road Well: fluoranthene (February 2021)
- USGS Route 27 Well: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene (December 2020)
- Montauk Point State Park Well: 2-methylnaphthalene and naphthalene (February 2021)

PCBs

One PCB, Arochlor 1260 was detected in groundwater from two wells: Madison Hills Well #1 (February 2021) and Lighthouse Gift Shop Well (December 2020). Both detections were above the SL with the highest level of Arochlor 1260 found in the Madison Hill Well Field #1 (0.67 ug/L versus the SL of 0.0078 ug/L). As noted in the onsite wells discussion, the LOD was greater than the SL, so although most of the results were ND, a data sensitivity analysis was required as presented in Section 6 (Risk Assessment). The total PCBs as calculated exceeded the SL in both the Madison Hills Well #1 and Lighthouse Gift Shop, with the highest value of 3.15 ug/L at the Lighthouse Gift Shop well versus the SL of 0.044 ug/L.

Metals

Similar to the onsite wells, iron, manganese, and sodium were commonly detected above the screening values at most offsite wells but less frequently than the onsite wells for iron and manganese. A total of 19 total metals were detected in the offsite wells with nine exceeding SLs including antimony and copper that were not detected in any onsite wells. Arsenic and mercury exceeded screening values in multiple offsite wells. Additional details are provided below:

Constituents Detected Above Screening Levels

- Antimony was detected above the SL in groundwater in one well (USGS Route 27 well) during the December 2020 sampling event with an estimated value of 1.1J ug/L versus the SL of 0.78 ug/L.
- Arsenic was detected above the SL in groundwater in two offsite wells during both sampling events: USGS Route 27 well and Madison Hill Well Field #1. The highest value was 2.8 ug/L (Madison Hill Well Field #1) versus the SL of 0.052 ug/L.
- Chromium (VI) was detected above the SL in groundwater in 5 of 7 offsite wells during the February 2021 sampling event. The highest value was 1.9 ug/L at the Lighthouse Gift Shop well during the February 2021 sampling event (versus SL of 0.035 ug/L). As noted above, hexavalent chromium was not calculated from the December 2020 sampling event.
- Cobalt was detected above the SL in groundwater at one offsite well, USGS Route 27 well during both sampling events, with the highest value at 0.9 ug/L versus SL of 0.6 ug/L.
- Copper was detected above the SL in groundwater at two offsite wells: Lighthouse Museum Shower well in February 2021 and Lighthouse Gift Shop well in December 2020, which had the highest level at 380 ug/L versus the SL of 80 ug/L.
- Mercury was detected above the SL in groundwater at 2 of 7 offsite wells during the December 2020 sampling event only. The two wells were: USGS Route 27 well and Montauk Point State Park well, which had the highest detected value of 0.1 ug/L versus the SL of 0.063 ug/L.

Constituents Detected Below Screening Levels

- Aluminum, cadmium, calcium, lead, magnesium, nickel, potassium, selenium, and zinc were all detected at various levels below the SL.

4.3 Comparison of Onsite to Offsite Groundwater Results

A comparison of analytical data in groundwater from onsite and offsite wells indicates a consistent pattern of elevated levels of naturally occurring metals iron, manganese, and sodium amongst both onsite and offsite wells. There is also some limited consistency with detections of chloroform, total PAHs (as calculated), arsenic, and mercury. The VOC/SVOC 1,4-dioxane was detected in three onsite and three offsite wells. Additional details are provided below:

VOCs

Due to the limited number of detections of VOCs, a comparison cannot be made with regards to VOCs in onsite and offsite wells that provides insight to their occurrences.

SVOCs

As described above, 1,4-dioxane was detected in three onsite and two offsite wells, but the wells were not near each other.

PAHs

- Total BaP TEQ and total PAHs (both calculated amounts) exceeded SLs for both onsite and offsite wells. Many PAHs were commonly detected in both onsite and offsite wells, but with spatially diverse locations, possibly indicating anthropogenic sources.

PCBs

- PCBs were detected in two offsite wells, but none were detected onsite, thus indicating no correlation.

Metals

As described above, four naturally occurring metals (barium, iron, manganese, and sodium) were commonly detected in groundwater in multiple deep aquifer wells. Arsenic and a conservatively calculated chromium (VI) were detected in multiple onsite and offsite wells. Other metal constituents were sporadically detected but not correlated between the two well sets.

4.4 Comparison to DU01 Shallow Groundwater Results

A comparison was evaluated between the analytical results of the shallow perched groundwater lenses obtained in the previous phases of the RI to that of Phase IV to determine if there were any correlations. The analytical data from DU01 were used for this comparison, as this area had the most significant detections and was closest to the human receptors along Old Montauk Highway. **Table 4-4** provides a comparison of the results between the shallow DU01 and onsite deep UGA groundwater results. Based on this evaluation, the only noteworthy consistency between the two results are the total PAHs (as calculated) and the naturally occurring metals that have been discussed above: iron and manganese. Note that 1,4-dioxane was not analyzed in previous RI phases at the low DL as part of the SVOC analysis; however, 1,4-dioxane was detected at 0.40 µg/L in the at well CH-MW019 on the southwest side of DU01 as part of an independent sampling and analysis effort conducted on behalf of NYSDEC in 2018 (Environmental Assessment & Remediation, 2018). As noted above, the highest detection of 1,4-dioxane in the deep groundwater during the Phase IV RI sampling events was 1.1 µg/L in monitoring well CH-MW044S that appears to be downgradient of DU01.

5 CHEMICAL FATE AND TRANSPORT

This section presents a discussion of properties that contribute to the fate and transport of the constituents that were detected in deep groundwater within the Phase IV RI study area of Camp Hero FUDS (onsite wells) and the immediate surrounding area (offsite wells), the distribution of constituents, and source identification (i.e., where each constituent might have originated). As discussed in Section 4 and below, a wide range of constituents were detected in both onsite and offsite wells with a vast majority of detections close to and/or slightly below the detection limits that were significantly below the respective SL. In general, the origins of the detected constituents in the deep groundwater aquifer are inconclusive given the 40+ years since the Camp Hero FUDS ceased all operations, the relatively low concentrations, and spatial distribution, including offsite wells that are not considered downgradient from historical Camp Hero FUDS activities. The sources of the detected constituents could be disposition of historical releases of common household chemicals via residential septic drain fields, which are widespread throughout Montauk Point since this area is mostly not served by a sanitary sewer system. Additional details by groups of constituents are provided below.

5.1 VOCs

VOCs are a group of chemicals found throughout industrial manufacturing including petroleum-based end products and in common household products. Eight VOCs were detected in groundwater from onsite and offsite wells with two VOC constituents in exceedance of the most conservative screening levels: MEK and chloroform.

Uses, Chemical Properties, and Fate and Transport

MEK is used as a solvent in processes involving gums and resins, in the synthetic rubber industry, in the production of paraffin wax, and in household products such as lacquer, varnishes, paint remover, and glues (USEPA, 1990). MEK is often transported via air emissions due to its relatively low volatilization temperature, and it is partially soluble in water but can be transported via groundwater. It is known to be readily biodegradable.

Chloroform is mainly used in the production of hydrofluorocarbon 22 (HCFC-22), which is a gas used for refrigeration and a propellant. Historical uses of chloroform include extraction solvent for fats, dry cleaning spot remover, in fire extinguishers, and as a fumigant and anesthetic. This constituent is also a byproduct of the chlorination of drinking water and wastewater. Chloroform is very volatile and has a low soil absorption, so even though is not very soluble in water, it will tend to end up in groundwater and persist for a long period of time (Agency for Toxic Substances and Disease Registry [ATSDR], 1997).

The petroleum-based constituents that were detected (benzene, MTBE, toluene, and o-xylene) are typical components of gasoline and other lower molecular weight petroleum compounds. In greater concentrations they form light non-aqueous phase liquid that sits on the top of the water. In lower concentrations, these constituents are soluble in water and will biodegrade over a relatively short time except for MTBE, which is recalcitrant to biodegradation.

Acetone is commonly used as a component of paints, coatings, cleaning products, personal care products, and industrial products such as lubricants and plastics. It is also found in the environment as plants, trees, insects, and microbes emit acetone. It is highly soluble in water and biodegradable, but typically only under anaerobic conditions (ATSDR, 2021).

Carbon disulfide can be found in small amounts in nature from releases of gases released to the earth's surface. It is also used in industry to make rayon, cellophane, and carbon tetrachloride. In air and on the water surface, this constituent is easily evaporated; however, if it is dissolved in groundwater, it is highly soluble and stable and thus, not likely to biodegrade very quickly (ATSDR, 1996).

<u>Distribution</u>

As presented in **Section 4.0**, chloroform is distributed more widely than MEK, with detections exceeding SLs in all four new deep groundwater wells during the December 2020 sampling event at the south-southeast area of Camp Hero and at the Lighthouse Gift Shop offsite well. However, as discussed above, the results are suspect since chloroform was ND in the groundwater from the same five wells during the February 2021 sampling event. Acetone was the most widely detected VOC that did not exceed its SL with detections in multiple onsite wells during both sampling events in addition to a detection in one offsite well. Carbon disulfide was also detected in multiple onsite wells and one offsite well. All other detected VOCs had very limited distribution.

<u>Source Identification</u>

A likely source of chloroform could be a laboratory artifact during the analysis process or result of water chlorination historically conducted at Camp Hero FUDS and other private water wells throughout Montauk Point. The source for the petroleum-based VOCs as well as MEK and acetone is not likely from Camp Hero FUDS activities due to 40+ years that has elapsed and the relatively high rate of biodegradation for all but the MTBE constituents. Acetone could also be a laboratory artifact during the analysis process. A link to the documented release at the Camp Hero DU01 site is also not likely since that release was No. 2 fuel oil, which does not include or degrade to the detected petroleum-based VOC compounds. A more likely explanation would be a historical release of gasoline either by visitors to Camp Hero State Park or State Park workers. The remaining detected VOC (carbon disulfide) cannot be definitively attributed to either Camp Hero FUDS, more recent State Park, or nearby residential uses.

5.2 SVOCs

<u>Uses, Chemical Properties, and Fate and Transport</u>

Historically, 1,4-dioxane was primarily used as a stabilizer for chlorinated solvents, mainly 1,1,1-trichloroethane, that were used in paint strippers, greases, and waxes. Because of its use, 1,4-dioxane is often found in conjunction with federal facilities but also from use and disposal of many common household items. This chemical was phased out 1995. It is highly soluble in water and can travel great distances in groundwater.

The chemical properties of 2-methylphenol and 4-methyphenol are very similar. They are both creosols and are formed by the combustion of wood or coal. They tend to not be very soluble in water, but if dissolved are readily biodegraded (ATSDR, 2011).

Distribution

As described above, 1,4-dioxane was detected in three onsite and two offsite wells not near each other indicating a random level of spatial distribution not limited to just onsite wells. The fact that this constituent was not detected during both sampling events in any well leads to question the repeatability of detections and indicates the very limited extent of this constituent in the deep aquifer. The distribution of 2-methylphenol and 4-methyphenol is limited to one onsite ell.

Source Identification

The source of 1,4-dioxane cannot be tied to any specific activity due to the random spatial distribution. Due to the ubiquitous use of this constituent, the source could just as easily be Camp Hero FUDS, more recent State Park, or nearby residential discharges of household items to septic systems. The source of 2-methylphenol and 4-methyphenol is likely to be remnant burning event(s) either during Camp Hero FUDS or subsequent State Park activities in the vicinity or upgradient of the USAF Supply Well where it was detected.

5.3 PAHs

Uses, Chemical Properties, and Fate and Transport

PAHs are a group of chemicals found throughout the environment, primarily as a result of the incomplete combustion of organic substances. While some individual PAHs are manufactured, commercial production is not a significant source of these chemicals in the environment. Anthropogenic sources include residential burning of wood; industrial power generation; coal tar, coke, and asphalt production; petroleum catalytic cracking; vehicle exhaust from gasoline and diesel-powered engines; and weathering and residuals of asphalt roads. Natural sources include volcanoes, forest fires, crude oil, and shale oil; however, anthropogenic sources predominate (ATSDR, 1995).

The movement of PAHs in the environment depends on properties like their water solubility, vapor pressure, and molecular weight. In general, PAHs do not easily dissolve in water. PAHs are present in air as vapors or adhere to surfaces of small solid particles. Some PAHs can evaporate into the atmosphere from surface water, but most sorb to solid particles and settle to the bottoms of rivers or lakes. Other properties of PAHs that impact their fate and transport in the environment are relatively low water solubility and potential for degradation by microorganisms in soil and sediment (ATSDR, 1995). Water solubility for individual PAHs ranges from 8.0E-5 milligrams per liter (mg/L) to 3.1E+1 mg/L and indicates relatively low potential for dissolution into groundwater or surface water (USEPA, 2018).

Petrogenic PAHs are hydrocarbons formed by the geochemical alteration of organic matter at moderate temperature (50-150°C) and pressure over very long (i.e., geologic) timescales. These PAHs enter urban environments from anthropogenic sources such as petroleum (crude oil or fuels) spills/leaks, coal-fired power plants, and municipal sewage treatment plants. Pyrogenic PAHs form when fuels and other organic matter are incompletely or inefficiently combusted or pyrolyzed at moderate to high temperatures (>400°C) over very short time intervals (Battelle Memorial Institute et al. 2003).

Distribution

Total PAHs (as calculated) exceeded the most conservative screening levels in groundwater in 7 of the 14 onsite and offsite wells during both sampling events. None of the individual PAHs exceeded screening levels, but detected PAHs are widely distributed throughout both the onsite and offsite wells.

Source Identification

An analysis of the PAH data was conducted to assist in determining if the sources could be classified as petrogenic or pyrogenic using ratios of phenanthrene to anthracene and fluoranthene to pyrene. However, the analysis was mostly inconclusive due to the relatively limited number of detections.

Low levels of PAHs are typically ubiquitous/anthropogenic in suburban settings, and it would be difficult to determine whether the source of these constituents was from Camp Hero FUDS or State Park activities, residential releases to septic drain fields, or general anthropogenic releases from vehicle exhausts, eroding asphalt, etc.

5.4 PCBs

Uses, Chemical Properties, and Fate and Transport

Consumer products that may contain PCBs include old fluorescent lighting fixtures, electrical devices or appliances containing PCB capacitors made before PCB use was stopped, old microscope oil, and old hydraulic oil. The uses of Arochlor 1260, which was the only individual PCB detected, include transformers, hydraulic fluid, synthetic resins, and dedusting agents (ATSDR 2000). Manufacturing of PCBs were banned in the U.S. in 1977. Releases of PCBs to the environment typically came from leaks of old electrical transformers that contained oil with PCBs.

One of the key physical properties of PCBs are their inertness and thermal stability to withstand high heats, which is why they were previously used in transformer oils. They are relatively insoluble in water with solubility decreasing as the chlorine content of each Arochlor increases.

In groundwater, PCBs tend to partition to soils due to their hydrophobic tendency. Once dissolved in water, they tend to be persistent for long periods of time and not likely to readily biodegrade.

Distribution

Only one PCB, Arochlor 1260 was detected in two offsite wells that are not physically close to each other and/or connected hydraulically; thus, the distribution is significantly limited.

Source Identification

The source of Arochlor 1260 in the offsite Madison Hills Well #1 and Lighthouse Gift Shop Well could be an old transformer that might have been used to power these well pumps. Other potential sources could be discharges from local septic drain fields.

5.5 Metals

The twelve metals that were detected can be placed into five general categories: naturally occurring metals (barium, iron, and manganese), essential nutrient sodium, naturally occurring (but non-essential nutrients) metals (antimony, arsenic, copper, and cobalt), and not likely to be naturally occurring at this site (mercury).

Uses, Chemical Properties, and Fate and Transport

Antimony is naturally occurring and is also released through the production of metal alloys. It can dissolve in water but typically binds to soils (ATSDR, 2019).

Arsenic is naturally occurring throughout Earth, including the vicinity of Camp Hero. Inorganic forms of arsenic were used in pesticides, paint pigment, and wood preservatives (ATSDR, 2007). Many arsenic constituents can dissolve in water, although it is more common for arsenic to absorb onto soils or sediment.

Barium constituents are used by the oil and gas industries to make drilling muds and also used to make paint, bricks, ceramics, glass, and rubber (ATSDR, 2013). Barium is found in many different constituents, such as barium sulfate, barium carbonate, barium hydroxide, barium nitrate, and barium chloride. The barium constituent determines how it breaks apart once it is released to the environment.

Cobalt is a naturally occurring metal that is also used to produce alloys used in the manufacture of aircraft engines, magnets, grinding and cutting tools, and artificial joints; it is also used in paints, color glass, and ceramics (ATSDR, 2004). Similar to arsenic, cobalt tends to bind to soil and sediment particles, but it can disperse through via groundwater.

Copper is naturally occurring and is also extensively mined, primarily used as the metal or alloy in the manufacture of wire, sheet metal, pipe, and other metal products. It has similar properties in groundwater as other metals.

Iron and manganese are naturally occurring metals and are readily found in soils and rock formations in Long Island and Montauk Point, which includes Camp Hero. Both constituents have commercial uses, but it is highly unlikely that iron and manganese found in deep groundwater originated from Camp Hero FUDS activities. Similarly, sodium is naturally occurring, which is most likely a result of saline intrusion and not Camp Hero FUDS activities.

Mercury is used in many products and was used heavily in industrial and residential applications such as chlorine gas, caustic soda, thermometers, gauges and dials, dental fillings, and batteries (ATSDR, 1999).

Distribution

As described in **Section 4.0**, the naturally occurring constituents of iron, manganese, and sodium are widespread in groundwater amongst most onsite and offsite monitoring wells. Antimony was only detected in one offsite well. Arsenic was detected in multiple onsite and offsite wells. Barium was detected above the screening level in groundwater from one onsite well in just one sampling event. Cobalt was detected only in the December 2020 sampling event in approximately half the onsite wells and one offsite well with no apparent distribution pattern. Copper was detected in two offsite wells only. Mercury was detected above the screening level in groundwater from just one well in one sampling event compared to detections below SLs in two offsite wells.

Source Identification

Iron, manganese, and sodium are naturally occurring and not a result of releases from Camp Hero FUDS activities. The sources of the other nine metals are a combination of naturally occurring and/or inconclusive due to Camp Hero FUDS or State Park activities, releases from residential septic drainage fields, or from anthropogenic deposition.

5.6 Summary of Fate and Transport

Most of these constituents were detected at relatively low concentrations with significantly limited distribution, often in just one monitoring well and not consistently detected in both sampling events. The most prevalent constituents were chloroform and several metals that are well documented to be naturally occurring in the Montauk area. Chloroform is most likely to be the result of chlorination of private water wells. Most other VOCs are not likely associated with Camp Hero FUDS activities due to the 40+ years since all operations were ceased and would have degraded by now had they been released prior to 1980 when the last parcels of land were transferred to the NY State Park department. The sources of the other detected constituents are inconclusive as to whether they are associated with Camp Hero FUDS or State Park activities, releases from residential septic drainage fields, or from anthropogenic deposition. Regardless of the original source or distribution, **Section 6.0** explores the human health risks to the constituents that exceeded the initial screening step.

6 RISK ASSESSMENT

This Section presents the HHSE that was conducted as part of the Phase IV RI. The HHSE was conducted with the data obtained during the Phase IV RI to determine if any unacceptable risks exist for an onsite and offsite residential scenario from exposure to UGA groundwater.

The objective of the HHSE is to determine if constituents attributable to historical DoD activities at Camp Hero are present in the UGA groundwater, at concentrations that produce unacceptable risk for a hypothetical future onsite resident, current and future offsite residents living southwest of Camp Hero, and the public that visits the Montauk Point State Park and the Montauk Lighthouse and Museum located northeast and adjacent to Camp Hero. The HHSE is compliant with CERCLA and was conducted in accordance with USEPA Risk Assessment Guidance for Superfund (RAGS) and subsequent guidance documents (USEPA 1989, 2001a, 2004, 2009, 2014).

Figure 6-1 presents a risk assessment flowchart that describes the steps taken to complete the HHSE, which are data evaluation, identification of COPCs, exposure assessment, toxicity assessment, risk characterization, uncertainty assessment, and risk assessment summary.

6.1 Data Evaluation

Groundwater samples were collected from seven onsite wells and seven offsite monitoring wells in December 2020 (Round 1) and again in February 2021 (Round 2), per the sampling design in the Camp Hero Phase IV RI QAPP Addendum (AECOM-Tidewater JV, 2021). **Table 2-3** in **Section 2.0** lists the groundwater monitoring wells that were sampled and evaluated in the HHSE.

As noted in **Section 2.9**, the samples were tested for VOCs, SVOCs, PAHs, PCBs, and metals (total and dissolved phase), including hexavalent chromium and mercury. The dissolved phase results for metals were used for the evaluation of potable use of groundwater for the residential scenario (i.e., the filtered results best represent the quality of water used for tap water).

Field duplicates during Round 1 were collected from samples S 76304 and S 79269 and from samples S 17231S and S 79269 during Round 2. The duplicates were resolved as follows: 1) when both the sample and duplicate are detected, the average of field and duplicate was used to calculate summary statistics; 2) when both the sample and duplicate are NDs, the sample with the lower LOD was used; and 3) when one of the pair is reported as not detected and the other is detected, the detected result was used (AECOM-Tidewater JV 2021).

With the exception of "R"-flagged (rejected data), flagged results, such as "J" flags (i.e., estimated values), were carried forward into the HHSE. A "J"-flagged result indicates that the analyte was positively identified, and the associated numerical value is an estimated quantity with an unknown bias. The "J"-flagged result was treated as a detected concentration, even though the chemical's true concentration is unknown (USEPA, 1989; AECOM-Tidewater JV, 2021).

The laboratory analysis included testing 1,4-dioxane under VOC Method 8260 and under SVOC Method 8270. The onsite and offsite VOC results for 1,4-dioxane were evaluated in the data sensitivity analysis (DSA) that is described in Section 6.2. The onsite and offsite SVOC results were evaluated in the risk-based screening; 1,4-dioxane was identified as an onsite groundwater COPC and was carried forward into the cumulative screen evaluation.

The essential nutrients calcium, magnesium, potassium, and sodium were eliminated in all exposure media from evaluation in the HHSE. Essential nutrients are toxic only at very high doses (i.e., much higher than those that could be associated with contact at Camp Hero) (USEPA, 1989). Arsenic was carried forward in the HHSE because arsenic is a CERCLA hazardous constituent and exceeded the risk-based screening level in onsite and offsite groundwater. However, neither statistical background comparisons nor geochemical evaluations were conducted to determine whether arsenic is actually a DoD-related contaminant.

The HHSE treated the onsite and offsite well groundwater data as separate DUs. In addition, each monitoring well was treated as its own tap water source, and a well-by-well evaluation was conducted. The samples used in the HHSE for the DUs and well-by-well evaluations are listed in **Appendix F (Table F-1)**.

In addition, the HHSE evaluated several summations that were calculated, including: total PCBs, total PAHs, and total BaP (referred to as total BaP toxicity equivalence [TEQ]). The approach for calculating these totals is briefly described below, and the totals calculations are provided in **Appendix E2**.

6.1.1 Polycyclic Aromatic Hydrocarbon Summations

Carcinogenic PAHs exhibit similar toxicological properties, but they differ in the degree of toxicity. The HHSE used toxicity equivalence factors (TEFs) to adjust measured concentrations of carcinogenic PAHs in relation to BaP, which is the most toxic PAH (USEPA, 1993 and 2021a). The Kaplan Meier (KM) method (Helsel, 2009) was used where feasible for deriving summations for PAHs when the data set contained both detect and non-detected results. **Appendix E2** describes in further detail the methodology used to derive the summation results.

For the HHSE datasets, the total BaP TEQ or "Total BaP TEQ" represents each sample's sum of the seven carcinogenic PAH concentrations multiplied by the TEF. Total BAP TEQ concentrations were screened against benzo(a)pyrene's human health carcinogenic screening level. Also, "Total PAHs" summations were calculated, and they represent each sample's sum of all PAHs without TEFs being applied. Total PAHs concentrations were screened against BaP's human health noncarcinogenic screening level (USEPA, 2021a). The individual PAH results were not carried forward into the HHSE.

6.1.2 Polychlorinated Biphenyl Summations

Total PCBs summations were calculated in a similar fashion as Total PAHs summations. The KM method (Helsel, 2009) was used where feasible for deriving the total PCB summations when the data set contained both detect and non-detected results. **Appendix E2** describes in further detail the methodology used to derive the summation results.

The purpose of the Total PCBs summations is to represent exposure to carcinogenic and noncarcinogenic arochlors. Arochlors are chlorinated constituents associated with dielectric and coolant fluids used in electrical equipment that tend to be pervasive in the environment, if released. In the risk-based screening and cumulative screen evaluations, low-risk PCBs human health screening levels were used to evaluate the Total PCBs summation results (USEPA, 2021a). The individual arochlor results were not carried forward into the HHSE. The methodology for calculating the PCB summation results is provided in **Appendix E2**.

6.1.3 Hexavalent Chromium

The hexavalent chromium results analyzed by the more sensitive method and calculated trivalent chromium values from February 2021 event were primarily used for evaluation due to the lower detection levels of the hexavalent chromium data. Trivalent chromium was calculated by taking the difference between total chromium and hexavalent chromium. If both the total chromium and hexavalent chromium results were ND, the difference between the LODs was used for the calculation. **Appendix F (Table F-2)** presents the speciated chromium concentration calculations.

6.2 Identification of COPCs

Table 6-1 documents the HHSE COPCs that were carried forward for each study area and well. The COPCs were identified when the MDC within the investigative area human health screening criteria (**Figure 6-1**). The most conservative of the state and USEPA human health screening criteria was selected as the human health screening criteria for the COPC selection process; the sources are:

- USEPA residential tap water RSLs (USEPA, 2021a)
- USEPA residential VISLs (USEPA, 2021b)
- USEPA MCL (USEPA, 2018)
- NYSDEC TOGS, 1.1.1. Groundwater Effluent Limitations (Table 5; Class GA) (NYSDEC, 1998, 1999, 2000, and 2004)
- NYSDOH MCLs (NYSDOH, 2022)

The USEPA RSLs and VISLs are protective of a target risk (TR) of 1E-06 and a target hazard quotient (THQ) of 01. **Table 6-1** identifies the drinking water COPCs that are carried forward in the HHSE. The following detected COPCs were carried forward into the onsite and/or offsite screen evaluations: VOCs (MEK, benzene, and chloroform); SVOCs (1,4-dichlorobenzene and 1,4-dioxane); PAHs (Total BaP TEQ and Total PAHs); PCBs (Total PCBs); and dissolved metals (antimony, arsenic, chromium VI, cobalt, copper, mercury, and silver). As provided in **Tables 4-1 and 4-2**, four metals (barium, iron, manganese, and sodium) are not CERCLA hazardous constituents and are therefore eliminated as groundwater COPCs. Sodium was already eliminated in the HHSE because it is considered an essential nutrient. The elimination of these metals as COPCs is discussed further in the uncertainty assessment (**Section 6.6**).

The HHSE also evaluated vapor intrusion as a potential groundwater pathway of concern; all the volatile groundwater COPCs were screened against the USEPA VISLs (USEPA, 2021b). Chloroform had one detection of 2.1 µg/L that was greater than USEPA VISL of 0.814 µg/L. The USEPA's VISL calculator was used to estimate the potential residential cancer risk and non-cancer hazard from vapor intrusion to indoor air exposure; the VISL cancer risk estimate of 3E-06 and non-cancer hazard quotient of 0.003 are below the USEPA cumulative risk thresholds of 1E-04 and 1, respectively (USEPA, 2021b and 1991). **Appendix F (Table F-7)** presents the VISL calculator chloroform results. VI was eliminated as a groundwater pathway of concern in the HHSE.

As part of the COPC selection process, certain chemicals were selected for further evaluation in a data sensitivity analysis (DSA). The maximum LOD was compared to the selected human health screening criteria to determine whether analytical DLs were adequate for risk assessment purposes. If a chemical was all ND and had a maximum LOD lower than the screening level, then it was eliminated from further evaluation in the HHSE. If the maximum LOD were greater than the selected screening criteria, then it was identified as a LOD COPC; separate HHSE risk calculations were conducted, and the results are briefly discussed in the Uncertainty Assessment; the DSA results are presented in **Appendix F.**

6.3 Exposure Assessment

This section identifies human receptors that may be exposed to site-related human health COPCs in affected media and addresses the potential extent of their exposure under site-specific exposure scenarios. This section also describes how EPCs are derived and how cumulative exposure is evaluated using the cumulative screen process.

6.3.1 Current and Future Land Use Scenarios

The HHSE evaluated an onsite future hypothetical residential scenario for information purposes to assess potential UU/UE, since no onsite UGA monitoring wells are used for drinking water purposes. However, current and future offsite residents use private wells to access the UGA groundwater as well as public facilities, such as the Montauk Point State Park and the Montauk Lighthouse and Museum.

Residential child, adult, and lifetime receptors were evaluated; the lifetime scenario for the resident represents the combined child and adult potential cancer risk estimates that is normalized over a lifetime of exposure (i.e., 70 years). Groundwater-related exposure pathways include ingestion of drinking water, dermal contact while bathing or showering, and inhalation of shower vapors (if volatile groundwater COPCs were identified). The USEPA (2021a) tap water RSLs used in the risk-based screening and cumulative screen evaluation use USEPA's standard default exposure parameters for the resident scenario (USEPA, 2014).

6.3.2 Exposure Point Concentrations

Attachment F provides the EPCs that were derived for each study area and monitoring well in USEPA RAGS Part D Table 3 format (USEPA, 2001a). The concentrations of COPCs that a receptor may come into contact with are referred to as EPCs. USEPA recommends that 95% upper confidence limit (UCL) of the mean based upon only a few detected values (e.g., less than 4 data points) cannot be considered reliable enough to estimate EPCs which can have a potential impact on human health and the environment (USEPA, 2015). The sample maximum can significantly underestimate the population mean. For lead, the mean concentration is used as the EPC (USEPA, 2021c).

The EPCs were derived using approved statistical methodologies for calculating the 95% UCL of the mean. USEPA's ProUCL Version 5.1 software was used and was developed for USEPA to test the distribution of the datasets (USEPA, 2016). After testing, the program computes a conservative 95% UCL based on the appropriate distribution of the data. For those datasets that do not fit the normal, lognormal, or gamma distributions, several parametric and distribution-free non-parametric methods are available to calculate an appropriate 95% UCL (e.g., bootstrap methods). The ProUCL Version 5.1 program uses several statistical methods to handle datasets with ND results (USEPA, 2016 and Helsel, D.R. 2009). **Attachment F** provides the ProUCL input and output information.

6.3.3 Cumulative Screen Evaluation

A screening level cumulative risk assessment was conducted to conservatively assess the potential cancer risk and non-cancer hazard associated with exposure to COPCs identified in the UGA groundwater. As shown in **Figure 6-1**, a cumulative screen was conducted for the onsite and offsite DUs as well as the onsite and offsite well-by-well evaluations. USEPA tap water RSLs were used in the cumulative evaluation to estimate carcinogenic risk and non-carcinogenic hazards from ingestion of drinking water, dermal contact while bathing or showering, and inhalation of shower vapors. MDCs for volatile groundwater COPCs that were identified in the initial risk-based screening were compared with USEPA (2021b) VISLs. No VI COPCs were identified; therefore, the VI exposure pathway was eliminated from further evaluation in the HHSE.

The purpose of the cumulative screen evaluation was to determine if residential exposure to the UGA groundwater exceeds the USEPA cumulative thresholds, which are as presented in **Section 6.5**, Risk Characterization.

Potential cancer risk and non-cancer hazard estimates were generated using the EPCs derived for the UGA groundwater COPCs and dividing concentrations by the USEPA tap water RSL (USEPA, 2021a) and then multiplying the ratio by the TR or THQ used to derive the RSL. The chemical-specific cancer risk and non-cancer hazard estimates were summed separately to provide potential excess lifetime cancer risk (ELCR) and hazard index (HI) results. The methodology for conducting the cumulative screen evaluation is described in further detail in the *Final Phase IV Remedial Investigation Quality Assurance Project Plan Addendum* (AECOM-Tidewater JV, 2021).

6.4 Toxicity Assessment

The toxicity assessment is the relationship between the magnitude of exposure (dose or exposure concentration) and the incidence of adverse health effects associated with the human health COPCs. The HHRA selected toxicity values in accordance with the hierarchy of resources provided in the USEPA (2003) toxicity values hierarchy guidance and the USEPA (2021a) RSL User's Guide.

Some chemicals are identified as mutagens. A mutagen adversely affects the deoxyribonucleic acid (DNA) of a receptor; the mutated DNA causes malfunctioning or loss of function for a particular gene(s), and the accumulation of mutations may lead to cancer. USEPA has developed equations to address mutagenic health effects, especially for age-sensitive or developmental stages (e.g., child resident) where mutagenic health effects are likely to occur (USEPA, 2005). Mutagenic COPCs evaluated in the HHSE include hexavalent chromium and total BaP TEQ.

6.5 Risk Characterization

The HHSE integrates the information developed in the exposure assessment and toxicity assessment into an evaluation of the potential human health risks associated with exposure to COPCs within the onsite and offsite groundwater DUs. Both potential cancer risks and non-cancer health effects were evaluated. The risk characterization also addresses the nature and extent of potential human health risks in comparison to state and federal cumulative threshold levels for making risk management decisions.

USEPA (1991) states that where the cumulative incremental current or future potential ELCR to an individual is less than 1E-04 (one in 10,000), action generally is not warranted unless there are adverse environmental impacts. The acceptable cancer risk range that USEPA uses to manage site risks as part of a Superfund Cleanup is 1E-06 (one in one million) to 1E-04 (one in 10,000). In effect, estimated risks that are less than 1E-06 are generally considered negligible, while risks greater than 1E-04 are usually considered sufficient justification for undertaking remedial action. Risks in the intermediate range between these two values can be considered acceptable on a case-by-case basis.

If USEPA cumulative thresholds were exceeded, constituents contributing to the cumulative results were identified as constituents of concern (COCs). A carcinogenic COC is a constituent with a chemical-specific ELCR above 1E-06 and is contributing to a cumulative ELCR greater than 1E-04. A noncarcinogenic COC is a constituent with a chemical-specific HI above 0.1 and is associated with a target organ systems whose HI is above 1.

6.5.1 Onsite and Offsite Study Areas Cumulative Screen Evaluation

Table 6-2 summarizes the cumulative screen evaluation results. The cumulative ELCR results for the onsite and offsite DUs did not exceed the USEPA cumulative threshold of 1E-04; therefore, carcinogenic COCs were not identified. The cumulative HI results and target organ endpoint HI results did not exceed 1 for the onsite and offsite DUs; therefore, non-carcinogenic COCs were not identified.

6.5.2 Onsite Well-by-Well Cumulative Screen Evaluation

Table 6-3 summarizes the onsite well-by-well cumulative screen evaluation results. The cumulative ELCR results for all the onsite wells did not exceed the USEPA cumulative threshold of 1E-04; therefore, carcinogenic COCs were not identified. The cumulative HI and target organ endpoint HI results did not exceed 1; therefore, non-carcinogenic COCs were not identified.

6.5.3 Offsite Well-by-Well Cumulative Screen Evaluation

Table 6-4 summarizes the offsite well-by-well cumulative screen evaluation results. The cumulative ELCR results for all the onsite wells did not exceed the USEPA cumulative threshold of 1E-04; therefore, carcinogenic COCs were not identified. The cumulative HI results and target organ endpoint HI results did not exceed 1; therefore, non-carcinogenic COCs were not identified.

6.6 Uncertainty Assessment

This section qualitatively assesses the uncertainties associated with each step of the HHSE. This section also provides information about the key assumptions, their inherent uncertainty and variability, and the impact of this uncertainty and variability on the estimates of potential risk.

Data Evaluation Source of Uncertainty: Four data points collected in February 2021 were removed from the onsite study area dataset for CH-MW045D due to the results being "R"-flagged (rejected data). The data points were not associated with the COCs identified. The data usability assessment (**Section 2.15**) determined that the groundwater dataset for CH-MW045D is considered acceptable; therefore, the level of uncertainty associated with the onsite study area and CH-MW045D HHSE results is reduced.

Data Evaluation Source of Uncertainty: Flagged results such as "J" flags (i.e., estimated values) were carried forward into the HHSE. USEPA (1989) guidance recommends treating "J"-flagged results as detected concentrations. A comprehensive QA/QC program was implemented with each phase of investigation (see the field reports in **Appendix C**) to ensure that data quality objectives were met during sample collection, preparation, analysis, and data reporting.

The statistical calculations of EPCs takes into account detect and ND results to derive representative concentrations. A "J"-flagged result indicates that the analyte was positively identified, and the associated numerical value is an estimated quantity with an unknown bias. Therefore, if the J-flagged chemical was identified as a COPC, it is unknown if the estimated risk were under- or overestimated because its true concentration is unknown. While the concentration is still unknown with "J"-flagged chemical results, the estimated risk can be identified as an under or overestimate.

Identification of COPCs Source of Uncertainty: As noted in **Section 6.1.3**, additional steps were taken to detect chromium VI during the second round of sampling to better estimate potential concentrations of chromium VI (most toxic form of chromium) in the groundwater. The February 2021 groundwater samples were analyzed using a more sensitive method to specifically detect chromium VI concentrations and better determine whether it is an onsite and/or offsite groundwater COPC. The better characterization of chromium concentrations (chromium VI and III congeners vs total chromium) reduced the level of uncertainty associated with cancer risk and non-cancer hazard results attributed to chromium in the UGA groundwater.

Volatile groundwater constituents were screened against USEPA residential VISLs assuming that the ambient groundwater temperature is 25 degrees Celsius (i.e., VISL on-line calculator default) (USEPA, 2021b). This assumption is conservative when Camp Hero is located in a region that has an average ambient groundwater temperature of 16 degrees Celsius (USEPA 2001b). The cooler groundwater temperature makes it less likely for groundwater constituents to volatilize. The level of uncertainty with the VI evaluation is minimal since no VI COPCs were identified using the more conservative VISLs for the risk-based screening.

Also, maximum LODs were compared with project screening levels to determine whether LODs are low enough (i.e., below screening criteria) to capture detected concentrations in the affected media. A DSA was conducted to estimate potential impacts from LOD COPCs (**Appendix F**) using the maximum LOD as the EPC in the risk calculations. Potential ELCR estimates were 4E-04 (onsite well study area) and 3E-04 (offsite well study area). The cumulative HI estimates were 18 (onsite well study area) and 17 (offsite well study area) The cancer risk and non-cancer hazards may be underestimated for both groundwater study areas. Use of the maximum LOD as the EPC for the DSA calculations is conservative as the confining layers above the UGA are likely inhibiting infiltration of potential organic concentrations from shallow groundwater to the UGA; thus, the potential magnitude upon the level of uncertainty with the results is unknown.

Barium, iron, manganese, and sodium are classified as not hazardous constituents under CERCLA and therefore were not identified as groundwater COPCs. Sodium was eliminated early in the HHSE because it is considered an essential nutrient. Detections of iron and manganese in onsite groundwater exceeded NYSDOH MCLs. The RI nature and extent and fate and transport evaluations determined that these metals are considered naturally occurring and are not a result of releases from Camp Hero FUDS activities. The level of uncertainty associated with these metals is reduced.

Exposure Assessment Source of Uncertainty: USEPA tap water RSLs were used to estimate intake for the onsite and offsite residents (USEPA, 2021a). The exposure parameters used in the RSL calculations are USEPA (2014) residential standard default values that are representative of reasonable maximum exposure. The cancer risk and non-cancer hazards may be overestimated, but this conservative approach is likely appropriate and protective due to the presence of offsite residents and public access to the Camp Hero State Park, Montauk Point State Park, and the Montauk Lighthouse and Museum.

USEPA (1989) recommends using 95% UCLs, where possible, as EPCs to estimate cancer risk and non-cancer hazard exposures. The onsite and offsite study area cumulative screen evaluations used 95% UCLs where possible, but the well-by-well evaluations used MDCs as the EPCs. The sample maximum can significantly underestimate the population mean. Evaluating the onsite and offsite UGA groundwater data both ways served to reduce the uncertainty associated with using MDCs for the individual well evaluations. The onsite study area and well-by-well evaluation results were similar, thus reducing the level of uncertainty associated with the results.

Risk Characterization Source of Uncertainty: Risk characterization uncertainties include possible synergistic or antagonistic effects of exposure to multiple chemicals and applicability of cancer risk estimation methodology to less than lifetime exposure durations. However, these uncertainties are generic to the risk assessment process and not specific to Camp Hero or the evaluation of offsite areas.

Currently the drinking water exposure pathway is incomplete. A portion of Camp Hero (former AT&T Building and current park officer building) is now supplied drinking water by SCWA, and a UGA well for non-potable purposes also exists at the Camp Hero Motor Pool Building. The RI has identified constituents (e.g., metals) that are considered naturally occurring in this region based on numerous historical studies and review of Suffolk County potable water data or are likely attributed to releases from residential septic drainage fields, and anthropogenic deposition (**Section 5.5**). The level of uncertainty associated with the risk assessment of the residential drinking water exposure pathway is reduced based on the incomplete exposure pathway, alternate water supply, and the natural occurring historical data.

6.7 Risk Assessment Summary

The HHSE achieved its objective as a screening level evaluation (i.e., conservative USEPA risk-based screening levels, standard default exposure parameters, and toxicity factors) to determine if UGA groundwater COPCs are likely to cause potential adverse health effects for a resident (i.e., assuming the UGA groundwater is used as a tap water source). The HHSE results determined the following:

- Risk-based screening eliminated VI as a groundwater pathway of concern.
- Onsite UGA groundwater is not currently used for drinking water at Camp Hero State Park, but the onsite hypothetical resident was evaluated in the HHSE.

- Cancer risk and non-cancer hazard results from exposure to onsite and offsite UGA groundwater did not exceed the USEPA thresholds of 1E-04 and 1, respectively.
- Potential adverse health effects from DoD related releases are not likely for onsite hypothetical residents, offsite residents living southwest of Camp Hero, and the public that drink water at the Montauk Point State Park and the Montauk Lighthouse and Museum located northeast and adjacent to Camp Hero.

7 CONCLUSIONS AND RECOMMENDATIONS

The purpose of the Phase IV RI was to determine if chemical constituents attributable to historical DoD activities at the Camp Hero FUDS were present in the groundwater of the UGA at unacceptable risk levels for a small set of residential receptors to the southwest of Camp Hero.

The geological mapping and geotechnical analysis confirmed a competent clay confining layer in the southwest corner of Camp Hero where the four new UGA wells were installed. However, the UGA is recharged with fresh water somewhere within Montauk Point and Camp Hero could include pathways to the UGA that have not yet been identified.

Groundwater data obtained from the onsite and offsite wells contained a variety of low-level detections of VOCs, SVOCs, PAHs, PCBs, and metals. A total of 44 constituents were detected at least once with only two VOCs, one SVOC, and twelve metals exceeding the most conservative applicable screening level (SL).

In conclusion, the four goals of the Phase IV RI were completed. Most constituents analyzed were at non-detected or very low concentrations. The source of detected constituents could be attributed to Camp Hero FUDS activities, widespread use of septic tanks in Montauk Point, and/or widespread anthropogenic use. Regardless of the source, a HHSE concluded that there were no actionable risks from drinking the UGA groundwater directly beneath or in the vicinity of Camp Hero.

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8 RECOMMENDATIONS

Based on this limited deep groundwater aquifer investigation, the no action determination that was recommended at the conclusion of the RI remains appropriate for Camp Hero under CERCLA.

It is recommended that the Decision Document with a no action determination proceed, including a Responsiveness Summary to address the public comments received in writing and verbally during the public meeting. The shallow monitoring wells used in the previous phases of the RI should be properly abandoned including the wells associated with DU01 since this non-CERCLA petroleum site is officially closed by NYSDEC.

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Appendix A

Figures

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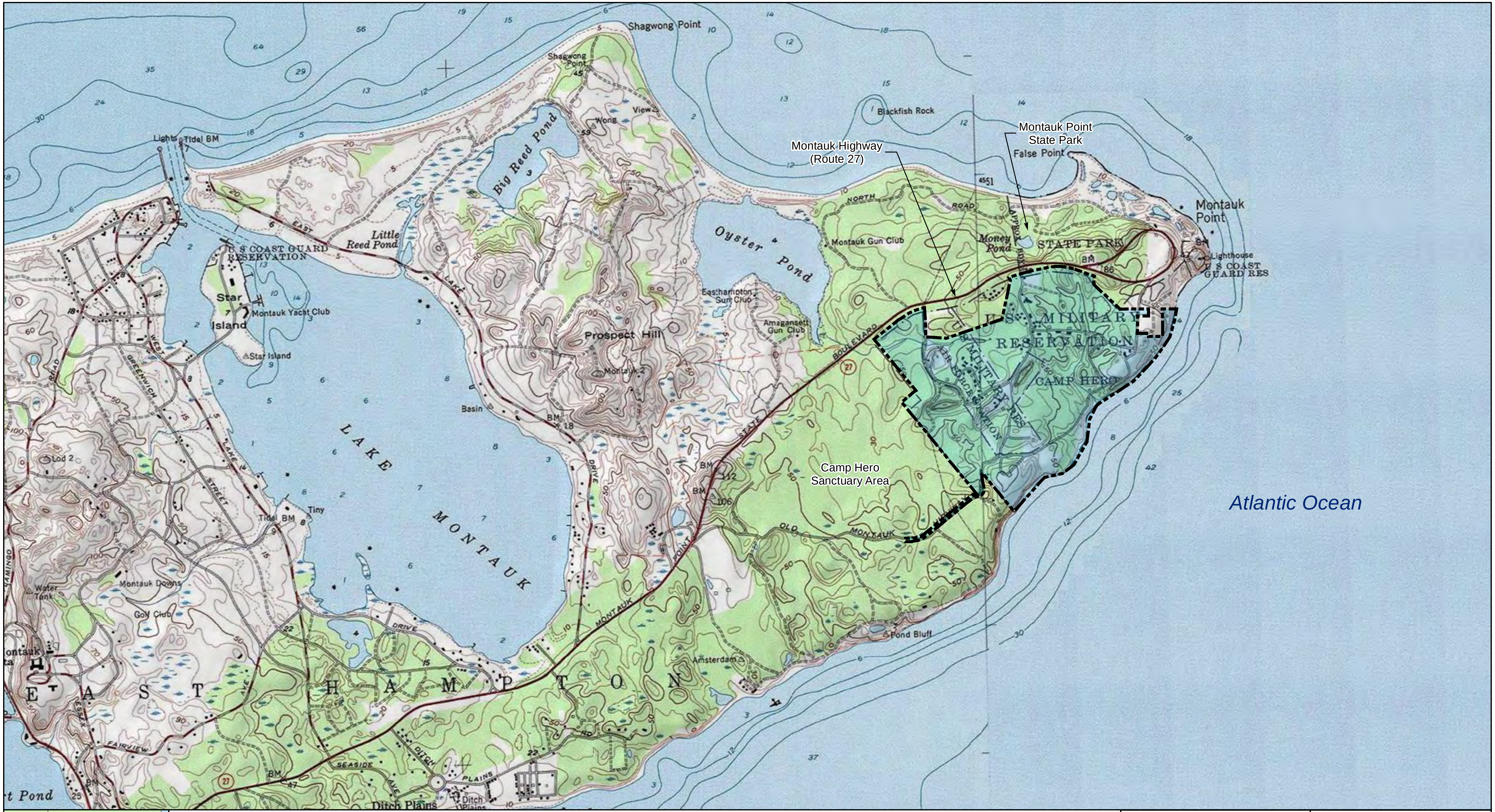

MAP LOCATION

Camp Hero Built Features

Camp Hero State Park Boundary

NAD 1983 StatePlane Long Island FIPS 3104

Basemap Copyright:© 2013 National Geographic Society, i-cubed

0 1,000 2,000 Feet

1 inch = 2,000 feet

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General Location Map

Camp Hero Phase IV Remedial Investigation Report Addendum
Montauk, New York

PROJECT NO.	PREPARED BY:	DATE:	
60443903	JB	July 2021	**Figure 1-1**

7/1/2021 1:24,000 L:\Legacy\USCHL1FP001\Data\Projects\Govt\Projects\USACE\Camp_Hero\GIS\Projects\Phase_IV_RI_Report_Addendum\MXD\Fig_1_1_General_Loc_Map.mxd

MAP LOCATION

Notes
1. No wetland conditions observed within DU boundary of DU01, DU12, or DU18.
2. Wetlands were evaluated only within Decision Units.

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Site Map

Camp Hero Phase IV Remedial Investigation Report Addendum
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PROJECT NO.	PREPARED BY:	DATE:	
60443903	JB	July 2021	Figure 1-2

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Oyster Pond
Atlantic Ocean
North Rd
Park Rd
Madison Hill Dr
Jefferson Ave
Edison Dr
Washington Ave
Daniel Rd
Camp Hero Rd
Col. John Dunn Rd
Coast Artillery Rd
Rough Riders Rd
Old Montauk Hwy
Cliff Dr
RD B
S 79269
Montauk Point State Park Well
S 1202 Lighthouse Well
S 15812/ Former Montauk Point State Park Well
S 3599 Lighthouse Well
S 70627
S 76304/
Madison Hill Well Field
Well 1
S 121808/
Madison Hill Well Field
Well 2
S 121811/
Madison Hill Well Field
Well 3A
Primary North - South Channel
Primary East - West Channel
Motor Pool Supply Well
Motor Pool
Battery 216
S 19494
S 17231D/ Former USAF Supply Well outside Pump House
S 17231S/ Former USAF Supply Well inside Pump House
S 19495/ AT&T Building Well
Bldg 3001 State Park Police Quarters
Battery 113 (Underground Bunker)
Camp Hero State Park Bluffs
Battery 112 (Underground Bunker)
S 3260 (Obstructed)
203 Radar Tower/Antenna
S 17359/ Former USAF Supply Well and Pump House (Obstructed)
S 21084/ Former USAF Supply Well
Area H
Area K
CH-MW044S/
CH-MW044D
S 19496/
Barracks
Supply Well
CH-MW045S/
CH-MW045D
CAMP HERO LOCATION MAP
Sources: ESRI, USGS
Atlantic Ocean
S 58922
S 48579
*Old Montauk Highway East Residences (Potential Receptors)
Active USGS Monitoring Well Location
Camp Hero State Park Boundary
Former Camp Hero Buildings
Bunker or Battery
Former Building
Existing Building
Building 203 AOC Boundary
Camp Hero Built Features
New UGA Monitoring Well Location
Deep Aquifer Well Location
USGS Test Well Location
S 121808 UGA Well Groundwater Gauged
S 15812 UGA Well Inaccessible or Obstructed
Camp Hero State Park Boundary
Buildings
Existing Building
Former Building
Restricted Areas
Area H
Area K
State Park Trails
Battery 112 Trail
Battery 113 Trail
Paumanok Path
Fence
Camp Hero Natural Features
Surface Water
Low Gradient Drainage
Intermittent Drainage without Revetment
Intermittent Drainage with Revetment
Primary Drainage without Revetment
Primary Drainage with Revetment
NYSDEC = New York State Department of Environmental Conservation
NY
CT
RI
MA
PA
NJ
Camp Hero
MAP LOCATION
0 150 300 600 Feet
1 inch = 300 feet
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Upper Glacial Aquifer Wells
Camp Hero Phase IV Remedial Investigation Report Addendum
Montauk, New York
60443903
JB
July 2021
Figure 2-1

Table X-X
UGA Groundwater Gauging Results Table
Camp Hero Remedial Investigation

Well ID	Name	Northing	Easting	Elevation Top of Casing (ft NAVD 88)	Elevation Ground Surface (ft NAVD 88)	Total Well Depth (ft bgs)	Depth to Groundwater (ft btoc) 10/08/2020	Groundwater elevation (ft NAVD 88) 10/08/20	Depth to Groundwater (ft btoc) 12/12/2020	Groundwater elevation (ft NAVD 88) 12/12/2020
S 70627	USGS Monitoring Well	336511.3900	1572619.3300	88.81	89.16	97	72.30	16.51	74.15	14.66
S 17231S	Former USAF Supply Well in Pump House	334001.0634	1570722.9408	65.88	65.34	108	63.78	2.10	63.09	2.79
S 17231D	Former USAF Supply Well outside Pump House	333996.3612	1570747.0485	64.98	63.64	180	63.10	1.88	63.02	1.96
S 19494	USGS Test Well	334735.2101	1570010.8283	58.12	58.27	94	43.36	14.76	54.52	3.60
S 19495	Former AT&T Building	334054.5890	1569624.7473	55.91	60.31	115	53.40	2.51	53.73	2.18
S 48579	USGS Monitoring Well	330554.7600	1563986.5400	36.11	37.66	66	33.60	2.51	33.40	2.71
S 58922	USGS Monitoring Well	334339.3200	1560032.1300	46.36	46.86	56	44.95	1.41	47.45	-1.09
S 19496	Former Barracks Supply Well, USAF Emergency Supply Well	332355.9428	1571124.2968	73.21	72.63	140	70.79	2.42	71.15	2.06
S 21084	Former USAF Supply Well in Pump House	332878.3287	1569177.8465	49.12	48.52	118	47.25	1.87	47.08	2.04
S 76304	Well #1	336044.0839	1570491.7518	83.00	80.84	140	80.51	2.49	80.88	2.12
S 121808	Well #2	335726.9261	1570332.5094	73.31	71.31	138	71.05	2.26	na	na
S 121811	Well #3A	335654.9906	1569814.3588	71.74	69.88	138	69.45	2.29	na	na
CH-MW044S	CH-MW044 Shallow	332250.4144	1570419.0395	68.09	65.82	120	ni	ni	66.44	1.65
CH-MW044D	CH-MW044 Deep	332250.2837	1570419.5106	68.38	65.82	157	ni	ni	66.52	1.86
CH-MW045S	CH-MW045 Shallow	331674.6989	1570351.0745	46.89	45.18	95	ni	ni	44.61	2.28
CH-MW045D	CH-MW045 Deep	331674.7725	1570351.2595	46.85	45.18	136	ni	ni	44.65	2.20

Notes
Shaded groundwater elevations were utilized to create groundwater contours.
The shallow well screen groundwater elevation was used for contours at locations where a shallow and a deeper well screen are colocated.
Measurments at S19494 and S70627 are considered anomolous and not used.
S 17231S measured 12/07/20 when Pump House access provided by Park Service.
amsl = above mean sea level
bgs = below ground surface
btoc = below top of casing
ft = feet
ID = identification
na = no access
ni = not installed
All horizontal coordinates are in NAD83 NY Long Island State Plane Feet.
All elevations are in NAVD 88.

0 150 300 600 Feet
1 inch = 300 feet

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Upper Glacial Aquifer Groundwater Contours December 2020

Camp Hero Phase IV Remedial Investigation Report Addendum
Montauk, New York

PROJECT NO. 60443903 | PREPARED BY: JB | DATE: July 2021 | **Figure 2-2**

Note
The UGA flow direction is approximated based on the measured groundwater elevations. The UGA flow direction is perpendicular to the equipotential UGA groundwater contours.

Camp Hero Built Features

- Groundwater Contour (Low Tide) (Dashed Where Inferred)
- Approximate UGA Groundwater Divide
- Groundwater Contour (High Tide) (Dashed Where Inferred)
- Groundwater Flow Direction
- New UGA Monitoring Well Location
- Deep Aquifer Well Location
- USGS Test Well Location
- **S 121808** UGA Well Groundwater Gauged
- **S 15812** UGA Well Inaccessible or Obstructed
- Decision Unit
- Camp Hero State Park Boundary

Buildings
- Existing Building
- Former Building

Restricted Areas
- Area H
- Area K

State Park Trails
- Battery 112 Trail
- Battery 113 Trail
- Paumanok Path
- Fence

Table X-X
UGA Groundwater Gauging Results Table
Camp Hero Remedial Investigation

Well ID	Name	Elevation Top of Casing (ft NAVD 88)	Elevation Ground Surface (ft NAVD 88)	Total Well Depth (ft bgs)	Depth to Groundwater (ft btoc) 10/08/2020	Groundwater elevation (ft NAVD 88) 10/08/20	Depth to Groundwater (ft btoc) 12/12/2020	Groundwater elevation (ft NAVD 88) 12/12/2020	Depth to Groundwater HT (ft btoc) 02/25/2021	Groundwater elevation HT (ft NAVD 88) 02/25/2021	Depth to Groundwater LT (ft btoc) 02/25/2021	Groundwater elevation LT (ft NAVD 88) 02/25/2021	Groundwater elevation HT - LT (ft NAVD 88) 02/25/2021
S 70627	USGS Monitoring Well	88.81	89.16	97	72.30	16.51	74.15	14.66	73.97	14.84	73.44	15.37	0.53
S 17231S	Former USAF Supply Well in Pump House	65.88	65.34	116	63.78	2.10	63.09	2.79	63.42	2.46	na	na	na
S 17231D	Former USAF Supply Well outside Pump House	64.98	63.64	127	63.10	1.88	63.02	1.96	62.49	2.49	63.20	1.78	-0.71
S 19494	USGS Test Well	58.12	58.27	94	43.36	14.76	54.52	3.60	44.16	13.96	na	na	na
S 19495	Former AT&T Building	55.91	60.31	115	53.40	2.51	53.73	2.18	53.33	2.58	53.89	2.02	-0.56
S 48579	USGS Monitoring Well	36.11	37.66	66	33.60	2.51	33.40	2.71	33.06	3.05	33.21	2.90	-0.15
S 58922	USGS Monitoring Well	46.36	46.86	56	44.95	1.41	47.45	-1.09	44.60	1.76	44.93	1.43	-0.33
S 19496	Former Barracks Supply Well, USAF Emergency Supply Well	73.21	72.63	103	70.79	2.42	71.15	2.06	70.94	2.27	71.71	1.50	-0.77
S 21084	Former USAF Supply Well in Pump House	49.12	48.52	118	47.25	1.87	47.08	2.04	46.60	2.52	47.13	1.99	-0.53
S 76304	Well #1	83.00	80.84	116	80.51	2.49	80.88	2.12	80.63	2.37	81.10	1.90	-0.47
S 121808	Well #2	73.31	71.31	134	71.05	2.26	na	na	70.64	2.67	71.01	2.30	-0.37
S 121811	Well #3A	71.74	69.88	138	69.45	2.29	na	na	na	na	na	na	na
CH-MW044S	CH-MW044 Shallow	68.09	65.82	120	ni	ni	66.44	1.65	66.15	1.94	66.88	1.21	-0.73
CH-MW044D	CH-MW044 Deep	68.38	65.82	157	ni	ni	66.52	1.86	66.08	2.30	66.94	1.44	-0.86
CH-MW045S	CH-MW045 Shallow	46.89	45.18	95	ni	ni	44.61	2.28	44.53	2.36	45.44	1.45	-0.91
CH-MW045D	CH-MW045 Deep	46.85	45.18	136	ni	ni	44.65	2.20	44.52	2.33	45.42	1.43	-0.90

Notes
Shaded groundwater elevations were utilized to create groundwater contours.
At locations where a shallow well and a deeper well are co-located in the UGA, the shallow well groundwater measurement was utilized to develop groundwater contours.
Measurments at S19494 and S70627 are considered anomolous and not used.
S 17231S measured 12/07/20 when Pump House access provided by Park Service.
amsl = above mean sea level
bgs = below ground surface
btoc = below top of casing
ft = feet
HT = High Tide
LT = Low Tide
ID = identification
na = no access
ni = not installed
All horizontal coordinates are in NAD83 NY Long Island State Plane Feet.
All elevations are in NAVD 88.

N W E S
0 150 300 600 Feet
1 inch = 300 feet

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Upper Glacial Aquifer Groundwater Contours February 2021
Camp Hero Phase IV Remedial Investigation Report Addendum
Montauk, New York

PROJECT NO.	PREPARED BY:	DATE:	
60443903	JB	July 2021	**Figure 2-3**

7/15/2021 1:3,600 L:\Legacy\USCHL1FP001\Data\Projects\Gov\Projects\USACE\Camp_Hero\GIS\Projects\Phase_IV_RI_Report_Addendum\MXD\Fig_2_3_Upper_Glacial_Aquifer_Groundwater_Contours_February_2021.mxd

System	Series	Geologic unit			Hydrogeologic unit	
QUATERNARY	Holocene	Recent shore, beach, salt-marsh deposits, and artificial fill			Glacial aquifer	
QUATERNARY	Pleistocene	Moraine and outwash deposits (Ronkonkoma Drift)		Undifferentiated till and stratified drift	Glacial aquifer	
QUATERNARY	Pleistocene	Manhasset Formation	Glaciofluvial deposits	Undifferentiated till and stratified drift	Glacial aquifer	
QUATERNARY	Pleistocene	Manhasset Formation	Montauk Till Member	Undifferentiated till and stratified drift	Glacial aquifer	Confining unit (till unit)
QUATERNARY	Pleistocene	Manhasset Formation	Glaciofluvial deposits	Lower unit of stratified drift	Glacial aquifer	Principal aquifer/UGA
		unconformity?				
QUATERNARY	Pleistocene	Marine clay (Gardiners Clay or 20–ft clay equivalent[?])			Glacial aquifer	Marine clay confining unit
		unconformity?				
QUATERNARY		Post–cretaceous(?) deposits (Jameco Gravel equivalent[?])			Glacial aquifer	
		unconformity?				
CRETACEOUS	Upper Cretaceous	Matawan Group–Magothy Formation undifferentiated			Magothy aquifer	
		unconformity				
CRETACEOUS	Upper Cretaceous	Raritan Formation	Unnamed clay member		Raritan confining unit	
CRETACEOUS	Upper Cretaceous	Raritan Formation	Lloyd Sand Member		Lloyd aquifer	
		unconformity				
PALEOZOIC and PRECAMBRIAN		Crystalline bedrock			Bedrock	

Note
The Principal aquifer referenced in the figure and UGA used in the RI Addendum are synonymous terms. Reference; USGS. 1986. Groundwater Resource Assessment of the Montauk Area, Suffolk County, Long Island, New York. Water Resources Investigations Report 85–4013.

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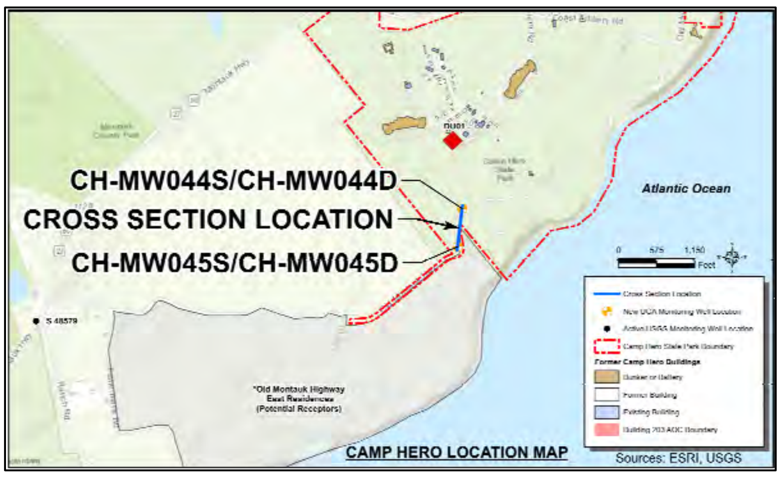
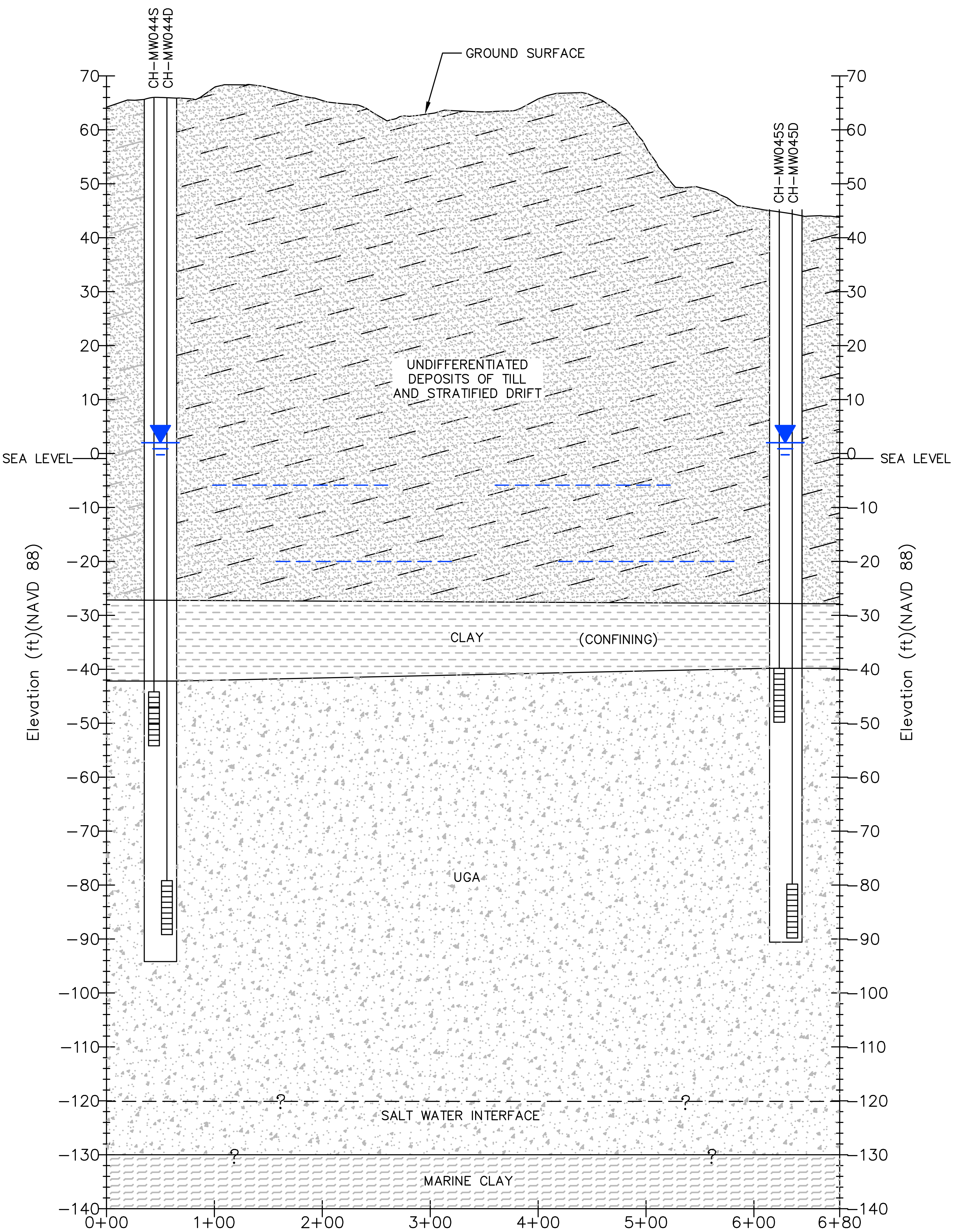
Summary of Geologic Strata and Hydrogeologic Units in the Montauk Area

Camp Hero Phase IV Remedial Investigation Report Addendum
Montauk, New York

PROJECT NO.	PREPARED BY:	DATE:	
60443903	JB	July 2021	**Figure 3-1**





LEGEND

POTENTIOMETRIC SURFACE ELEVATION (FEBRUARY 2021)

MINOR WATER BEARING ZONES

MONITORING WELL SCREEN INTERVAL

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Geologic Cross Section of UGA Monitoring Wells CH-MW-044S/D and CH-MW-045S/D

Camp Hero Phase IV Remedial Investigation Report Addendum

Montauk, New York

PROJECT NO.	PREPARED BY:	DATE:	
60443903	JB	July 2021	**Figure 3-2**

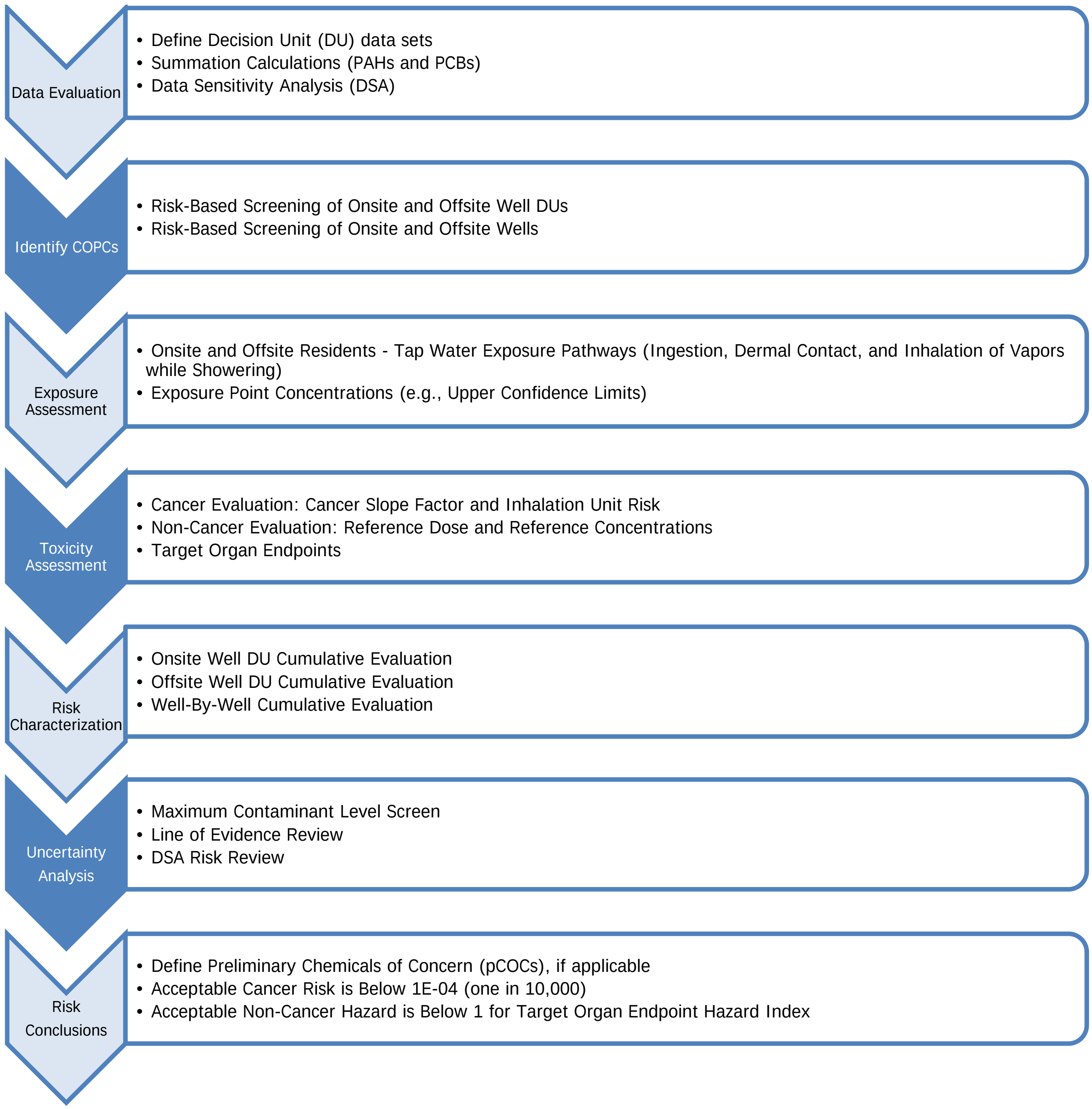

FIGURE 6-1: RISK ASSESSMENT FLOW CHART

Appendix B

Tables

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Appendix B1

Report Tables

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Table 2-1
UGA Monitoring Well Construction Information
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Well ID	Name	Northing	Easting	Elevation Top of Casing (feet amsl)[1]	Elevation Ground Surface (feet amsl)[1]	Total Well Depth (feet bgs)	Screen Interval (feet bgs)
CH-MW044S	CH-MW044 Shallow	332250.4144	1570419.0395	68.09	65.82	120	110-120
CH-MW044D	CH-MW044 Deep	332250.2837	1570419.5106	68.38	65.82	157	147-157
CH-MW045S	CH-MW045 Shallow	331674.6989	1570351.0745	46.89	45.18	95	85-95
CH-MW045D	CH-MW045 Deep	331674.7725	1570351.2595	46.85	45.18	136	126-136

Notes:
[1] Horizontal coordinates are in NAD83 New York Long Island State Plane Feet. Elevations are in NAVD88.

amsl = above mean sea level
bgs = below ground surface
btoc = below top of casing
NAD83 = North American Datum 1983
NAVD88 = North American Vertical Datum 1988

Table 2-2
Soil Geotechnical Results
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Boring ID	Sample ID	Depth (feet bgs)*	Grain Size Analysis (Sieve and Hydrometer)	Sample Description	Moisture Content (%)	sand	fines	gravel
CH-MW044	CHMW044D-SB-14-15	14-15	59.3% sand, 36.1% fines, and 4.6% gravel	Moist, brown clayey sand	13.2	59.3%	36.1%	4.6%
CH-MW044	CHMW044D-SB-27-29	27-29	64.2% sand, 35.8% fines, and 0% gravel	Moist, grayish brown clayey sand	10.8	64.2%	35.8%	0.0%
CH-MW044	CHMW044D-SB-37-39	37-39	60.5% sand, 35.4% fines, 4.1% grave.	Moist, gray clayey sand	10.3	60.5%	35.4%	4.1%
CH-MW044	CHMW044D-SB-46-47	46-47	62.3% sand, 36.6% fines, and 1.1% gravel	Moist, gray clayey sand	10.9	62.3%	36.6%	1.1%
CH-MW044	CHMW044D-SB-58-59	58-59	67.7% sand, 25.3% fines, and 7.0% gravel	Moist, gray clayey sand	10	67.7%	25.3%	7.0%
CH-MW044	CHMW044D-SB-63-64	63-64	66.7% sand, 20.1% fines, and 13.2% gravel	Moist, gray clayey sand	11.9	66.7%	20.1%	13.2%
CH-MW044	CHMW044D-SB-70-72	70-72	83.1% sand, 14.5% fines, and 2.4% gravel	Moist, grayish brown silty sand	10.6	83.1%	14.5%	2.4%
CH-MW044	CHMW044D-SB-85-86	85-86	71.1% fines, 28.9% sand, and 0% gravel	Moist, gray clay with sand	23.7	28.9%	71.1%	0.0%
CH-MW044	CHMW044D-SB-96-97	96-97	95.0% fines, 5.0% sand, and 0% gravel	Moist, dark gray clay	24.9	5.0%	95.0%	0.0%
CH-MW044	CHMW044D-SB-108-109	108-109	69.5% fines, 21.6% sand, and 8.9% gravel	Moist, gray clay with sand	21.3	21.6%	69.5%	8.9%
CH-MW044	CHMW044D-SB-115-116	115-116	88.1% sand, 9.8% fines, and 2.1% gravel	Moist, gray sand with silt	17.1	88.1%	9.8%	2.1%
CH-MW044	CHMW044D-SB-123-125	123-125	88.8% sand, 8.3% gravel, and 2.9% fines	Moist, gray sand	15.4	88.8%	2.9%	8.3%
CH-MW044	CHMW044D-SB-136-138	136-138	77.8% sand, 15.8% gravel, and 6.4% fine.	Moist, grayish brown sand with silt and gravel	6.9	77.8%	6.4%	15.8%
CH-MW044	CHMW044D-SB-157-159	157-159	88.0% sand, 10.4% fines, and 1.6% gravel	Moist, gray sand with silt	13.2	88.0%	10.4%	1.6%

Notes:
bgs = Below Ground Surface; % fines = %silt and clay; * Discreet Sample
Moisture – 24 ASTM D2216; Grain Size Analysis – 24 ASTM D6913/D7928

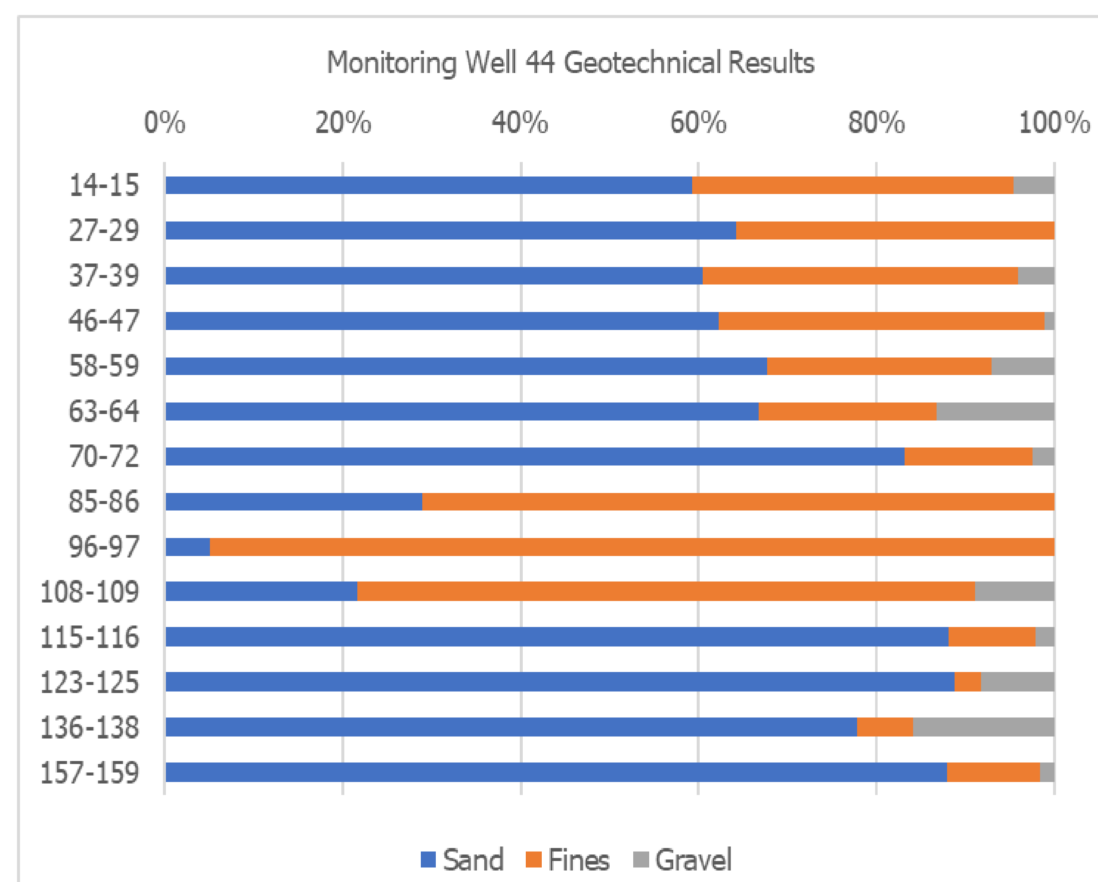

Table 2-2
Soil Geotechnical Results
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Boring ID	Sample ID	Depth (feet bgs)*	Grain Size Analysis (Sieve and Hydrometer)	Sample Description	Moisture Content (%)	sand	fines	gravel
CH-MW045D	CHMW045D-SB-00-10	0-10	46.6% sand, 28.6% fines, and 24.8% gravel	Moist, dark yellowish brown clayey sand with gravel	12.2	46.6%	28.6%	24.8%
CH-MW045D	CHMW045D-SB-10-30	10-30	63.8% sand, 32.5% fines, and 14.9% gravel	Moist, dark gray clayey sand	10.8	63.8%	32.5%	14.9%
CH-MW045D	CHMW045D-SB-30-50	30-50	59.3% sand, 25.8% fines, 14.9% grave.	Moist, gray clayey sand	10	59.3%	25.8%	14.9%
CH-MW045D	CHMW045D-SB-40-50	40-50	72.9% sand, 26.2% fines, and 0.9% gravel	Moist, grayish brown silty sand	10.7	72.9%	26.2%	0.9%
CH-MW045D	CHMW045D-SB-50-60	50-60	38.7% sand, 58.2% fines, and 3.1% gravel	Moist, grayish brown sandy clay	20.7	38.7%	58.2%	3.1%
CH-MW045D	CHMW045D-SB-60-70	60-70	39.5% sand, 60.5% fines, and 0% gravel	Moist, grayish brown sandy silt	27.4	39.5%	60.5%	0.0%
CH-MW045D	CHMW045D-SB-72-80	72-80	11.4% sand, 88.6% fines, and 0.3% gravel	Moist, dark grayish brown clay	23.9	11.4%	88.6%	0.3%
CH-MW045D	CHMW045D-SB-80-85	80-85	35.1% sand, 64.9% fines, and 0.3% gravel	Moist, grayish brown sandy clay	22.5	35.1%	64.9%	0.3%
CH-MW045D	CHMW045D-SB-90-100	90-100	93.7% sand, 6.0% fines, and 0% gravel	Moist, gray sand with silt	16.4	93.7%	6.0%	0.0%
CH-MW045D	CHMW045D-SB-132-134	132-134	89.6% sand, 10.4 fines%, and 0% gravel	Moist, grayish brown sand with silt	18.1	89.6%	10.4%	0.0%

Notes:
BGS = Below Ground Surface; % fines = %silt and clay; * Composite Sample
Moisture – 24 ASTM D2216; Grain Size Analysis – 24 ASTM D6913/D7928

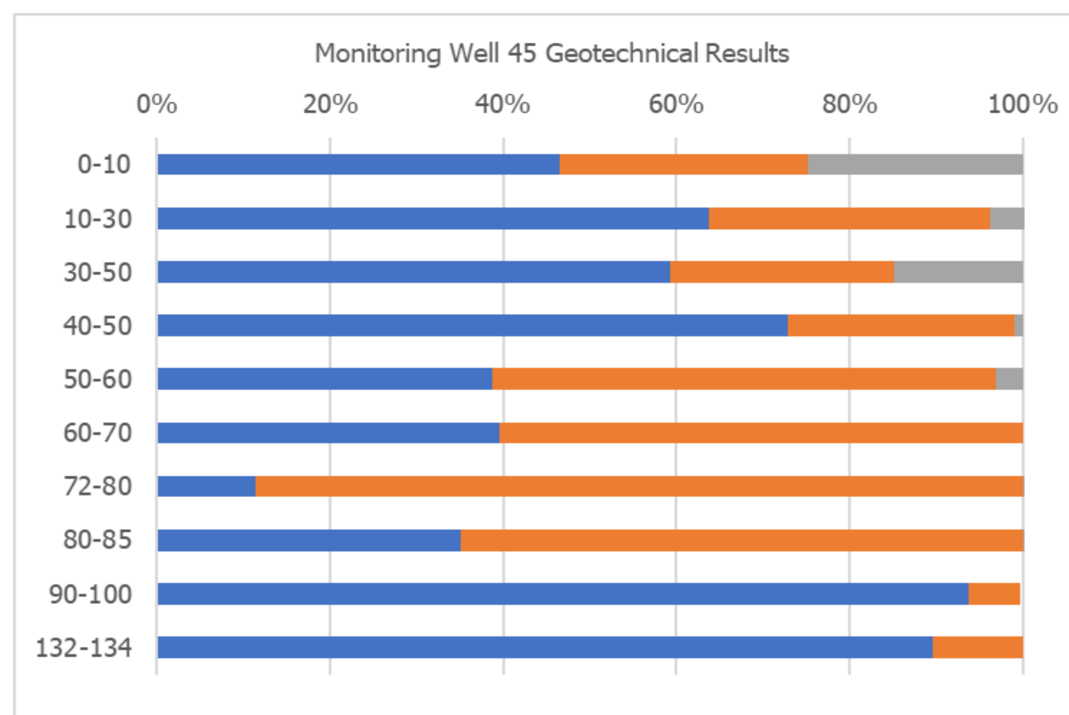

Table 2-3
Phase IV Groundwater Analytical Sample Summary
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Well ID	Well Nickname	Sampling Method	Target Depth	Target Field Parameters		Sample Dates	Field Sample IDs	Target Laboratory Parameters				Comments/Deviations from QAPP Addendum
				Well Head PID	pH, ORP, SC, DO, Turb			VOCs[1]	SVOCs[2]	PCBs	Metals[3] Total and Dissolved	
Onsite Wells												
CH-MW044D	CH-MW044 Deep	Low-Flow, Bladder Pump	Mid-screen	X	X	11-Dec-20 22-Feb-21	CH-MW044D-1220 CH-MW044D-0221	X	X	X	X	
CH-MW044S	CH-MW044 Shallow	Low-Flow, Bladder Pump	Mid-screen	X	X	11-Dec-20 22-Feb-21	CH-MW044S-1220 CH-MW044S-0221	X	X	X	X	
CH-MW045D	CH-MW045 Deep	Low-Flow, Bladder Pump	Mid-screen	X	X	12-Dec-20 22-Feb-21	CH-MW045D-1220 CH-MW045D-0221	X	X	X	X	
CH-MW045S	CH-MW045 Shallow	Low-Flow, Bladder Pump	Mid-screen	X	X	9-Dec-20 22-Feb-21	CH-MW045S-1220 CH-MW045S-0221	X	X	X	X	
S 17231S	Former USAF Supply Well in Pump House	Low-Flow, Bladder Pump	Mid-screen	X	X	10-Dec-20 25-Feb-21	S17231S-1220 S17231S-0221, S17231S-0221D	X	X	X	X	
S 19494	USGS Test Well (Behind Barracks Building)	Low-Flow, Bladder Pump	Mid-screen	X	X	7-Dec-20 23-Feb-21	S19494-1220 S19494-0221	X	X	X	X	The test well exhibited poor water quality parameters.
S 19495	Former AT&T Building Well	Low-Flow, Bladder Pump	Mid-screen	X	X	8-Dec-20 23-Feb-21	S19495-1220 S19495-0221	X	X	X	X	Removed old submersible pump and properly disposed.
Offsite Wells												
S 1202	Lighthouse Well (Gift Shop Potable Well)	Tap	Mid-screen	X	X	9-Dec-20 24-Feb-21	S1202-1220 S1202-0221	X	X	X	X	
S 3599	Lighthouse Well (Museum Shower)	Tap	Mid-screen	X	X	9-Dec-20 24-Feb-21	S3599-1220 S3599-0221	X	X	X	X	
S 48579	USGS Monitoring Well (Route 27 at Horse Ranch)	Low-Flow, Bladder Pump	Mid-screen	X	X	10-Dec-20 23-Feb-21	S48579-1220 S48579-0221	X	X	X	X	
S 58922	USGS Monitoring Well (Pocohontas Road)	Low-Flow, Bladder Pump	Mid-screen	X	X	9-Dec-20 23-Feb-21	S58922-1220 S58922-0221	X	X	X	X	
S 70627	USGS Monitoring Well (Route 27 near Lighthouse)	Low-Flow, Bladder Pump	Mid-screen	X	X	12-Dec-20 24-Feb-21	S70627-1220 S70627-0221	X	X	X	X	
S 76304	Madison Hill Well Field #1	Low-Flow, Waterra Pump	Mid-screen	X	X	13-Dec-20 27-Feb-21	S76304-1220, S76304-1220D S76304-0221	X	X	X	X	Well construction restriction resulted in the development volume and turbidity target not achieved in December 2021 but were acheived in the February 2021.
S 79269	Montauk Point State Park Well (Potable)	Tap	Mid-screen	X	X	8-Dec-20 25-Feb-21	S79269-1220, S79269-1220D S79269-0221, S79269-0221D	X	X	X	X	

Notes:
[1] VOCs analysis included specific parameters based on preliminary screening evaluation results, plus NYSDEC STARs list
[2] SVOCs analysis included selected SVOCs based on preliminary screening evaluation, plus NYSDEC STARs list (includes full TCL PAHs plus NYSDEC STARs list)
[3] Metals analysis included full TAL metals, including hexavalent chromium and mercury. Total (unfiltered) and dissolved (field-filtered) samples were collected.

DO = dissolved oxygen
ID = identifier
NYSDEC = New York State Department of Environmental Conservation
ORP = oxidation-reduction potential
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls
PID = photoionization detector
SC = specific conductivity
SVOC = semivolatile organic compound
TAL = total analyte list
Turb = turbidity
USAF = United States Air Force
USGS = United States Geological Survey
VOC = volatile organic compound

Table 2-4
Phase IV UGA Groundwater Elevations
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Well ID	Name	Northing[3]	Easting[3]	Elevation Top of Casing (feet amsl)[3]	Elevation Ground Surface (feet amsl)[3]	Total Well Depth (feet bgs)	Depth to Groundwater (feet btoc) 10/08/2020	Groundwater elevation (feet amsl) 10/08/20	Depth to Groundwater (feet btoc) 12/12/2020	Groundwater elevation (feet amsl) 12/12/2020	Depth to Groundwater HT (feet btoc) 02/25/2021	Groundwater elevation HT (feet amsl) 02/25/2021	Depth to Groundwater LT (feet btoc) 02/25/2021	Groundwater elevation LT (feet amsl) 02/25/2021	Groundwater elevation HT-LT (feet amsl) 02/25/2021
Onsite Wells															
CH-MW044D	CH-MW044 Deep	332250.2837	1570419.5106	68.38	65.82	157	ni	ni	66.52	1.86	66.08	2.30	66.94	1.44	-0.86
CH-MW044S	CH-MW044 Shallow	332250.4144	1570419.0395	68.09	65.82	120	ni	ni	66.44	1.65	66.15	1.94	66.88	1.21	-0.73
CH-MW045D	CH-MW045 Deep	331674.7725	1570351.2595	46.85	45.18	136	ni	ni	44.65	2.20	44.52	2.33	45.42	1.43	-0.90
CH-MW045S	CH-MW045 Shallow	331674.6989	1570351.0745	46.89	45.18	95	ni	ni	44.61	2.28	44.53	2.36	45.44	1.45	-0.91
S 17231S[1]	Former USAF Supply Well in Pump House	334001.0634	1570722.9408	65.88	65.34	116	63.78	2.10	63.09	2.79	63.42	2.46	na	na	na
S 19494[2]	USGS Test Well (Behind Barracks Building)	334735.2101	1570010.8283	58.12	58.27	94	43.36	14.76	54.52	3.60	44.16	13.96	na	na	na
S 19495	Former AT&T Building Well	334054.5890	1569624.7473	55.91	60.31	115	53.40	2.51	53.73	2.18	53.33	2.58	53.89	2.02	-0.56
Offsite Wells															
S 17231D	Former USAF Supply Well outside Pump House	333996.3612	1570747.0485	64.98	63.64	127	63.10	1.88	63.02	1.96	62.49	2.49	63.20	1.78	-0.71
S 76304	Madison Hill Well Field #1	336044.0839	1570491.7518	83.00	80.84	116	80.51	2.49	80.88	2.12	80.63	2.37	81.10	1.90	-0.47
S 121808	Madison Hill Well Field #2	335726.9261	1570332.5094	73.31	71.31	134	71.05	2.26	na	na	70.64	2.67	71.01	2.30	-0.37
S 121811	Madison Hill Well Field #3A	335654.9906	1569814.3588	71.74	69.88	138	69.45	2.29	na	na	na	na	na	na	na
S 19496	Barracks Supply Well	332355.9428	1571124.2968	73.21	72.63	103	70.79	2.42	71.15	2.06	70.94	2.27	71.71	1.50	-0.77
S 21084	Former USAF Supply Well	332878.3287	1569177.8465	49.12	48.52	118	47.25	1.87	47.08	2.04	46.60	2.52	47.13	1.99	-0.53
S 48579	USGS Monitoring Well (Route 27 at Horse Ranch)	330554.7600	1563986.5400	36.11	37.66	66	33.60	2.51	33.40	2.71	33.06	3.05	33.21	2.90	-0.15
S 58922	USGS Monitoring Well (Pocohontas Road)	334339.3200	1560032.1300	46.36	46.86	56	44.95	1.41	47.45	-1.09	44.60	1.76	44.93	1.43	-0.33
S 70627[2]	USGS Monitoring Well (Route 27 near Lighthouse)	336511.3900	1572619.3300	88.81	89.16	97	72.30	16.51	74.15	14.66	73.97	14.84	73.44	15.37	0.53

Notes:
Shaded groundwater elevations are within the normal range found for the UGA and were utilized to evaluate UGA flow direction. The shallow well screen groundwater elevation was utilized to evaluate UGA flow direction at locations where a shallow and a deeper well screen are colocated.
[1] S 17231S measured 12/07/20 and 02/25/21 when Pump House access provided by Park Service.
[2] Measurments at S19494 and S70627 are considered erratic for the UGA and are not used.
[3] Horizontal location data are in NAD83 New York Long Island State Plane Feet. Vertical location data are in NAVD88.

amsl = above mean sea level
bgs = below ground surface
btoc = below top of casing
HT = high tide
LT = low tide
na = no access
NAD 83 = North American Datum 1983
NAVD 88 = North Amerivan Vertical Datum 1988
ni = not installed
nm = no measurement
UGA = Upper Glacial Aquifer
USAF = United States Air Force
USGS = United States Geological Survey

Table 2-5
Phase IV Soil and Liquid IDW Results
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

	Toxicity Characteristic Regulatory Level[1]	Units	CH-WW-1220-01		CH-ST-1220-01	
			Liquid IDW[2]		Soil IDW[2]	
TCLP: RCRA VOCs						
Benzene	500	ug/L	10	U H	10	U
Carbon tetrachloride	500	ug/L	10	U H	10	U
Chlorobenzene	100000	ug/L	10	U H	10	U
Chloroform	6000	ug/L	10	U H	10	U
1,2-Dichloroethane	500	ug/L	10	U H	10	U
1,1-Dichloroethene	700	ug/L	10	U H	10	U
2-Butanone	200000	ug/L	20	U H	20	U
Tetrachloroethene	700	ug/L	10	U H	10	U
Trichloroethene	500	ug/L	10	U H	10	U
Vinyl chloride	200	ug/L	10	U H	10	U
TCLP: RCRA SVOCs						
1,4-Dichlorobenzene	7.5	mg/L	0.0050	U H	0.0050	U
2,4,5-Trichlorophenol	400	mg/L	0.0050	U H	0.0050	U
2,4,6-Trichlorophenol	2	mg/L	0.0050	U H	0.0050	U
2,4-Dinitrotoluene	0.13	mg/L	0.010	U H	0.010	U
2-Methylphenol	200	mg/L	0.0050	U H	0.0050	U
4-Methylphenol	200	mg/L	0.0050	U H	0.0050	U
Hexachlorobenzene	0.13	mg/L	0.0010	U H	0.0010	U
Hexachlorobutadiene	0.5	mg/L	0.0050	U H	0.0050	U
Hexachloroethane	3	mg/L	0.010	U H	0.010	U
Nitrobenzene	2	mg/L	0.0050	U H	0.0050	U
Pentachlorophenol	100	mg/L	0.020	U H	0.020	U
Pyridine	25	mg/L	0.020	U H	0.020	U
TCLP: RCRA Metals						
Arsenic	5000	ug/L	24	U	24	U
Mercury	200	ug/L	0.20	U	0.20	U
Barium	100000	ug/L	90		340	
Cadmium	1000	ug/L	2.5	U	2.5	U
Chromium	5000	ug/L	3.8	U	49	
Lead	5000	ug/L	11	U	11	U
Selenium	1000	ug/L	25	U	25	U
Silver	5000	ug/L	7.5	U	7.5	U
Reactivity, Corrosivity, Ignitability, pH						
Flashpoint - Degrees F	NA		>185		not analyzed	
Ignitable to Air, Flame, Friction, Water	NA		not analyzed		sample did not spontaneously ignite	
pH - S.U.	2 ≤ pH ≤ 12.5		7.1		12.4	
Temperature - Degrees C	NA		21.3		19.2	
Percent Moisture - %	NA		not analyzed		23.6	

Notes

[1] Maximum Concentration of Contaminants for the Toxicity Characteristic as stated in USEPA's hazardous waste characteristics regulations under the authority of the Resource Conservation and Recovery Act (RCRA) Subtitle C as established in the Title 40 of the Code of Federal Regulations (CFR) Part 261.24

[2] Preliminary data has not been validated

H = sample prepped beyond specified holding time
IDW = investigation-derived waste
mg/L = miligrams per liter
NA = Not Applicable
RCRA = Resource Conservation and Recovery Act
S.U. = standard unit
TCLP = Toxicity Characteristic Leaching Procedure
U = non detect
ug/L = micrograms per liter

Table 3-1
Upper Glacial Aquifer Well Summary
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

USGS Well ID	USGS Site ID	Well Nickname	Well Status	Owner	Source of Information	Well Completion Report (Y/N)	Well Depth	Analytical Data (Y/N)	Latitude	Longitude	Location	Sample Period (if available)	Analytical Data Type (if available)	Compounds Exceeded MCLs	Other Notes
S 1202	410415071513101	Lighthouse Well (Gift Shop Potable Well)	Active	U.S. Coast Guard	USGS	N	30	N	41°04'15.42"	71°51'29.32"	Montauk Point State Park	Jun. 2015	Water quality parameters, inorganics, metals, VOCs, SVOCs, pesticides, herbicides	---	Data from Lighthouse Reception Center sink
S 3259	415243071522201	Former USAF Supply Well	Inactive	U.S. Air Force	USGS	Y	116	Y	41°03'43"	71°52'20"	Camp Hero	Oct. 1953	Water quality parameters, inorganics, metals	Iron	---
S 3260	---	Former USAF Supply Well	Inactive	U.S. Air Force	USGS [1]	N	---	N	41°03'45"	71°52'32"	Camp Hero	---	---	---	---
S 3599	410412071513001	Lighthouse Well (Museum Shower)	Active	U.S. Coast Guard	USGS	N	69	N	41°04'13"	71°51'28"	Montauk Point State Park	---	---	---	---
S 79269	---	Montauk Point State Park Well (Potable)	Active	Long Island State Park	SCDHS, Camp Hero	N	---	Y	41°04'16"	71°51'54"	Montauk Point State Park	Mar. 2019	Water quality parameters, Metals, inorganics, VOCs, SVOCs, pesticides, herbicides	None	---
S 15812	410416071514601	Former Montauk Point State Park Well	Inactive	Long Island State Park	USGS, SCDHS, Camp Hero	Y	95	Y	41°04'16"	71°51'46"	Montauk Point State Park	Sept. 2016, Apr. 1974	Water quality parameters, Metals, inorganics, VOCs, SVOCs, pesticides, herbicides	Iron	---
S 70627	410414071515901	USGS Monitoring Well (Route 27 near Lighthouse)	Active	USGS	USGS	N	95	N	41°04'14.3"	71°51'57.6"	Camp Hero	---	---	---	---
S 17231S	---	Former USAF Supply Well in Pump House	Inactive	U.S. Air Force	USGS [1]	Y	119	N	41°03'50"	71°52'23"	Camp Hero	---	---	---	---
S 17231D	---	Former USAF Supply Well outside Pump House	Inactive	U.S. Air Force	USGS [1]	N	156	N	41°03'50"	71°52'23"	Camp Hero	---	---	---	---
S 17859	---	Former USAF Supply Well in Pump House	Inactive	U.S. Air Force	USGS [1]	N	---	N	41°03'43"	71°52'20"	Camp Hero	---	---	---	---
S 19494	---	USGS Test Well (Behind Barracks Building)	Inactive	U.S. Air Force	USGS [1]	N	87	N	41°03'56.83"	71°52'32.49"	Camp Hero	---	---	---	---
S 19495	---	Former AT&T Building Well	Inactive	American Telephone & Telegraph Co.	USGS [1]	N	---	N	41°03'50.77"	71°52'37.47"	Camp Hero	---	---	---	---
S 48579	410316071535501	USGS Monitoring Well (Route 27 at Horse Ranch)	Active		USGS	N	---	N	41°03'17.5"	71°53'52.1"	West of Camp Hero	---	---	---	---
S 58922	410356071544201	USGS Monitoring Well (Pocohontas Road)	Active	USGS	USGS	Y	56	N	41°03'55.8	71°54'42.7	West of Camp Hero	---	---	---	---
S 19496	---	Former Barracks Supply Well	Inactive	U.S. Air Force	USGS [1]	N	140	N	41°03'33.63"	71°52'18.75"	Camp Hero	---	---	---	---
S 21084	---	Former USAF Supply Well in Pump House	Inactive	U.S. Air Force	USGS [1]	N	118	N	41°03'40.47"	71°52'44.11"	Camp Hero	---	---	---	---
---	---	Old Montauk Hwy Residential Well	Active	Private	SCDHS	N	---	Y[2]	NA[4]	---	Old Montauk Hwy East	2010, 2015	Water quality parameters, inorganics, metals, VOCs, pesticides, herbicides[3]	Coliforms	Private residential well location; replacement well recently installed in 2019
---	---	Old Montauk Hwy Residential Well	Active	Private	SCDHS	N	---	Y2	---	---	Old Montauk Hwy East	2010-2019	Inorganics, metals, VOCs, SVOCs, pesticides, herbicides	Iron, Manganese, Coliforms	Samples taken from taps from outside, kitchen, and bathroom. Kitchen and bathroom samples have softener and GAC-ion exchange.
S 76304	410406071523001	Madison Hill Well Field Well #1	Inactive	SCWA/Town of East Hampton	USGS, SCDHS	Y	141	Y	41°04'07"	71°52'35"	Madison Hills	Oct. 1984 - Jul. 2002	Water quality parameters, inorganics, metals, VOCs, pesticides, herbicides	Arsenic, Iron, Manganese	---
S 76305	410406071523101	'Madison Hill Well Field Well #3	Inactive	SCWA/Town of East Hampton	USGS, SCDHS	Y	125	Y	41°04'07"	71°52'35"	Madison Hills	Oct. 1984 - Jul. 2002	Water quality parameters, inorganics, metals, VOCs, pesticides, herbicides	Arsenic, Lead, Iron, Manganese	---

Table 3-1
Upper Glacial Aquifer Well Summary
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

USGS Well ID	USGS Site ID	Well Nickname	Well Status	Owner	Source of Information	Well Completion Report (Y/N)	Well Depth	Analytical Data (Y/N)	Latitude	Longitude	Location	Sample Period (if available)	Analytical Data Type (if available)	Compounds Exceeded MCLs	Other Notes
S 121808	---	'Madison Hill Well Field Well #2	Inactive	SCWA/Town of East Hampton	SCDHS	Y	132	Y	41°04'06.5"	71°52'35"	Madison Hills	Feb. 2005, Sep. 2009, Feb. 2010	Metals, inorganics, VOCs, SVOCs, pesticides, herbicides	Arsenic, Iron, Manganese	---
S 121811	---	'Madison Hill Well Field Well #3A	Inactive	SCWA/Town of East Hampton	SCDHS	Y	132	Y	41°04'06.5"	71°52'35"	Madison Hills	Sep. 2009, Feb. 2010	Metals, inorganics, VOCs, SVOCs, pesticides, herbicides	Iron, Manganese	
---	---	Motor Pool Supply Well	Active	Camp Hero	SCDHS	N	---	Y	41°04'00.5"	71°52'09"	Camp Hero	Aug. 2015, Sep. 2016	Metals, inorganics, VOCs, SVOCs	None	3 compartment sink

Notes:
[1.] Perlmutter, N.M., and DeLuca, F.A., 1963, *Availability of fresh ground water Montauk Point area Suffolk County Long Island, New York*: U.S. Geological Survey Water-Supply Paper 1613-B, 39 p.
[2,3.] Analytical results exceeding MCLs provided by SCDHS; full analytical results not provided by SCDHS due to privacy concerns. Standard drinking water analyses assumed.
[4.] Location not available due to privacy concerns.

Notes Continued:
ID - identifier
N - no
SCWA - Suffolk County Water Authority
SCDHS - Suffolk County Department of Health Services
SVOC - semi-volatile organic compound
TBD - to be determined
U.S. - United States
UGA - Upper Glacial Aquifer
USGS - United States Geological Survey
VOC - volatile organic compound
Y - yes

Table 3-2
Upper Glacial Aquifer Groundwater Analyses
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Location	USGS Well ID	Sample Dates	Analytical Data Type	Exceedances	Source of Data
Camp Hero	**Former USAF Supply Well 3259**	October 1953	Water quality parameters, inorganics, metals	Iron (16 mg/L)	USGS
	Well for Motor Pool	August 2015	Water quality parameters, metals, inorganics, VOCs, pesticides, herbicides	None	SCDHS
		September 2016	Water quality parameters, metals, inorganics, VOCs, SVOCs, pesticides, herbicides	None	SCDHS
Madison Hills Drive Well Field	**Madison Hill Well Field Well #1 S 76304**	October 1984 (3 dates)	Water quality parameters, inorganics, metals, VOCs	Iron (0.34 to 0.47 mg/L) Manganese (0.53 to 0.58 mg/L)	SCDHS
		October 1989	Water quality parameters, inorganics, metals	Iron (0.98 mg/L) Manganese (0.8 mg/L)	SCDHS
		April 1990	Water quality parameters, inorganics, metals, VOCs	Iron (0.97 mg/L) Manganese (0.88 mg/L)	SCDHS
		October 1990	Water quality parameters, inorganics, metals, VOCs	Iron (1.2 mg/L) Manganese (0.84 mg/L)	SCDHS
		January 1991	Water quality parameter, inorganics, metals, VOCs	Iron (1.94 mg/L) Manganese (0.95 mg/L)	SCDHS
		October 1991	Water quality parameters, inorganics, metals, VOCs	Iron (3.2 mg/L) Manganese (0.84 mg/L)	SCDHS
		November 1992	Water quality parameters, inorganics, metals, VOCs, pesticides	Iron (2.7 mg/L) Manganese (0.75 mg/L)	SCDHS
		July 1994	Water quality parameters, inorganics, metals, VOCs, pesticides	Iron (4.6 mg/L) Manganese (0.89 mg/L)	SCDHS
		October 1994 (1 date)	Water quality parameters, inorganics, metals	Arsenic (10 µg/L) Iron (2.5 and 4.7 mg/L) Manganese (0.83 and 0.57 mg/L)	SCDHS
		November 1995	Pesticides	None	SCDHS
		April 1996	Water quality parameters, inorganics, metals, VOCs, pesticides	Iron (1.34 mg/L) Manganese (0.98 mg/L)	SCDHS
		June 1998	Water quality parameters, inorganics, metals, VOCs, SVOCs, pesticides, herbicides	Iron (6 mg/L) Manganese (0.616 mg/L)	SCDHS
		June 1999	Arsenic	None	USGS [1]
		August 2000	Arsenic	None	USGS [1]
		December 2000	Arsenic	None	USGS [1]
		April 2002	Arsenic	Arsenic (10.2 µg/L)	USGS [1]
		July 2002	Water quality parameters, inorganics, metals	Arsenic (11 µg/L) Iron (2.24 mg/L) Manganese (1.4 mg/L)	USGS
	Madison Hill Well Field Well #3 S 76305	October 1984 (3 dates)	Water quality parameters, inorganics, metals, VOCs	Iron (1.91 to 2.03 mg/L) Manganese (0.52 to 0.58 mg/L)	SCDHS
		February 1985	Water quality parameters, inorganics, metals, VOCs	Iron (2.18 mg/L) Manganese (0.59 mg/L)	SCDHS
		March 1985	Water quality parameters, inorganics, metals, VOCs	Iron (2.51 mg/L) Manganese (0.55 mg/L)	SCDHS
		July 1985	Water quality parameters, inorganics, metals, VOCs	Iron (3.9 mg/L) Manganese (0.72 mg/L)	SCDHS
		October 1989	Water quality parameters, inorganics, metals	Iron (5.3 mg/L) Manganese (0.58 mg/L)	SCDHS
		April 1990	Water quality parameters, inorganics, metals, VOCs	Iron (6.2 mg/L) Manganese (0.79 mg/L)	SCDHS
		October 1990	Water quality parameters, inorganics, metals, VOCs	Iron (5.7 mg/L) Manganese (0.68 mg/L)	SCDHS
		January 1991	Water quality parameters, inorganics, metals, VOCs	Iron (4.29 mg/L) Manganese (0.66 mg/L)	SCDHS
		October 1991	Water quality parameters, inorganics, metals, VOCs	Iron (5.1 mg/L) Manganese (0.73 mg/L)	SCDHS

Table 3-2
Upper Glacial Aquifer Groundwater Analyses
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Location	USGS Well ID	Sample Dates	Analytical Data Type	Exceedances	Source of Data
Madison Hills Drive Well Field (*continued*)	**Madison Hill Well Field Well #3 S 76305 (*continued*)**	November 1992	Water quality parameters, inorganics, metals, VOCs, pesticides	Iron (4.34 mg/L) Manganese (0.59 mg/L)	SCDHS
		July 1994	Pesticides	None	SCDHS
		April 1996	Water quality parameters, inorganics, metals, VOCs, pesticides	Lead (15.9 µg/L) Iron (3.9 mg/L) Manganese (0.72 mg/L)	SCDHS
		June 1998	Water quality parameters, inorganics, metals, VOCs, SVOCs, pesticides, herbicides	Arsenic (10.1 µg/L) Iron (1.29 mg/L)	SCDHS
		June 1999	Arsenic	None	USGS [1]
		December 2000	Arsenic	None	USGS [1]
		February 2002	Arsenic	None	USGS [1]
		July 2002	Water quality parameters, inorganics, metals	Iron (4.7 mg/L) Manganese (0.585 mg/L)	USGS
	Madison Hill Well Field Well #2 S 121808	February 2005	Water quality parameters, metals, inorganics, VOCs, SVOCs, pesticides, herbicides	Arsenic (12 µg/L) Manganese (0.640 mg/L)	SCDHS
		September 2009	Water quality parameters, metals, inorganics, VOCs, SVOCs, pesticides, herbicides	Arsenic (14 µg/L) Iron (0.8 mg/L) Manganese (0.922 mg/L)	SCDHS
		February 2010	Water quality parameters, metals, inorganics, VOCs, SVOCs, pesticides, herbicides	Arsenic (13 µg/L) Iron (0.7 mg/L) Manganese (0.987 mg/L)	SCDHS
	Madison Hill Well Field Well #3A S 121811	September 2009	Water quality parameters, metals, inorganics, VOCs, SVOCs, pesticides, herbicides	Iron (3.7 mg/L) Manganese (0.566 mg/L)	SCDHS
		February 2010	Water quality parameters, metals, inorganics, VOCs, pesticides, herbicides	Iron (4.6 mg/L) Manganese (0.641 mg/L)	SCDHS
Montauk Lighthouse	**Lighthouse Well (Gift Shop Potable Well) S 1202**	June 2015	Water quality parameters, inorganics, metals, VOCs, SVOCs, pesticides, herbicides	None	SCDHS
Montauk Point State Park	**Montauk Point State Park Well (Potable) S 79269**	March 2019	Water quality parameters, inorganics, metals, VOCs, SVOCs, pesticides, herbicides	None	SCDHS
	Former Montauk Point State Park Well S 15812	April 1974	Water quality parameters, inorganics, metals	Iron (0.32 mg/L)	USGS

Table 3-2
Upper Glacial Aquifer Groundwater Analyses
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Location	USGS Well ID	Sample Dates	Analytical Data Type	Exceedances	Source of Data
Old Montauk Highway East	---	April 2010	Inorganics, metals, VOCs, SVOCs, pesticides, herbicides,	None	SCDHS
		March 2015	Inorganics, metals, VOCs, SVOCs, pesticides, herbicides,	Iron (0.34 mg/L)	SCDHS
		April 2015	Inorganics, metals, VOCs, SVOCs, pesticides, herbicides,	Iron (4.60 mg/L) Manganese (391.0 mg/L)	SCDHS
		June 2019	Inorganics, metals, VOCs, SVOCs, pesticides, herbicides,	None	SCDHS
		July 2019	Inorganics, metals, VOCs, SVOCs, pesticides, herbicides,	None	SCDHS

Notes:
1. Cartwright, R.A., 2004, *Occurrence of Arsenic in Ground Water of Suffolk County, New York, 1997-2002*: USGS Water-Resources Investigations Report 03-4315, 11 p.

μg/L - micrograms per liter
ID - identifier
mg/L - milligrams per liter
SCDHS - Suffolk County Department of Health Services
SVOC - semi-volatile organic compound
USGS - United States Geological Survey
VOC - volatile organic compound

Maximum Contaminant Levels
Arsenic - 10 μg/L
Lead - 15 μg/L (Action Level)

Drinking Water Secondary Standards
Manganese - .05 mg/L
Iron - 0.3 mg/L

Table 4-1. Frequency of Exceedances to Screening Values
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Constituent	Frequency of Detection					
	On-Site				Off-Site	
	December 2020		February 2021		December 2020	February 2021
	All Wells	New Wells	All Wells	New Wells		
2-Butanone	1/7	0/4	0/7	0/4	0/7	0/7
Chloroform	4/7	4/4	0/7	0/4	0/7	1/7
1,4-Dichlorobenzene	0/7	0/4	0/7	0/4	1/7	0/7
1,4-Dioxane	1/7	1/4	0/7	0/4	0/7	0/7
Total BaP TEQ Calculated	0/7	0/4	1/7	0/4	1/7	0/7
Total PAHs Calculated	3/7	3/4	3/7	2/4	1/7	3/7
Total PCBs Calculated	0/7	0/4	0/7	0/4	1/7	1/7
Antimony (D)	0/7	0/4	0/7	0/4	1/7	0/7
Arsenic (D)	0/7	0/4	5/7	4/4	2/7	2/7
Barium (D)	0/7	0/4	1/7	1/4	0/7	0/7
Chromium (VI) (D)	0/7	0/4	2/7	0/4	0/7	5/7
Cobalt (D)	2/7	2/4	0/7	0/4	1/7	1/7
Copper (D)	0/7	0/4	0/7	0/4	1/7	1/7
Iron (D)	5/7	2/4	6/7	4/4	2/7	1/7
Magnesium (D)	1/7	1/4	0/7	0/4	0/7	0/7
Manganese (D)	7/7	4/4	7/7	4/4	3/7	4/7
Mercury (D)	1/7	1/4	0/7	0/4	2/7	0/7
Silver (D)	1/7	1/4	0/7	0/4	0/7	0/7
Sodium (D)	6/7	4/4	6/7	4/4	6/7	6/7

Notes:
D = dissolved phase; BaP TEQ = benzo(a)pyrene equivalent toxicity equivalence; PAH = polycyclic aromatic hydrocarbon; PCB = polychlorinated biphenyl
Shaded cells indicate that there were no exceedences for all onsite or offsite wells
"New wells" indicates wells installed in December 2020: CH-MW044S, CH-MW044D, CH-MW045S, and CH-MW045D

Table 4-2. Comparison of DU01 Shallow Perched Water and Phase IV On-Site UGA Groundwater Data
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Detected Chemicals in Common with Exceedances	CASRN	Shallow/ UGA	Sample Information				Federal Criteria Exceedances			NYS Criteria Exceedances	
			Frequency of Detection	MDC (ug/L)	Range of Detects	MDC Sample ID	Min RSL (THQ 0.1) No. Results	VISL (THQ 0.1) No. Results	Federal MCL No. Results	TOGS 1.1.1 No. Results	NYSDOH MCL No. Results
Arsenic (D)	7440-38-2	Shallow	6/14	15.6	0.96 - 15.6	CH-MW016 (6/27/17)	6	No SL	1	0	1
		UGA	4/8	1.9	0.83 - 1.9	CH-MW045S (2/22/21)	4	No SL	0	0	0
Arsenic (T)	7440-38-2	Shallow	7/14	20.4	1.3 - 20.4	CH-MW019 (12/15/16)	7	No SL	2	0	2
		UGA	6/8	2.7	0.77 - 2.7	CH-MW045S (2/22/21)	6	No SL	0	0	0
Barium (T)	7440-39-3	Shallow	14/14	818	8.5 - 818	CH-MW019 (12/15/16)	1	No SL	0	0	0
		UGA	8/8	470	48 - 470	CH-MW045D (2/22/21)	1	No SL	0	0	0
Benzene	71-43-2	Shallow	2/14	39	1 - 39	CH-MW016 (6/27/17)	2	1	1	1	No SL
		UGA	2/8	0.37	0.24 - 0.37	CH-MW044S (12/11/20)	0	0	0	0	No SL
Cobalt (D)	7440-48-4	Shallow	13/14	18.6	0.26 - 18.6	CH-MW019 (12/15/16)	10	No SL	No SL	1	No SL
		UGA	7/8	2.2	0.16 - 2.2	CH-MW045D (12/12/20)	2	No SL	No SL	0	No SL
Cobalt (T)	7440-48-4	Shallow	13/14	53.6	0.4 - 53.6	CH-MW019 (12/15/16)	11	No SL	No SL	4	No SL
		UGA	8/8	2	0.24 - 2	CH-MW045D (12/12/20)	4	No SL	No SL	0	No SL
Iron (D)	7439-89-6	Shallow	11/14	43100	39.1 - 43100	CH-MW024 (6/26/17)	5	No SL	No SL	8	8
		UGA	8/8	40000	50 - 40000	CH-MW045D (2/22/21)	5	No SL	No SL	6	6
Iron (T)	7439-89-6	Shallow	14/14	110000	45.1 - 110000	CH-MW019 (12/15/16)	10	No SL	No SL	10	10
		UGA	8/8	45000	2000 - 45000	CH-MW045D (2/22/21)	8	No SL	No SL	8	8
Manganese (D)	7439-96-5	Shallow	14/14	4490	115 - 4490	CH-MW016 (6/27/17)	14	No SL	No SL	10	10
		UGA	8/8	1300	380 - 1300	CH-MW045D (2/22/21)	8	No SL	No SL	8	8
Manganese (T)	7439-96-5	Shallow	14/14	6870	163 - 6870	CH-MW016 (6/27/17)	14	No SL	No SL	11	11
		UGA	8/8	1400	470 - 1400	CH-MW045D (2/22/21)	8	No SL	No SL	8	8
Mercury (T)	7439-97-6	Shallow	1/14	0.11	0.11	CH-MW019 (12/15/16)	1	1	0	0	0
		UGA	2/8	0.11	0.083 - 0.11	CH-MW044S (12/11/20)	2	1	0	0	0
Total PAHs Calculated	50-32-8	Shallow	16/23	270	0.24 - 270	CH-MW016 (6/27/17)	9	No SL	16	No SL	16
		UGA	5/8	0.621	0.23 - 0.62	CH-MW044D (2/22/21)	1	No SL	5	No SL	5

Notes:
"Shallow" wells are wells within DU01 perched groundwater lenses; "UGA" wells are CH-MW044S, CH-MW044D, CH-MW045S, and CH-MW045D
CASRN = Chemical Abstract Services Registry Number; D = dissolved phase; MDC = Maximum Detected Concentration; Min = minimum; ug/L = micrograms per liter;
No. = number; PAH = polycyclic aromatic hydrocarbon; SL = screening level; SVOC = semi-volatile organic compound; T = total phase
Screening Levels:

United States Environmental Protection Agency (USEPA) Residential Tap Water Regional Screening Levels (RSLs) (protective of cancer risk of 1E-04 and THQ of 0.1) (May 2021)
Federal Maximum Contaminant Levels (MCLs) (USEPA 2018e)
New York State Department of Health MCLs (NYSDOH 2018) https://www.health.ny.gov/regulations/nycrr/title_10/part_5/docs/subpart_5-1_tables.pdf
NYS Technical and Operational Guidance Series (TOGS), 1.1.1. Groundwater Effluent Limitations, Table 5 (Class GA), dated June 1998, January 1999 Errata, April 2000 Addendum, and June 2004 Addendum (NYSDEC 1998, 1999, 2000, and 2004)
USEPA Default Resident Vapor Intrusion Screening Levels (VISLs) (protective of cancer risk of 1E-04 and THQ of 0.1)

Table 6-1
Summary of Chemicals of Potential Concern
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Chemical	CASRN	Class	Onsite DU COPC?	Offsite DU COPC?	Volatile?	Mutagenic?
Volatile Organic Compounds (VOCs)						
2-Butanone (MEK)	78-93-3	VOC	X		V	
Chloroform	67-66-3	VOC	X	X	V	
Semi-Volatile Organic Compounds (SVOCs)						
1,4-Dichlorobenzene	106-46-7	SVOC		X	V	
1,4-Dioxane	123-91-1	SVOC	X		V	
Polycyclic Aromatic Hydrocarbons (PAHs)						
Total BaP TEQ Calculated	50-32-8	PAH	X	X		M
Total PAHs Calculated	50-32-8	PAH	X	X		
Polychlorinated Biphenyls (PCBs)						
Total PCBs Calculated	11097-69-1	PCB		X	V	
Dissolved Metals (DMET)						
Antimony	7440-36-0	DMET		X		
Arsenic	7440-38-2	DMET	X	X		
Barium	7440-39-3	DMET	X			
Chromium (VI)	18540-29-9	DMET	X	X		M
Cobalt	7440-48-4	DMET	X	X		
Copper	7440-50-8	DMET		X		
Iron	7439-89-6	DMET	X	X		
Manganese	7439-96-5	DMET	X	X		
Mercury	7439-97-6	DMET	X	X	V	
Silver	7440-22-4	DMET	X			

Notes:

CASRN = chemical abstract service registry number; COPC = chemical of potential concern; DU = decision unit

X = indicates that chemical is a COPC and is quantified in the risk assessment

V = volatile

M = mutagenic

Table 6-2

Onsite and Offsite Groundwater Decision Units Cumulative Screen Evaluation Results

Phase IV Remedial Investigation Report Addendum

Camp Hero, Montauk, New York

UGA Groundwater Decision Unit	Decision Unit Description	Cumulative Cancer Risk Screen Evaluation		Cumulative Non-Cancer Hazard Screen Evaluation			Lines of Evidence Review
		Cumulative ELCR	Cancer Risk Greater than Cumulative ELCR Threshold (1E-04)? (Yes/No)	Cumulative Hazard Index	HI Greater than Cumulative HI Threshold? (Yes/No)	Target Organ HIs Greater Than 1	
Onsite	7 onsite wells	4E-05	No	4	Yes	Nervous System = 2	**Yes**
Offsite	7 offsite wells	1E-04	No	2	Yes	Target Organ HIs below 1	No pCOCs

Notes:

Shaded cells indicate a cumulative ELCR that is greater than 1E-04 and/or a cumulative hazard index (HI), including target organ analysis, that is greater than 1.

ELCR = excess lifetime cancer risk; HI = hazard index; pCOC = preliminary consistituent of concern; UGA = Upper Glacial Aquifer

Table 6-3
Lines of Evidence Review for the Onsite DU Cumulative Screen Evaluation
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Target Organ HI Greater than 1	Preliminary Chemical of Concern (pCOC)	Chemical-Specific HQ	Frequency of Detection	Exposure Point Concentration (µg/L)		Federal MCL (µg/L)	NYS MCL (µg/L)	EPC exceeds MCL?	Chemicals of Concern (COC) Review
Onsite UGA Groundwater Decision Unit									
Gastrointestinal (GI) = 1	Iron	1	14/14	19868	UCL	No MCL	300	**Yes**	Iron and manganese EPCs are greater than NYS MCLs; however, only NV (manganese) has a target organ HI are greater than 1. Arsenic and mercury are eliminated as pCOCs (EPCs are below MCLs).
Nervous (NV) = 2	Arsenic	0.2	5/14	1.289	UCL	10	10	No, eliminated as pCOC	
	Manganese	2	14/14	683	UCL	No MCL	300	**Yes**	
	Mercury	0.1	1/14	0.09	MDC	2	2	No, eliminated as pCOC	

Notes:

DU = decision unit; EPC = exposure point concentration; HI = hazard index; HQ = hazard quotient; MCL = maximum contaminant level; MDC = maximum detected concentration; ug/L = microgram per liter; NYS = New York State; pCOC = preliminary chemical of concern; UCL = upper confidence limit; UGA = Upper Glacial Aquifer

J = Data qualifier indicating that the analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

Federal MCLs: United States Environmental Protection Agency (USEPA) Drinking Water Standards and Health Advisories (2018)

NYSDOH MCLs: New York State Department of Health MCLs (NYSDOH 2018) https://www.health.ny.gov/regulations/nycrr/title_10/part_5/docs/subpart_5-1_tables.pdf

Table 6-4
Onsite Well-By-Well Cumulative Screen Evaluation Results
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Onsite UGA Monitoring Well	Well Description	Cumulative Cancer Risk Screen Evaluation		Cumulative Non-Cancer Hazard Screen Evaluation			Lines of Evidence Review
		Cumulative ELCR	Cancer Risk Greater than Cumulative ELCR Threshold (1E-04)? (Yes/No)	Cumulative Hazard Index	HI Greater than Cumulative HI Threshold? (Yes/No)	Target Organ HIs Greater Than 1	
CH-MW044D	CH-MW044 Deep	4E-05	No	2	Yes	Nervous System = 2	**Yes**
CH-MW044S	CH-MW044 Shallow	2E-05	No	2	Yes	Nervous System = 2	**Yes**
CH-MW045D	CH-MW045 Deep	2E-05	No	7	Yes	Gastrointestinal System = 3 Nervous System = 3	**Yes**
CH-MW045S	CH-MW045 Shallow	4E-05	No	3	Yes	Nervous System = 2	**Yes**
S 17231S	Former USAF Supply Well in Pump House	4E-06	No	0.6	No	--	No pCOCs
S 19494	USGS Test Well (Behind Former Barracks Building)	(a)	No	2	Yes	Target Organ HIs do not exceed 1	No pCOCs
S 19495	Former AT&T Building Well	2E-05	No	1	No	Target Organ HIs do not exceed 1	No pCOCs

Notes:

Shaded cells indicate a cumulative ELCR that is greater than 1E-04 and/or a cumulative hazard index (HI), including target organ analysis, that is greater than 1.

(a) COPCs don't exhibit carcinogenic health effects (i.e., no cancer RSL) therefore cancer risk results were not calculated.

ELCR = excess lifetime cancer risk; HI = hazard index; pCOC = preliminary consistituent of concern; USAF = United States Air Force; UGA = Upper Glacial Aquifer; USGS = United States Geological Survey

Table 6-5
Lines of Evidence Review for the Onsite Well-By-Well Cumulative Screen Evaluation
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Onsite UGA Monitoring Well	Well Description	Cumulative Non-Cancer HI Greater than 1	Target Organ HI Greater than 1	Preliminary Chemical of Concern (pCOC)	Frequency of Detection	Chemical-Specific HQ	Maximum Detected Concentration (MDC)		Federal MCL (ug/L)	NYS MCL (ug/L)	MDC exceeds Federal or NYS MCL?	Chemicals of Concern Review
CH-MW044D	CH-MW044 Deep	2	Nervous (NV) = 2	Arsenic	1/2	0.3	1.8	J	10	10	No, eliminate as pCOC	MDC for manganese exceeds NYS MCL; target organ HI is greater than target threshold of 1. Arsenic and mercury are eliminated as pCOCs (MDCs are below MCLs).
				Manganese	2/2	1	600		No MCL	300	**Yes**	
				Mercury	1/2	0.1	0.09	J	2	2	No, eliminate as pCOC	
CH-MW044S	CH-MW044 Shallow	2	Nervous (NV) = 2	Arsenic	1/2	0.2	0.97	J	10	10	No, eliminate as pCOC	MDC for manganese is greater than NYS MCL; chemical-specific HQ and target organ HI are greater than target threshold of 1. Arsenic is eliminated as pCOC (MDC is below MCL).
				Manganese	2/2	2	660		No MCL	300	**Yes**	
CH-MW045D	CH-MW045 Deep	7	Gastrointestinal (GI) = 3	Iron	2/2	3	40000		No MCL	300	**Yes**	Iron and manganese MDCs are greater than NYS MCLs and their chemical-specific HQs and target organ HIs are greater than target threshold of 1. Arsenic and barium are eliminated as pCOCs (MDCs are below MCLs).
			Nervous (NV) = 3	Arsenic	1/2	0.1	0.83	J	10	10	No, eliminate as pCOC	
				Barium	2/2	0.1	430		2000	2000	No, eliminate as pCOC	
				Manganese	2/2	3	1300		No MCL	300	**Yes**	
CH-MW045S	CH-MW045 Shallow	3	Nervous (NV) = 2	Arsenic	1/2	0.3	1.9	J	10	10	No, eliminate as pCOC	MDC for manganese exceeds NYS MCL; chemical-specific HQ and target organ HI are greater than target threshold of 1. Arsenic is eliminated as pCOC (MDC is below MCL).
				Manganese	2/2	2	860		No MCL	300	**Yes**	

Notes:

HI = hazard index; HQ = hazard quotient; MCL = maximum contaminant level; MDC = maximum detected concentration; ug/L = microgram per liter; NYS = New York State; pCOC = preliminary chemical of concern; UGA = Upper Glacial Aquifer

J = Data qualifier indicating that the analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

Federal MCLs: United States Environmental Protection Agency (USEPA) Drinking Water Standards and Health Advisories (2018)

NYSDOH MCLs: New York State Department of Health MCLs (NYSDOH 2018) https://www.health.ny.gov/regulations/nycrr/title_10/part_5/docs/subpart_5-1_tables.pdf

Table 6-6
Offsite Well-By-Well Cumulative Screen Evaluation Results
Phase IV Remedial Investigation Report Addendum
Camp Hero, Montauk, New York

Offsite UGA Monitoring Well	Well Description	Cumulative Cancer Risk Screen Evaluation		Cumulative Non-Cancer Hazard Screen Evaluation			Lines of Evidence Review
		Cumulative ELCR	Cancer Risk Greater than Cumulative ELCR Threshold (1E-04)? (Yes/No)	Cumulative Hazard Index	HI Greater than Cumulative HI Threshold? (Yes/No)	Target Organ HIs Greater Than 1	
S 1202	Lighthouse Well (Gift Shop Potable Well)	1E-04	No	0.5	No	--	No pCOCs
S 3599	Lighthouse Well (Museum Shower)	1E-06	No	0.4	No	--	No pCOCs
S 48579	USGS Monitoring Well (Route 27 at Horse Ranch)	(a)	No	2	Yes	Target Organ HIs do not exceed 1	No pCOCs
S 58922	USGS Monitoring Well (Pocohontas Road)	1E-05	No	0.1	No	--	No pCOCs
S 70627	USGS Monitoring Well (Route 27 near Lighthouse)	2E-05	No	1	No	Target Organ HIs do not exceed 1	No pCOCs
S 76304	Madison Hill Well Field #1	1E-04	No	1	No	Target Organ HIs do not exceed 1	No pCOCs
S 79269	Montauk Point State Park Well (Potable)	3E-06	No	0.2	No	--	No pCOCs

Notes:

Shaded cells indicate a cumulative ELCR that is greater than 1E-04 and/or a cumulative hazard index (HI), including target organ analysis, that is greater than 1.

(a) COPCs don't exhibit carcinogenic health effects (i.e., no cancer RSL) therefore cancer risk results were not calculated.

ELCR = excess lifetime cancer risk; HI = hazard index; pCOC = preliminary consistituent of concern; UGA = Upper Glacial Aquifer; USGS = United States Geological Survey

Appendix B2

Tables of All Analytical Results

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Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	CH-MW044D			CH-MW044D			CH-MW044S			CH-MW044S			CH-MW045D			CH-MW045D		
		Sample Name:	CH-MW044D-1220			CH-MW044D-0221			CH-MW044S-1220			CH-MW044S-0221			CH-MW045D-1220			CH-MW045D-0221		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Onsite			Onsite			Onsite		
		Sample Date:	12/11/2020			2/22/2021			12/11/2020			2/22/2021			12/12/2020			2/22/2021		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																				
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	µg/L	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	µg/L	0.61	J	1	1	U	1	0.57	J	1	1	U	1	0.5	J	1	1	U	1
4-Isopropyltoluene	99-87-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	µg/L	4.2	J	2	0.82	J	2	5.4	J	2	2	U	2	2.1	J	2	2	U	2
Benzene	71-43-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.37	J	0.5	0.5	U	0.5	0.24	J	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	µg/L	0.5	U	0.5	23		0.5	0.5	U	0.5	0.37	J	0.5	0.5	U	0.5	3.8	J	0.5
Carbon Tetrachloride	56-23-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	µg/L	2.1		0.5	0.5	U	0.5	0.59	J	0.5	0.5	U	0.5	0.52	J	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE)	1634-04-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	µg/L	0.62	J	0.8	0.8	U	0.8	0.66	J	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	µg/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																				
1,4-Dichlorobenzene	106-46-7	µg/L	1	UJ	1	1	U	1	1.1	UJ	1.1	1	U	1	1.1	UJ	1.1	1	UJ	1
1,4-Dioxane	123-91-1	µg/L	0.2	UJ	0.2	0.2	U	0.2	1.1	J	0.22	0.18	J	0.2	0.19	J	0.22	0.2	U	0.2
2-Chloronaphthalene	91-58-7	µg/L	0.81	UJ	0.81	0.81	U	0.81	0.88	UJ	0.88	0.81	U	0.81	0.89	UJ	0.89	0.81	UJ	0.81

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	CH-MW044D			CH-MW044D			CH-MW044S			CH-MW044S			CH-MW045D			CH-MW045D		
		Sample Name:	CH-MW044D-1220			CH-MW044D-0221			CH-MW044S-1220			CH-MW044S-0221			CH-MW045D-1220			CH-MW045D-0221		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Onsite			Onsite			Onsite		
		Sample Date:	12/11/2020			2/22/2021			12/11/2020			2/22/2021			12/12/2020			2/22/2021		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
2-Methylphenol	95-48-7	µg/L	1	UJ	1	1	U	1	1.7	J	1.1	1	U	1	1.1	UJ	1.1	1	X	1
4-Chloro-3-methylphenol	59-50-7	µg/L	3.2	UJ	3.2	2	U	2	3.5	UJ	3.5	2	U	2	3.6	UJ	3.6	2	X	2
4-Chloroaniline	106-47-8	µg/L	9.1	UJ	9.1	9.1	U	9.1	9.9	UJ	9.9	9.1	U	9.1	10	UJ	10	9.1	UJ	9.1
4-Methylphenol	106-44-5	µg/L	1	UJ	1	1	U	1	1.1	UJ	1.1	1	U	1	1.1	UJ	1.1	1	X	1
Benzaldehyde	100-52-7	µg/L	9.1	UJ	9.1	2	U	2	9.9	UJ	9.9	2	U	2	10	UJ	10	2	UJ	2
Benzoic acid	65-85-0	µg/L	24	UJ	24	24	U	24	26	UJ	26	24	U	24	27	UJ	27	24	X	24
Biphenyl, 1,1'-	92-52-4	µg/L	9.1	UJ	9.1	1	U	1	9.9	UJ	9.9	1	U	1	10	UJ	10	1	UJ	1
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	10	UJ	10	4	U	4	11	UJ	11	4.1	U	4.1	11	UJ	11	4.1	UJ	4.1
Butyl Benzyl Phthalate	85-68-7	µg/L	4	UJ	4	4	UJ	4	4.4	UJ	4.4	4.1	UJ	4.1	4.5	UJ	4.5	4.1	UJ	4.1
Caprolactam	105-60-2	µg/L	10	UJ	10	6.1	U	6.1	11	UJ	11	6.1	U	6.1	11	UJ	11	6.1	UJ	6.1
Carbazole	86-73-7	µg/L	0.03	UJ	0.03	1	U	1	1.1	UJ	1.1	1	U	1	0.033	UJ	0.033	1	UJ	1
Dibenzofuran	132-64-9	µg/L	1	UJ	1	1	U	1	1.1	UJ	1.1	1	U	1	1.1	UJ	1.1	1	UJ	1
Diethyl Phthalate	84-66-2	µg/L	4	UJ	4	4	U	4	4.4	UJ	4.4	4.1	U	4.1	4.5	UJ	4.5	4.1	UJ	4.1
Dimethyl Phthalate	131-11-3	µg/L	4	UJ	4	4	UJ	4	4.4	UJ	4.4	4.1	UJ	4.1	4.5	UJ	4.5	4.1	UJ	4.1
Di-n-butyl phthalate	84-74-2	µg/L	4	UJ	4	4	U	4	4.4	UJ	4.4	4.1	U	4.1	4.5	UJ	4.5	4.1	UJ	4.1
di-n-Octyl Phthalate	117-84-0	µg/L	10	UJ	10	10	U	10	11	UJ	11	10	U	10	11	UJ	11	10	UJ	10
Polycyclic Aromatic Hydrocarbons (PAHs)																				
1-Methylnaphthalene	90-12-0	µg/L	0.03	UJ	0.03	0.04	U	0.04	0.033	UJ	0.033	0.04	U	0.04	0.033	UJ	0.033	0.041	U	0.041
2-Methylnaphthalene	91-57-6	µg/L	0.06	UJ	0.06	0.04	U	0.04	0.066	UJ	0.066	0.04	U	0.04	0.067	UJ	0.067	0.041	U	0.041
Acenaphthene	83-32-9	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03
Anthracene	120-12-7	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03
Benzo(a)anthracene	56-55-3	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03
Benzo(a)pyrene	50-32-8	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03
Benzo(b)fluoranthene	205-99-2	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.016	J	0.033	0.03	U	0.03
Benzo(ghi)perylene	191-24-2	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.019	J	0.033	0.03	U	0.03
Benzo(k)fluoranthene	207-08-9	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03
Chrysene	218-01-9	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03
Dibenz(a,h)anthracene	53-70-3	µg/L	0.06	UJ	0.06	0.04	U	0.04	0.066	UJ	0.066	0.04	U	0.04	0.067	UJ	0.067	0.041	U	0.041
Fluoranthene	206-44-0	µg/L	0.03	UJ	0.03	0.011	J	0.03	0.011	J	0.033	0.03	U	0.03	0.018	J	0.033	0.015	J	0.03
Fluorene	86-73-7	µg/L	--	--	--	0.03	U	0.03	--	--	--	0.03	U	0.03	--	--	--	0.03	U	0.03
Indeno(1,2,3-cd)pyrene	193-39-5	µg/L	0.03	UJ	0.03	0.04	U	0.04	0.033	UJ	0.033	0.04	U	0.04	0.019	J	0.033	0.041	U	0.041
Naphthalene	91-20-3	µg/L	0.06	UJ	0.06	0.06	U	0.06	0.066	UJ	0.066	0.06	U	0.06	0.033	J	0.067	0.061	U	0.061
Phenanthrene	85-01-8	µg/L	0.06	UJ	0.06	0.06	U	0.06	0.038	J	0.066	0.06	U	0.06	0.074	J	0.067	0.054	J	0.061
Pyrene	129-00-0	µg/L	0.03	UJ	0.03	0.03	U	0.03	0.033	UJ	0.033	0.03	U	0.03	0.021	J	0.033	0.016	J	0.03
Polychlorinated Biphenyls (PCBs)																				
Aroclor 1016	12674-11-2	µg/L	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3	0.34	U	0.34	0.31	U	0.31
Aroclor 1221	11104-28-2	µg/L	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3	0.34	U	0.34	0.31	U	0.31
Aroclor 1232	11141-16-5	µg/L	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3	0.34	U	0.34	0.31	U	0.31
Aroclor 1242	53469-21-9	µg/L	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3	0.34	U	0.34	0.31	U	0.31
Aroclor 1248	12672-29-6	µg/L	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3	0.34	U	0.34	0.31	U	0.31
Aroclor 1254	11097-69-1	µg/L	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3	0.34	U	0.34	0.31	U	0.31
Aroclor 1260	11096-82-5	µg/L	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3	0.34	U	0.34	0.31	U	0.31
Aroclor 1262	11096-82-5	µg/L	--	--	--	0.3	U	0.3	--	--	--	0.3	U	0.3	--	--	--	0.31	U	0.31
Aroclor 1268	11096-82-5	µg/L	--	--	--	0.3	U	0.3	--	--	--	0.3	U	0.3	--	--	--	0.31	U	0.31
Total Metals (TMET)																				

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	CH-MW044D			CH-MW044D			CH-MW044S			CH-MW044S			CH-MW045D			CH-MW045D		
		Sample Name:	CH-MW044D-1220			CH-MW044D-0221			CH-MW044S-1220			CH-MW044S-0221			CH-MW045D-1220			CH-MW045D-0221		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Onsite			Onsite			Onsite		
		Sample Date:	12/11/2020			2/22/2021			12/11/2020			2/22/2021			12/12/2020			2/22/2021		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Aluminum	7429-90-5	µg/L	61		30	30	U	30	780		30	30	U	30	30	U	30	30	U	30
Antimony	7440-36-0	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	µg/L	1.6	U	1.6	1.9	J	1.6	0.77	J	1.6	1.4	J	1.6	1.6	U	1.6	1.2	J	1.6
Barium	7440-39-3	µg/L	110		1.6	72		1.6	59		1.6	59		1.6	180		1.6	470		1.6
Beryllium	7440-41-7	µg/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	µg/L	29000		120	16000		120	25000		120	16000		120	42000		120	38000		120
Chromium (VI) - lab	18540-29-9	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9
Chromium (III)	16065-83-1	µg/L	7.3	J	9	9	U	9	8.3	J	9	9	U	9	9	UJ	9	9	U	9
Chromium (Total)	7440-47-3	µg/L	7.3		0.8	1.4	J	0.8	8.3		0.8	0.8	U	0.8	0.8	U	0.8	0.71	J	0.8
Cobalt	7440-48-4	µg/L	0.93		0.4	0.24	J	0.4	0.69		0.4	0.33	J	0.4	2		0.4	0.42	J	0.4
Copper	7440-50-8	µg/L	0.52	J	0.8	0.8	U	0.8	3.2		0.8	0.8	U	0.8	2.9		0.8	0.8	U	0.8
Iron	7439-89-6	µg/L	2000		400	3800		40	2900		40	4800		40	2300		400	45000		40
Lead	7439-92-1	µg/L	0.14	J	0.25	0.25	U	0.25	0.5		0.25	0.25	U	0.25	0.25	U	0.25	0.087	J	0.25
Magnesium	7439-95-4	µg/L	20000		25	6600		25	6500		25	6300		25	44000		25	35000		25
Manganese	7439-96-5	µg/L	620		1.6	610		1.6	470		1.6	670		1.6	940		1.6	1400		1.6
Mercury	7439-97-6	µg/L	0.2	U	0.2	0.16	U	0.16	0.11	J	0.2	0.16	U	0.16	0.083	J	0.2	0.16	U	0.16
Nickel	7440-02-0	µg/L	5.1		1	1	U	1	4.2		1	1.4	J	1	9.4		1	0.67	J	1
Potassium	7440-07-9	µg/L	6300		160	4600		160	4500		160	3400		160	11000		160	11000		160
Selenium	7782-49-2	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	µg/L	0.4	U	0.4	0.4	U	0.4	4.8		0.4	0.4	U	0.4	0.22	J	0.4	0.21	J	0.4
Sodium	7440-23-5	µg/L	160000		1600	57000		160	27000		160	27000		160	420000		1600	500000		3200
Thallium	7440-28-0	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	µg/L	1.6	U	1.6	1.6	U	1.6	2.9	J	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	10	U	10	10	U	10	25		10	10	U	10	37		10	10	U	10
Dissolved Metals (DMET)																				
Aluminum	7429-90-5	µg/L	30	U	30	31	U	31	30	U	30	31	U	31	76		30	31	U	31
Antimony	7440-36-0	µg/L	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82
Arsenic	7440-38-2	µg/L	1.6	U	1.6	1.8	J	1.6	1.6	U	1.6	0.97	J	1.6	1.6	U	1.6	0.83	J	1.6
Barium	7440-39-3	µg/L	100		1.6	69		1.6	41		1.6	59		1.6	180		1.6	430		1.6
Beryllium	7440-41-7	µg/L	0.25	U	0.25	0.26	U	0.26	0.25	U	0.25	0.26	U	0.26	0.25	U	0.25	0.26	U	0.26
Cadmium	7440-43-9	µg/L	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41
Calcium	7440-70-2	µg/L	29000		120	16000		120	22000		120	15000		120	42000		120	36000		120
Chromium (VI) - lab	18540-29-9	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9
Chromium (III)	16065-83-1	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	U	9	8.7	J	9	9	U	9
Chromium (Total)	7440-47-3	µg/L	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82	8.7		0.8	0.82	U	0.82
Cobalt	7440-48-4	µg/L	0.86		0.4	0.41	U	0.41	0.18	J	0.4	0.28	J	0.41	2.2		0.4	0.17	J	0.41
Copper	7440-50-8	µg/L	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82	20		0.8	0.5	J	0.82
Iron	7439-89-6	µg/L	1100		40	2400		41	50		40	4500		41	9700		40	40000		41
Lead	7439-92-1	µg/L	0.25	U	0.25	0.26	U	0.26	0.25	U	0.25	0.26	U	0.26	0.78		0.25	0.26	U	0.26
Magnesium	7439-95-4	µg/L	19000		25	6400		26	6000		25	6100		26	42000		25	33000		26
Manganese	7439-96-5	µg/L	600		1.6	580		1.6	380		1.6	660		1.6	910		1.6	1300		1.6
Mercury	7439-97-6	µg/L	0.09	J	0.2	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16
Nickel	7440-02-0	µg/L	5.2		1	1	U	1	1	J	1	1.2	J	1	16		1	1	U	1
Potassium	7440-07-9	µg/L	6000		160	4300		160	4300		160	3200		160	10000		160	11000		160

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	CH-MW044D			CH-MW044D			CH-MW044S			CH-MW044S			CH-MW045D			CH-MW045D		
		Sample Name:	CH-MW044D-1220			CH-MW044D-0221			CH-MW044S-1220			CH-MW044S-0221			CH-MW045D-1220			CH-MW045D-0221		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Onsite			Onsite			Onsite		
		Sample Date:	12/11/2020			2/22/2021			12/11/2020			2/22/2021			12/12/2020			2/22/2021		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Selenium	7782-49-2	µg/L	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82
Silver	7440-22-4	µg/L	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41	31		0.4	0.41	U	0.41
Sodium	7440-23-5	µg/L	160000		1600	49000		330	26000		160	25000		160	410000		1600	460000		1600
Thallium	7440-28-0	µg/L	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41
Vanadium	7440-62-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	10	U	10	10	U	10	10	U	10	10	U	10	41		10	10	U	10

Notes
CASRN = Chemical Abstract Services Registry Number
LOD = Limit of Detection
SL = Screening Level
µg/L = micrograms per liter
VQ = Validation Qualifier

Data Validation Qualifier Codes
J = The analyte was positively identified and the associated value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.
X = The result is rejected and not usable due to quality control reasons.

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	CH-MW045S			CH-MW045S			S 17231S			S 17231S			S 17231S			S 19494		
		Sample Name:	CH-MW045S-1220			CH-MW045S-0221			S17231S-1220			S17231S-0221			S17231S-0221D (FD)			S19494-1220		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Onsite			Onsite			Onsite		
		Sample Date:	12/9/2020			2/22/2021			12/10/2020			2/25/2021			2/25/2021			12/7/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																				
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	µg/L	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	µg/L	1.1	J	1	1	U	1	0.96	J	1	1	U	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	µg/L	2	U	2	0.71	J	2	1.8	J	2	2	U	2	2	U	2	2	U	2
Benzene	71-43-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	µg/L	0.5	U	0.5	0.6	J	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	µg/L	0.5	J	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE)	1634-04-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	1.2		0.5
Methylene Chloride	75-09-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	µg/L	0.8	U	0.8	0.8	U	0.8	0.64	J	0.8	0.65	J	0.8	0.63	J	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.24	J	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	µg/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																				
1,4-Dichlorobenzene	106-46-7	µg/L	1.1	U	1.1	1	U	1	1.1	U	1.1	1	U	1	1.1	U	1.1	1	U	1
1,4-Dioxane	123-91-1	µg/L	0.21	UJ	0.21	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.22	UJ	0.22	0.2	U	0.2
2-Chloronaphthalene	91-58-7	µg/L	0.85	U	0.85	0.81	U	0.81	0.86	U	0.86	0.82	U	0.82	0.88	U	0.88	0.8	U	0.8

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	CH-MW045S			CH-MW045S			S 17231S			S 17231S			S 17231S			S 19494		
		Sample Name:	CH-MW045S-1220			CH-MW045S-0221			S17231S-1220			S17231S-0221			S17231S-0221D (FD)			S19494-1220		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Onsite			Onsite			Onsite		
		Sample Date:	12/9/2020			2/22/2021			12/10/2020			2/25/2021			2/25/2021			12/7/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
2-Methylphenol	95-48-7	µg/L	1.1	U	1.1	1	UJ	1	1.1	U	1.1	1	U	1	1.1	U	1.1	1	UJ	1
4-Chloro-3-methylphenol	59-50-7	µg/L	3.4	U	3.4	2	UJ	2	3.4	U	3.4	2	U	2	2.2	U	2.2	3.2	UJ	3.2
4-Chloroaniline	106-47-8	µg/L	9.5	U	9.5	9.2	U	9.2	9.6	U	9.6	9.2	U	9.2	9.9	U	9.9	9	U	9
4-Methylphenol	106-44-5	µg/L	1.1	U	1.1	1	UJ	1	0.89	J	1.1	5.6		1	4.8		1.1	1	UJ	1
Benzaldehyde	100-52-7	µg/L	9.5	U	9.5	2	U	2	9.6	U	9.6	2	U	2	2.2	U	2.2	9	U	9
Benzoic acid	65-85-0	µg/L	25	U	25	24	U	24	26	U	26	25	U	25	26	U	26	24	UJ	24
Biphenyl, 1,1'-	92-52-4	µg/L	9.5	U	9.5	1	U	1	9.6	U	9.6	1	U	1	1.1	U	1.1	9	U	9
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	11	U	11	4.1	U	4.1	11	U	11	4.1	U	4.1	4.4	U	4.4	10	U	10
Butyl Benzyl Phthalate	85-68-7	µg/L	4.2	U	4.2	4.1	UJ	4.1	4.3	U	4.3	4.1	UJ	4.1	4.4	UJ	4.4	4	U	4
Caprolactam	105-60-2	µg/L	11	U	11	6.1	U	6.1	11	U	11	6.1	U	6.1	6.6	U	6.6	10	U	10
Carbazole	86-73-7	µg/L	0.032	UJ	0.032	1	U	1	1.1	U	1.1	1	U	1	1.1	U	1.1	1	U	1
Dibenzofuran	132-64-9	µg/L	1.1	U	1.1	1	U	1	1.1	U	1.1	1	U	1	1.1	U	1.1	1	U	1
Diethyl Phthalate	84-66-2	µg/L	4.2	U	4.2	4.1	U	4.1	4.3	U	4.3	4.1	UJ	4.1	4.4	UJ	4.4	4	U	4
Dimethyl Phthalate	131-11-3	µg/L	4.2	U	4.2	4.1	UJ	4.1	4.3	U	4.3	4.1	UJ	4.1	4.4	UJ	4.4	4	UJ	4
Di-n-butyl phthalate	84-74-2	µg/L	4.2	U	4.2	4.1	U	4.1	4.3	U	4.3	4.1	U	4.1	4.4	U	4.4	4	U	4
di-n-Octyl Phthalate	117-84-0	µg/L	11	U	11	10	U	10	11	U	11	10	U	10	11	U	11	10	U	10
Polycyclic Aromatic Hydrocarbons (PAHs)																				
1-Methylnaphthalene	90-12-0	µg/L	0.032	UJ	0.032	0.041	U	0.041	0.032	U	0.032	0.041	U	0.041	0.044	UJ	0.044	0.03	UJ	0.03
2-Methylnaphthalene	91-57-6	µg/L	0.063	UJ	0.063	0.041	U	0.041	0.064	U	0.064	0.041	U	0.041	0.044	UJ	0.044	0.06	UJ	0.06
Acenaphthene	83-32-9	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	U	0.031	0.029	J	0.033	0.03	U	0.03
Anthracene	120-12-7	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	U	0.031	0.033	UJ	0.033	0.03	U	0.03
Benzo(a)anthracene	56-55-3	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	U	0.031	0.029	J	0.033	0.03	U	0.03
Benzo(a)pyrene	50-32-8	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	U	0.031	0.025	J	0.033	0.03	U	0.03
Benzo(b)fluoranthene	205-99-2	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	U	0.031	0.047	J	0.033	0.03	U	0.03
Benzo(ghi)perylene	191-24-2	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	U	0.031	0.033	UJ	0.033	0.03	U	0.03
Benzo(k)fluoranthene	207-08-9	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	U	0.031	0.017	J	0.033	0.03	U	0.03
Chrysene	218-01-9	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	U	0.031	0.022	J	0.033	0.03	U	0.03
Dibenz(a,h)anthracene	53-70-3	µg/L	0.063	UJ	0.063	0.041	U	0.041	0.064	U	0.064	0.041	U	0.041	0.044	UJ	0.044	0.06	U	0.06
Fluoranthene	206-44-0	µg/L	0.012	J	0.032	0.031	U	0.031	0.032	U	0.032	0.031	UJ	0.031	0.14	J	0.033	0.03	U	0.03
Fluorene	86-73-7	µg/L	--	--	--	0.031	U	0.031	--	--	--	0.031	U	0.031	0.028	J	0.033	--	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	µg/L	0.032	UJ	0.032	0.041	U	0.041	0.032	U	0.032	0.041	U	0.041	0.044	UJ	0.044	0.03	U	0.03
Naphthalene	91-20-3	µg/L	0.063	UJ	0.063	0.061	U	0.061	0.064	U	0.064	0.061	U	0.061	0.066	UJ	0.066	0.06	UJ	0.06
Phenanthrene	85-01-8	µg/L	0.036	J	0.063	0.061	U	0.061	0.064	U	0.064	0.061	UJ	0.061	0.11	J	0.066	0.06	U	0.06
Pyrene	129-00-0	µg/L	0.032	UJ	0.032	0.031	U	0.031	0.032	U	0.032	0.031	UJ	0.031	0.068	J	0.033	0.03	U	0.03
Polychlorinated Biphenyls (PCBs)																				
Aroclor 1016	12674-11-2	µg/L	0.31	U	0.31	0.31	U	0.31	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.33	U	0.33
Aroclor 1221	11104-28-2	µg/L	0.31	U	0.31	0.31	U	0.31	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.33	U	0.33
Aroclor 1232	11141-16-5	µg/L	0.31	U	0.31	0.31	U	0.31	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.33	U	0.33
Aroclor 1242	53469-21-9	µg/L	0.31	U	0.31	0.31	U	0.31	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.33	U	0.33
Aroclor 1248	12672-29-6	µg/L	0.31	U	0.31	0.31	U	0.31	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.33	U	0.33
Aroclor 1254	11097-69-1	µg/L	0.31	U	0.31	0.31	U	0.31	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.33	U	0.33
Aroclor 1260	11096-82-5	µg/L	0.31	U	0.31	0.31	U	0.31	0.3	U	0.3	0.3	U	0.3	0.31	U	0.31	0.33	U	0.33
Aroclor 1262	11096-82-5	µg/L	--	--	--	0.31	U	0.31	--	--	--	0.3	U	0.3	0.31	U	0.31	--	--	--
Aroclor 1268	11096-82-5	µg/L	--	--	--	0.31	U	0.31	--	--	--	0.3	U	0.3	0.31	U	0.31	--	--	--
Total Metals (TMET)																				

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	CH-MW045S			CH-MW045S			S 17231S			S 17231S			S 17231S			S 19494		
		Sample Name:	CH-MW045S-1220			CH-MW045S-0221			S17231S-1220			S17231S-0221			S17231S-0221D (FD)			S19494-1220		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Onsite			Onsite			Onsite		
		Sample Date:	12/9/2020			2/22/2021			12/10/2020			2/25/2021			2/25/2021			12/7/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Aluminum	7429-90-5	µg/L	1800		30	210		30	55	J	30	27	J	30	22	J	30	30	U	30
Antimony	7440-36-0	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	µg/L	1.1	J	1.6	2.7		1.6	1.6	U	1.6	0.87	J	1.6	0.92	J	1.6	1.6	U	1.6
Barium	7440-39-3	µg/L	84		1.6	48		1.6	30		1.6	71		1.6	70		1.6	99		1.6
Beryllium	7440-41-7	µg/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	µg/L	19000		120	19000		120	9200		120	16000		120	16000		120	14000		120
Chromium (VI) - lab	18540-29-9	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	U	9	9	UJ	9
Chromium (III)	16065-83-1	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	U	9	9	UJ	9
Chromium (Total)	7440-47-3	µg/L	4.7		0.8	1.6	J	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.6	J	0.8
Cobalt	7440-48-4	µg/L	1.2		0.4	0.32	J	0.4	0.86		0.4	0.24	J	0.4	0.2	J	0.4	0.29	J	0.4
Copper	7440-50-8	µg/L	2.9		0.8	0.82	J	0.8	1.3		0.8	0.81	J	0.8	0.83	J	0.8	0.8	U	0.8
Iron	7439-89-6	µg/L	2200		40	5200		40	9800		40	4700		40	4300		40	20000		40
Lead	7439-92-1	µg/L	0.92		0.25	0.18	J	0.25	26		0.25	14		0.25	14		0.25	0.25	U	0.25
Magnesium	7439-95-4	µg/L	6200		25	6500		25	990		25	8300		25	8300		25	8700		25
Manganese	7439-96-5	µg/L	510		1.6	1000		1.6	240		1.6	170		1.6	170		1.6	350		1.6
Mercury	7439-97-6	µg/L	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.16	U	0.16	0.085	J	0.2
Nickel	7440-02-0	µg/L	4.2	J	1	1	U	1	1.3	J	1	1	U	1	1	U	1	1.2	J	1
Potassium	7440-07-9	µg/L	4200		160	2800		160	4600		160	3000		160	3000		160	2300		160
Selenium	7782-49-2	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	µg/L	52000		160	41000		160	38000	J	160	33000		160	32000		160	26000		160
Thallium	7440-28-0	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	µg/L	3.4	J	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	15		10	10	U	10	31		10	8.7	J	10	8	J	10	10	U	10
Dissolved Metals (DMET)																				
Aluminum	7429-90-5	µg/L	31	U	31	31	U	31	31	U	31	31	U	31	31	U	31	31	U	31
Antimony	7440-36-0	µg/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.44	J	0.82	0.71	J	0.82
Arsenic	7440-38-2	µg/L	1.6	U	1.6	1.9	J	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	µg/L	68		1.6	42		1.6	25		1.6	71		1.6	68		1.6	99		1.6
Beryllium	7440-41-7	µg/L	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	µg/L	18000		120	19000		120	8700		120	17000		120	16000		120	14000		120
Chromium (VI) - lab	18540-29-9	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	U	9	9	UJ	9
Chromium (III)	16065-83-1	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	U	9	9	UJ	9
Chromium (Total)	7440-47-3	µg/L	0.82	U	0.82	2.3		0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Cobalt	7440-48-4	µg/L	0.48	J	0.41	0.16	J	0.41	0.23	J	0.41	0.41	U	0.41	0.41	U	0.41	0.32	J	0.41
Copper	7440-50-8	µg/L	1.4		0.82	0.86	J	0.82	0.44	J	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Iron	7439-89-6	µg/L	100		41	3100		41	1200		41	780		41	840		41	20000		41
Lead	7439-92-1	µg/L	0.11	J	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Magnesium	7439-95-4	µg/L	5500		26	6000		26	950		26	8500		26	7700		26	9000		26
Manganese	7439-96-5	µg/L	470		1.6	860		1.6	180		1.6	150		1.6	150		1.6	340		1.6
Mercury	7439-97-6	µg/L	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	µg/L	1	U	1	0.76	J	1	1	U	1	1	U	1	1	U	1	1.8	J	1
Potassium	7440-07-9	µg/L	3400		160	2600		160	4400		160	3100		160	2900		160	2300		160

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	CH-MW045S			CH-MW045S			S 17231S			S 17231S			S 17231S			S 19494		
		Sample Name:	CH-MW045S-1220			CH-MW045S-0221			S17231S-1220			S17231S-0221			S17231S-0221D (FD)			S19494-1220		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Onsite			Onsite			Onsite		
		Sample Date:	12/9/2020			2/22/2021			12/10/2020			2/25/2021			2/25/2021			12/7/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Selenium	7782-49-2	µg/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Silver	7440-22-4	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	µg/L	48000		160	35000		160	37000	J	160	32000		160	32000		160	27000		160
Thallium	7440-28-0	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	8	J	10	10	U	10	10	U	10	10	U	10	10	U	10	10	U	10

Notes
CASRN = Chemical Abstract Services Registry Number
LOD = Limit of Detection SL = Screening Level
µg/L = micrograms per liter VQ = Validation Qualifier

Data Validation Qualifier Codes
J = The analyte was positively identified and the associated value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.
X = The result is rejected and not usable due to quality control reasons.

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 19494			S 19495			S 19495			S 3599			S 3599			S 48579		
		Sample Name:	S19494-0221			S19495-1220			S19495-0221			S3599-1220			S3599-0221			S48579-1220		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Offsite			Offsite			Offsite		
		Sample Date:	2/23/2021			12/8/2020			2/23/2021			12/9/2020			2/24/2021			12/10/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																				
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	µg/L	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	µg/L	1	U	1	98		1	1	U	1	1	U	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	µg/L	2	U	2	28		2	1	J	2	2	U	2	2	U	2	2	U	2
Benzene	71-43-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	µg/L	0.5	U	0.5	0.21	J	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE)	1634-04-4	µg/L	1.2		0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	µg/L	0.8	U	0.8	0.62	J	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	µg/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																				
1,4-Dichlorobenzene	106-46-7	µg/L	1.1	U	1.1	1.1	UJ	1.1	1.1	U	1.1	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	µg/L	0.22	U	0.22	0.22	U	0.22	0.21	U	0.21	0.21	UJ	0.21	0.15	J	0.2	0.21	U	0.21
2-Chloronaphthalene	91-58-7	µg/L	0.87	U	0.87	0.87	U	0.87	0.85	U	0.85	0.84	U	0.84	0.8	U	0.8	0.82	U	0.82

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 19494			S 19495			S 19495			S 3599			S 3599			S 48579		
		Sample Name:	S19494-0221			S19495-1220			S19495-0221			S3599-1220			S3599-0221			S48579-1220		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Offsite			Offsite			Offsite		
		Sample Date:	2/23/2021			12/8/2020			2/23/2021			12/9/2020			2/24/2021			12/10/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
2-Methylphenol	95-48-7	µg/L	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1	U	1	1	U	1	1	U	1
4-Chloro-3-methylphenol	59-50-7	µg/L	2.2	U	2.2	3.5	U	3.5	2.1	U	2.1	3.4	U	3.4	2	U	2	3.3	U	3.3
4-Chloroaniline	106-47-8	µg/L	9.7	UJ	9.7	9.8	U	9.8	9.5	U	9.5	9.4	U	9.4	9.1	U	9.1	9.2	U	9.2
4-Methylphenol	106-44-5	µg/L	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1	U	1	1	U	1	1	U	1
Benzaldehyde	100-52-7	µg/L	2.2	U	2.2	9.8	U	9.8	2.1	U	2.1	9.4	U	9.4	2	U	2	9.2	U	9.2
Benzoic acid	65-85-0	µg/L	26	U	26	26	U	26	25	U	25	25	U	25	24	U	24	25	U	25
Biphenyl, 1,1'-	92-52-4	µg/L	1.1	U	1.1	9.8	U	9.8	1.1	U	1.1	9.4	U	9.4	1	U	1	9.2	U	9.2
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	4.3	U	4.3	11	U	11	4.2	U	4.2	10	U	10	4	U	4	10	U	10
Butyl Benzyl Phthalate	85-68-7	µg/L	4.3	UJ	4.3	4.4	U	4.4	4.2	UJ	4.2	4.2	U	4.2	4	UJ	4	4.1	U	4.1
Caprolactam	105-60-2	µg/L	6.5	U	6.5	11	U	11	6.4	U	6.4	10	U	10	6	U	6	10	U	10
Carbazole	86-73-7	µg/L	1.1	U	1.1	0.033	U	0.033	1.1	U	1.1	1	U	1	1	U	1	0.031	U	0.031
Dibenzofuran	132-64-9	µg/L	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1	U	1	1	U	1	1	U	1
Diethyl Phthalate	84-66-2	µg/L	4.3	U	4.3	4.4	U	4.4	4.2	U	4.2	4.2	U	4.2	4	U	4	4.1	U	4.1
Dimethyl Phthalate	131-11-3	µg/L	4.3	UJ	4.3	4.4	U	4.4	4.2	UJ	4.2	4.2	U	4.2	4	UJ	4	4.1	U	4.1
Di-n-butyl phthalate	84-74-2	µg/L	4.3	U	4.3	4.4	U	4.4	4.2	U	4.2	4.2	U	4.2	4	U	4	4.1	U	4.1
di-n-Octyl Phthalate	117-84-0	µg/L	11	U	11	11	U	11	11	U	11	10	U	10	10	U	10	10	U	10
Polycyclic Aromatic Hydrocarbons (PAHs)																				
1-Methylnaphthalene	90-12-0	µg/L	0.043	UJ	0.043	0.033	U	0.033	0.042	U	0.042	0.031	UJ	0.031	0.04	U	0.04	0.031	U	0.031
2-Methylnaphthalene	91-57-6	µg/L	0.043	UJ	0.043	0.065	U	0.065	0.042	U	0.042	0.063	UJ	0.063	0.04	U	0.04	0.062	U	0.062
Acenaphthene	83-32-9	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Anthracene	120-12-7	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Benzo(a)anthracene	56-55-3	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Benzo(a)pyrene	50-32-8	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Benzo(b)fluoranthene	205-99-2	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Benzo(ghi)perylene	191-24-2	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Benzo(k)fluoranthene	207-08-9	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Chrysene	218-01-9	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Dibenz(a,h)anthracene	53-70-3	µg/L	0.043	U	0.043	0.065	U	0.065	0.042	U	0.042	0.063	UJ	0.063	0.04	U	0.04	0.062	U	0.062
Fluoranthene	206-44-0	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Fluorene	86-73-7	µg/L	0.032	U	0.032	--	--	--	0.032	U	0.032	--	--	--	0.03	U	0.03	--	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	µg/L	0.043	U	0.043	0.033	U	0.033	0.042	U	0.042	0.031	UJ	0.031	0.04	U	0.04	0.031	U	0.031
Naphthalene	91-20-3	µg/L	0.065	UJ	0.065	0.065	U	0.065	0.064	U	0.064	0.063	UJ	0.063	0.072		0.06	0.062	U	0.062
Phenanthrene	85-01-8	µg/L	0.065	U	0.065	0.065	U	0.065	0.064	U	0.064	0.063	UJ	0.063	0.06	U	0.06	0.062	U	0.062
Pyrene	129-00-0	µg/L	0.032	U	0.032	0.033	U	0.033	0.032	U	0.032	0.031	UJ	0.031	0.03	U	0.03	0.031	U	0.031
Polychlorinated Biphenyls (PCBs)																				
Aroclor 1016	12674-11-2	µg/L	0.32	U	0.32	0.31	U	0.31	0.32	U	0.32	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3
Aroclor 1221	11104-28-2	µg/L	0.32	U	0.32	0.31	U	0.31	0.32	U	0.32	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3
Aroclor 1232	11141-16-5	µg/L	0.32	U	0.32	0.31	U	0.31	0.32	U	0.32	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3
Aroclor 1242	53469-21-9	µg/L	0.32	U	0.32	0.31	U	0.31	0.32	U	0.32	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3
Aroclor 1248	12672-29-6	µg/L	0.32	U	0.32	0.31	U	0.31	0.32	U	0.32	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3
Aroclor 1254	11097-69-1	µg/L	0.32	U	0.32	0.31	U	0.31	0.32	U	0.32	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3
Aroclor 1260	11096-82-5	µg/L	0.32	U	0.32	0.31	U	0.31	0.32	U	0.32	0.3	U	0.3	0.31	U	0.31	0.3	U	0.3
Aroclor 1262	11096-82-5	µg/L	0.32	U	0.32	--	--	--	0.32	U	0.32	--	--	--	0.31	U	0.31	--	--	--
Aroclor 1268	11096-82-5	µg/L	0.32	U	0.32	--	--	--	0.32	U	0.32	--	--	--	0.31	U	0.31	--	--	--
Total Metals (TMET)																				

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 19494			S 19495			S 19495			S 3599			S 3599			S 48579		
		Sample Name:	S19494-0221			S19495-1220			S19495-0221			S3599-1220			S3599-0221			S48579-1220		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Offsite			Offsite			Offsite		
		Sample Date:	2/23/2021			12/8/2020			2/23/2021			12/9/2020			2/24/2021			12/10/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Aluminum	7429-90-5	µg/L	30	U	30	66		30	62	J	30	30	U	30	30	U	30	78	J	30
Antimony	7440-36-0	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	µg/L	0.71	J	1.6	4.1		1.6	2.7		1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	µg/L	99		1.6	7.9		1.6	4.8	J	1.6	48		1.6	59		1.6	28		1.6
Beryllium	7440-41-7	µg/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	µg/L	13000		120	12000		120	12000		120	16000		120	19000		120	8200		120
Chromium (VI) - lab	18540-29-9	µg/L	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9
Chromium (III)	16065-83-1	µg/L	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9
Chromium (Total)	7440-47-3	µg/L	0.5	J	0.8	1.5	J	0.8	0.8	U	0.8	3.5	J	0.8	0.8	U	0.8	0.8	U	0.8
Cobalt	7440-48-4	µg/L	0.29	J	0.4	0.37	J	0.4	0.17	J	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Copper	7440-50-8	µg/L	0.8	U	0.8	20		0.8	15		0.8	220		0.8	100		0.8	0.8	U	0.8
Iron	7439-89-6	µg/L	22000		40	10000		40	2900		40	5700		40	1500		40	8100		40
Lead	7439-92-1	µg/L	0.25	U	0.25	34		0.25	12		0.25	5		0.25	4.2		0.25	3.7		0.25
Magnesium	7439-95-4	µg/L	8900		25	2700		25	2600		25	14000		25	15000		25	5500		25
Manganese	7439-96-5	µg/L	360		1.6	530		1.6	130		1.6	51		1.6	53		1.6	220		1.6
Mercury	7439-97-6	µg/L	0.16	U	0.16	0.15	J	0.2	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	µg/L	1	U	1	2.5		1	0.81	J	1	1	U	1	1.5		1	0.65	J	1
Potassium	7440-07-9	µg/L	2200		160	720		160	570		160	2200		160	2200		160	3500		160
Selenium	7782-49-2	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	µg/L	27000		160	6400		160	3600	J	160	48000		160	44000		160	43000	J	160
Thallium	7440-28-0	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	10	U	10	120		10	53		10	88		10	140		10	10	U	10
Dissolved Metals (DMET)																				
Aluminum	7429-90-5	µg/L	22	J	31	31	U	31	31	U	31	31	U	31	31	U	31	31	U	31
Antimony	7440-36-0	µg/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	1.1	J	0.82
Arsenic	7440-38-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.1	J	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	µg/L	99		1.6	5.5		1.6	3.7		1.6	46		1.6	56		1.6	26	J	1.6
Beryllium	7440-41-7	µg/L	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	µg/L	13000		120	11000		120	12000		120	16000		120	19000		120	8100		120
Chromium (VI) - lab	18540-29-9	µg/L	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9
Chromium (III)	16065-83-1	µg/L	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9
Chromium (Total)	7440-47-3	µg/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Cobalt	7440-48-4	µg/L	0.22	J	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Copper	7440-50-8	µg/L	0.82	U	0.82	0.82	U	0.82	1.9		0.82	54		0.82	89		0.82	0.82	UJ	0.82
Iron	7439-89-6	µg/L	20000		41	690		41	170		41	400		41	61		41	7100		41
Lead	7439-92-1	µg/L	0.26	U	0.26	1.2		0.26	3.5		0.26	0.41	J	0.26	3.7		0.26	0.078	J	0.26
Magnesium	7439-95-4	µg/L	8800		26	2600		26	2500		26	13000		26	15000		26	5500		26
Manganese	7439-96-5	µg/L	350		1.6	490		1.6	110		1.6	42		1.6	52		1.6	220		1.6
Mercury	7439-97-6	µg/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	µg/L	1	U	1	0.86	J	1	1	U	1	2.5	J	1	0.9	J	1	2.1	J	1
Potassium	7440-07-9	µg/L	2200		160	710		160	540		160	2100		160	2200		160	3400		160

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 19494			S 19495			S 19495			S 3599			S 3599			S 48579		
		Sample Name:	S19494-0221			S19495-1220			S19495-0221			S3599-1220			S3599-0221			S48579-1220		
		Onsite/Offsite:	Onsite			Onsite			Onsite			Offsite			Offsite			Offsite		
		Sample Date:	2/23/2021			12/8/2020			2/23/2021			12/9/2020			2/24/2021			12/10/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Selenium	7782-49-2	µg/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.36	J	0.82
Silver	7440-22-4	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	µg/L	26000		160	5300		160	3300		160	44000		160	42000		160	30000	J	160
Thallium	7440-28-0	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	10	U	10	6.9	J	10	25		10	150		10	150		10	10	U	10

Notes
CASRN = Chemical Abstract Services Registry Number
LOD = Limit of Detection
SL = Screening Level
µg/L = micrograms per liter
VQ = Validation Qualifier

Data Validation Qualifier Codes
J = The analyte was positively identified and the associated value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.
X = The result is rejected and not usable due to quality control reasons.

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 48579			S 58922			S 58922			S 70627			S 70627			S 76304		
		Sample Name:	S48579-0221			S58922-1220			S58922-0221			S70627-1220			S70627-0221			S76304-1220		
		Onsite/Offsite:	Offsite			Offsite			Offsite			Offsite			Offsite			Offsite		
		Sample Date:	2/23/2021			12/9/2020			2/23/2021			12/12/2020			2/24/2021			12/13/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																				
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	µg/L	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	0.9	J	2
Benzene	71-43-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	1.3	J	0.5
Carbon Tetrachloride	56-23-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE)	1634-04-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	µg/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																				
1,4-Dichlorobenzene	106-46-7	µg/L	1.1	U	1.1	1	U	1	1	U	1	1	UJ	1	1.1	U	1.1	1.1	UJ	1.1
1,4-Dioxane	123-91-1	µg/L	0.22	U	0.22	0.21	UJ	0.21	0.21	U	0.21	0.21	UJ	0.21	0.21	U	0.21	0.21	UJ	0.21
2-Chloronaphthalene	91-58-7	µg/L	0.86	U	0.86	0.82	U	0.82	0.82	U	0.82	0.83	UJ	0.83	0.88	U	0.88	0.86	UJ	0.86

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 48579			S 58922			S 58922			S 70627			S 70627			S 76304		
		Sample Name:	S48579-0221			S58922-1220			S58922-0221			S70627-1220			S70627-0221			S76304-1220		
		Onsite/Offsite:	Offsite			Offsite			Offsite			Offsite			Offsite			Offsite		
		Sample Date:	2/23/2021			12/9/2020			2/23/2021			12/12/2020			2/24/2021			12/13/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
2-Methylphenol	95-48-7	µg/L	1.1	U	1.1	1	U	1	1	U	1	1	UJ	1	1.1	U	1.1	1.1	UJ	1.1
4-Chloro-3-methylphenol	59-50-7	µg/L	2.2	U	2.2	3.3	U	3.3	2.1	U	2.1	3.3	UJ	3.3	2.2	U	2.2	3.4	UJ	3.4
4-Chloroaniline	106-47-8	µg/L	9.7	U	9.7	9.2	U	9.2	9.2	U	9.2	9.3	UJ	9.3	9.9	U	9.9	9.7	UJ	9.7
4-Methylphenol	106-44-5	µg/L	1.1	U	1.1	1	U	1	1	U	1	1	UJ	1	1.1	U	1.1	1.1	UJ	1.1
Benzaldehyde	100-52-7	µg/L	2.2	U	2.2	9.2	U	9.2	2.1	U	2.1	9.3	UJ	9.3	2.2	U	2.2	9.7	UJ	9.7
Benzoic acid	65-85-0	µg/L	26	U	26	25	U	25	25	U	25	25	UJ	25	27	U	27	26	UJ	26
Biphenyl, 1,1'-	92-52-4	µg/L	1.1	U	1.1	9.2	U	9.2	1	U	1	9.3	UJ	9.3	1.1	U	1.1	9.7	UJ	9.7
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	4.3	U	4.3	10	U	10	4.1	U	4.1	10	UJ	10	4.4	U	4.4	11	UJ	11
Butyl Benzyl Phthalate	85-68-7	µg/L	4.3	UJ	4.3	4.1	U	4.1	4.1	UJ	4.1	4.1	UJ	4.1	4.4	UJ	4.4	4.3	UJ	4.3
Caprolactam	105-60-2	µg/L	6.5	U	6.5	10	U	10	6.2	U	6.2	10	UJ	10	6.6	U	6.6	11	UJ	11
Carbazole	86-73-7	µg/L	1.1	U	1.1	1	U	1	1	U	1	0.031	UJ	0.031	1.1	U	1.1	1.1	UJ	1.1
Dibenzofuran	132-64-9	µg/L	1.1	U	1.1	1	U	1	1	U	1	1	UJ	1	1.1	U	1.1	1.1	UJ	1.1
Diethyl Phthalate	84-66-2	µg/L	4.3	U	4.3	4.1	U	4.1	4.1	U	4.1	4.1	UJ	4.1	4.4	UJ	4.4	4.3	UJ	4.3
Dimethyl Phthalate	131-11-3	µg/L	4.3	UJ	4.3	4.1	U	4.1	4.1	UJ	4.1	4.1	UJ	4.1	4.4	UJ	4.4	4.3	UJ	4.3
Di-n-butyl phthalate	84-74-2	µg/L	4.3	U	4.3	4.1	U	4.1	4.1	U	4.1	4.1	UJ	4.1	4.4	U	4.4	4.3	UJ	4.3
di-n-Octyl Phthalate	117-84-0	µg/L	11	U	11	10	U	10	10	U	10	10	UJ	10	11	U	11	11	UJ	11
Polycyclic Aromatic Hydrocarbons (PAHs)																				
1-Methylnaphthalene	90-12-0	µg/L	0.043	U	0.043	0.031	UJ	0.031	0.041	U	0.041	0.031	UJ	0.031	0.041	U	0.041	0.032	UJ	0.032
2-Methylnaphthalene	91-57-6	µg/L	0.043	U	0.043	0.062	UJ	0.062	0.041	U	0.041	0.062	UJ	0.062	0.041	U	0.041	0.064	UJ	0.064
Acenaphthene	83-32-9	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032
Anthracene	120-12-7	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032
Benzo(a)anthracene	56-55-3	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.038	J	0.031	0.031	U	0.031	0.032	UJ	0.032
Benzo(a)pyrene	50-32-8	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.013	J	0.031	0.031	U	0.031	0.032	UJ	0.032
Benzo(b)fluoranthene	205-99-2	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.044	J	0.031	0.031	U	0.031	0.032	UJ	0.032
Benzo(ghi)perylene	191-24-2	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.037	J	0.031	0.031	U	0.031	0.032	UJ	0.032
Benzo(k)fluoranthene	207-08-9	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.046	J	0.031	0.031	U	0.031	0.032	UJ	0.032
Chrysene	218-01-9	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.044	J	0.031	0.031	U	0.031	0.032	UJ	0.032
Dibenz(a,h)anthracene	53-70-3	µg/L	0.043	U	0.043	0.062	UJ	0.062	0.041	U	0.041	0.041	J	0.062	0.041	U	0.041	0.064	UJ	0.064
Fluoranthene	206-44-0	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.011	J	0.031	0.037	J	0.031	0.031	U	0.031	0.032	UJ	0.032
Fluorene	86-73-7	µg/L	0.032	U	0.032	--	--	--	0.031	U	0.031	--	--	--	0.031	U	0.031	--	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	µg/L	0.043	U	0.043	0.031	UJ	0.031	0.041	U	0.041	0.045	J	0.031	0.041	U	0.041	0.032	UJ	0.032
Naphthalene	91-20-3	µg/L	0.065	U	0.065	0.062	UJ	0.062	0.062	U	0.062	0.062	UJ	0.062	0.062	U	0.062	0.064	UJ	0.064
Phenanthrene	85-01-8	µg/L	0.065	U	0.065	0.062	UJ	0.062	0.062	U	0.062	0.062	UJ	0.062	0.062	U	0.062	0.064	UJ	0.064
Pyrene	129-00-0	µg/L	0.032	U	0.032	0.031	UJ	0.031	0.031	U	0.031	0.029	J	0.031	0.031	U	0.031	0.032	UJ	0.032
Polychlorinated Biphenyls (PCBs)																				
Aroclor 1016	12674-11-2	µg/L	0.32	U	0.32	0.31	U	0.31	0.3	U	0.3	0.36	U	0.36	0.34	U	0.34	0.36	U	0.36
Aroclor 1221	11104-28-2	µg/L	0.32	U	0.32	0.31	U	0.31	0.3	U	0.3	0.36	U	0.36	0.34	U	0.34	0.36	U	0.36
Aroclor 1232	11141-16-5	µg/L	0.32	U	0.32	0.31	U	0.31	0.3	U	0.3	0.36	U	0.36	0.34	U	0.34	0.36	U	0.36
Aroclor 1242	53469-21-9	µg/L	0.32	U	0.32	0.31	U	0.31	0.3	U	0.3	0.36	U	0.36	0.34	U	0.34	0.36	U	0.36
Aroclor 1248	12672-29-6	µg/L	0.32	U	0.32	0.31	U	0.31	0.3	U	0.3	0.36	U	0.36	0.34	U	0.34	0.36	U	0.36
Aroclor 1254	11097-69-1	µg/L	0.32	U	0.32	0.31	U	0.31	0.3	U	0.3	0.36	U	0.36	0.34	U	0.34	0.36	U	0.36
Aroclor 1260	11096-82-5	µg/L	0.32	U	0.32	0.31	U	0.31	0.3	U	0.3	0.36	U	0.36	0.34	U	0.34	0.36	U	0.36
Aroclor 1262	11096-82-5	µg/L	0.32	U	0.32	--	--	--	0.3	U	0.3	--	--	--	0.34	U	0.34	--	--	--
Aroclor 1268	11096-82-5	µg/L	0.32	U	0.32	--	--	--	0.3	U	0.3	--	--	--	0.34	U	0.34	--	--	--
Total Metals (TMET)																				

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 48579			S 58922			S 58922			S 70627			S 70627			S 76304		
		Sample Name:	S48579-0221			S58922-1220			S58922-0221			S70627-1220			S70627-0221			S76304-1220		
		Onsite/Offsite:	Offsite			Offsite			Offsite			Offsite			Offsite			Offsite		
		Sample Date:	2/23/2021			12/9/2020			2/23/2021			12/12/2020			2/24/2021			12/13/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Aluminum	7429-90-5	µg/L	49		30	30	U	30	30	U	30	320		30	2400		30	1200	J	30
Antimony	7440-36-0	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	9.2		0.8
Arsenic	7440-38-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1	J	1.6	1.8	J	1.6	520	J	1.6
Barium	7440-39-3	µg/L	20		1.6	83		1.6	55		1.6	170		1.6	140		1.6	1400	J	1.6
Beryllium	7440-41-7	µg/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.13	J	0.25	0.2	J	0.25
Cadmium	7440-43-9	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.2	J	0.4	0.4	U	0.4	21		0.4
Calcium	7440-70-2	µg/L	6200		120	13000		120	11000		120	32000		120	30000		120	31000		600
Chromium (VI) - lab	18540-29-9	µg/L	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9
Chromium (III)	16065-83-1	µg/L	9	U	9	9	UJ	9	9	U	9	9	UJ	9	10		9	120	J	9
Chromium (Total)	7440-47-3	µg/L	0.33	J	0.8	0.8	U	0.8	0.41	J	0.8	1.4	J	0.8	10		0.8	120	J	0.8
Cobalt	7440-48-4	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	1		0.4	1.8		0.4	41	J	0.4
Copper	7440-50-8	µg/L	0.85	J	0.8	0.9	J	0.8	0.8	U	0.8	2.3		0.8	2.7		0.8	120		0.8
Iron	7439-89-6	µg/L	21000		40	48	J	40	40	U	40	430		40	2900		40	1300000	J	800
Lead	7439-92-1	µg/L	48		0.25	0.51		0.25	0.25	U	0.25	2.1		0.25	3.5		0.25	830		0.25
Magnesium	7439-95-4	µg/L	4200		25	7200		25	7900		25	19000		25	19000		25	6400	J	130
Manganese	7439-96-5	µg/L	350		1.6	2.1		1.6	1.6	U	1.6	460		1.6	260		1.6	33000	J	16
Mercury	7439-97-6	µg/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.42		0.2
Nickel	7440-02-0	µg/L	1	U	1	1	U	1	1	U	1	11		1	10		1	130	J	1
Potassium	7440-07-9	µg/L	3100		160	1700		160	1700		160	3900		160	4300		160	3500		160
Selenium	7782-49-2	µg/L	0.8	U	0.8	0.78	J	0.8	0.75	J	0.8	0.8	U	0.8	0.32	J	0.8	0.8	U	0.8
Silver	7440-22-4	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.59		0.4
Sodium	7440-23-5	µg/L	43000		160	23000		160	22000		160	67000		160	75000		160	49000		800
Thallium	7440-28-0	µg/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.45	J	0.4
Vanadium	7440-62-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1	J	1.6	5.1		1.6	7.2		1.6
Zinc	7440-66-6	µg/L	11	J	10	10	U	10	10	U	10	65		10	14	J	10	95000	J	200
Dissolved Metals (DMET)																				
Aluminum	7429-90-5	µg/L	31	U	31	31	U	31	31	U	31	30	U	30	31	U	31	30	U	30
Antimony	7440-36-0	µg/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8
Arsenic	7440-38-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	0.75	J	1.6	0.79	J	1.6	1.5	J	1.6
Barium	7440-39-3	µg/L	20		1.6	75		1.6	52		1.6	150		1.6	110		1.6	48		1.6
Beryllium	7440-41-7	µg/L	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.25	U	0.25	0.26	U	0.26	0.25	U	0.25
Cadmium	7440-43-9	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.19	J	0.4	0.41	U	0.41	0.4	U	0.4
Calcium	7440-70-2	µg/L	5800		120	12000		120	11000		120	31000		120	30000		120	12000		120
Chromium (VI) - lab	18540-29-9	µg/L	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9
Chromium (III)	16065-83-1	µg/L	9	U	9	9	UJ	9	9	U	9	9	UJ	9	9	U	9	9	UJ	9
Chromium (Total)	7440-47-3	µg/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8
Cobalt	7440-48-4	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.9		0.4	0.64		0.41	0.4	U	0.4
Copper	7440-50-8	µg/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	1.2		0.8	0.82	U	0.82	0.97	J	0.8
Iron	7439-89-6	µg/L	18000		41	41	U	41	41	U	41	23	J	40	120		41	60	J	40
Lead	7439-92-1	µg/L	0.37	J	0.26	0.083	J	0.26	0.26	U	0.26	0.074	J	0.25	0.074	J	0.26	0.25	U	0.25
Magnesium	7439-95-4	µg/L	3900		26	6700		26	7600		26	18000		25	18000		26	1300		25
Manganese	7439-96-5	µg/L	330		1.6	1.2	J	1.6	1.6	U	1.6	390		1.6	210		1.6	50		1.6
Mercury	7439-97-6	µg/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16	0.08	J	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	µg/L	1	U	1	1	U	1	1	U	1	9.3		1	3.7		1	1.1	J	1
Potassium	7440-07-9	µg/L	2900		160	1600		160	1600		160	3400		160	3400		160	3000		160

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 48579			S 58922			S 58922			S 70627			S 70627			S 76304		
		Sample Name:	S48579-0221			S58922-1220			S58922-0221			S70627-1220			S70627-0221			S76304-1220		
		Onsite/Offsite:	Offsite			Offsite			Offsite			Offsite			Offsite			Offsite		
		Sample Date:	2/23/2021			12/9/2020			2/23/2021			12/12/2020			2/24/2021			12/13/2020		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Selenium	7782-49-2	µg/L	0.82	U	0.82	0.94	J	0.82	0.69	J	0.82	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8
Silver	7440-22-4	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4
Sodium	7440-23-5	µg/L	40000		160	20000		160	20000		160	67000		160	67000		820	51000		160
Thallium	7440-28-0	µg/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4
Vanadium	7440-62-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	10	U	10	10	U	10	10	U	10	8.6	J	10	6.4	J	10	10	J	10

Notes
CASRN = Chemical Abstract Services Registry Number
LOD = Limit of Detection
SL = Screening Level
µg/L = micrograms per liter
VQ = Validation Qualifier

Data Validation Qualifier Codes
J = The analyte was positively identified and the associated value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.
X = The result is rejected and not usable due to quality control reasons.

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 76304			S 76304			S 79269			S 79269			S 79269			S 79269		
		Sample Name:	S76304-1220D (FD)			S76304-0221			S79269-1220			S79269-1220D (FD)			S79269-0221			S79269-0221D (FD)		
		Onsite/Offsite:	Offsite			Offsite			Offsite			Offsite			Offsite			Offsite		
		Sample Date:	12/13/2020			2/27/2021			12/8/2020			12/8/2020			2/25/2021			2/25/2021		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																				
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	µg/L	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
Benzene	71-43-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	µg/L	1	J	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE)	1634-04-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	µg/L	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	µg/L	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	µg/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	µg/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																				
1,4-Dichlorobenzene	106-46-7	µg/L	1	UJ	1	1	U	1	1.1	UJ	1.1	1.1	U	1.1	1.1	U	1.1	1	U	1
1,4-Dioxane	123-91-1	µg/L	0.21	UJ	0.21	0.21	U	0.21	0.21	UJ	0.21	0.22	U	0.22	0.21	U	0.21	0.2	U	0.2
2-Chloronaphthalene	91-58-7	µg/L	0.83	UJ	0.83	0.82	U	0.82	0.86	U	0.86	0.86	U	0.86	0.86	U	0.86	0.81	U	0.81

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 76304			S 76304			S 79269			S 79269			S 79269			S 79269		
		Sample Name:	S76304-1220D (FD)			S76304-0221			S79269-1220			S79269-1220D (FD)			S79269-0221			S79269-0221D (FD)		
		Onsite/Offsite:	Offsite			Offsite			Offsite			Offsite			Offsite			Offsite		
		Sample Date:	12/13/2020			2/27/2021			12/8/2020			12/8/2020			2/25/2021			2/25/2021		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
2-Methylphenol	95-48-7	µg/L	1	UJ	1	1	U	1	1.1	UJ	1.1	1.1	U	1.1	1.1	U	1.1	1	U	1
4-Chloro-3-methylphenol	59-50-7	µg/L	3.3	UJ	3.3	2.1	U	2.1	3.4	UJ	3.4	3.5	U	3.5	2.1	U	2.1	2	U	2
4-Chloroaniline	106-47-8	µg/L	9.4	UJ	9.4	9.2	U	9.2	9.6	U	9.6	9.7	U	9.7	9.6	U	9.6	9.1	U	9.1
4-Methylphenol	106-44-5	µg/L	1	UJ	1	1	U	1	1.1	UJ	1.1	1.1	U	1.1	1.1	U	1.1	1	U	1
Benzaldehyde	100-52-7	µg/L	9.4	UJ	9.4	2.1	U	2.1	9.6	U	9.6	9.7	U	9.7	2.1	U	2.1	2	U	2
Benzoic acid	65-85-0	µg/L	25	UJ	25	25	U	25	26	U	26	26	U	26	26	U	26	24	U	24
Biphenyl, 1,1'-	92-52-4	µg/L	9.4	UJ	9.4	1	U	1	9.6	U	9.6	9.7	U	9.7	1.1	U	1.1	1	U	1
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	10	UJ	10	4.1	U	4.1	11	U	11	11	U	11	4.3	U	4.3	4	U	4
Butyl Benzyl Phthalate	85-68-7	µg/L	4.2	UJ	4.2	4.1	UJ	4.1	4.3	U	4.3	4.3	UJ	4.3	4.3	UJ	4.3	4	UJ	4
Caprolactam	105-60-2	µg/L	10	UJ	10	6.2	U	6.2	11	U	11	11	U	11	6.4	U	6.4	6	U	6
Carbazole	86-73-7	µg/L	0.031	UJ	0.031	1	U	1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1	U	1
Dibenzofuran	132-64-9	µg/L	1	UJ	1	1	U	1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1	U	1
Diethyl Phthalate	84-66-2	µg/L	4.2	UJ	4.2	4.1	UJ	4.1	4.3	U	4.3	4.3	U	4.3	4.3	UJ	4.3	4	UJ	4
Dimethyl Phthalate	131-11-3	µg/L	4.2	UJ	4.2	4.1	UJ	4.1	4.3	U	4.3	4.3	UJ	4.3	4.3	UJ	4.3	4	UJ	4
Di-n-butyl phthalate	84-74-2	µg/L	4.2	UJ	4.2	4.1	U	4.1	4.3	U	4.3	4.3	U	4.3	4.3	U	4.3	4	U	4
di-n-Octyl Phthalate	117-84-0	µg/L	10	UJ	10	10	U	10	11	U	11	11	U	11	11	U	11	10	U	10
Polycyclic Aromatic Hydrocarbons (PAHs)																				
1-Methylnaphthalene	90-12-0	µg/L	0.031	UJ	0.031	0.041	U	0.041	0.032	UJ	0.032	0.032	U	0.032	0.043	U	0.043	0.04	U	0.04
2-Methylnaphthalene	91-57-6	µg/L	0.063	UJ	0.063	0.041	U	0.041	0.064	UJ	0.064	0.065	U	0.065	0.024	J	0.043	0.04	U	0.04
Acenaphthene	83-32-9	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Anthracene	120-12-7	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Benzo(a)anthracene	56-55-3	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Benzo(a)pyrene	50-32-8	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Benzo(b)fluoranthene	205-99-2	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Benzo(ghi)perylene	191-24-2	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Benzo(k)fluoranthene	207-08-9	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Chrysene	218-01-9	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Dibenz(a,h)anthracene	53-70-3	µg/L	0.063	UJ	0.063	0.041	U	0.041	0.064	UJ	0.064	0.065	U	0.065	0.043	U	0.043	0.04	U	0.04
Fluoranthene	206-44-0	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Fluorene	86-73-7	µg/L	--	--	--	0.031	U	0.031	--	--	--	--	--	--	0.032	U	0.032	0.03	U	0.03
Indeno(1,2,3-cd)pyrene	193-39-5	µg/L	0.031	UJ	0.031	0.041	U	0.041	0.032	UJ	0.032	0.032	U	0.032	0.043	U	0.043	0.04	U	0.04
Naphthalene	91-20-3	µg/L	0.063	UJ	0.063	0.062	U	0.062	0.064	UJ	0.064	0.065	U	0.065	0.11	J	0.064	0.06	UJ	0.06
Phenanthrene	85-01-8	µg/L	0.063	UJ	0.063	0.062	U	0.062	0.064	UJ	0.064	0.065	U	0.065	0.064	U	0.064	0.06	U	0.06
Pyrene	129-00-0	µg/L	0.031	UJ	0.031	0.031	U	0.031	0.032	UJ	0.032	0.032	U	0.032	0.032	U	0.032	0.03	U	0.03
Polychlorinated Biphenyls (PCBs)																				
Aroclor 1016	12674-11-2	µg/L	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.32	U	0.32
Aroclor 1221	11104-28-2	µg/L	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.32	U	0.32
Aroclor 1232	11141-16-5	µg/L	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.32	U	0.32
Aroclor 1242	53469-21-9	µg/L	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.32	U	0.32
Aroclor 1248	12672-29-6	µg/L	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.32	U	0.32
Aroclor 1254	11097-69-1	µg/L	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.32	U	0.32
Aroclor 1260	11096-82-5	µg/L	0.31	U	0.31	0.67		0.31	0.31	U	0.31	0.31	U	0.31	0.31	U	0.31	0.32	U	0.32
Aroclor 1262	11096-82-5	µg/L	--	--	--	0.31	U	0.31	--	--	--	--	--	--	0.31	U	0.31	0.32	U	0.32
Aroclor 1268	11096-82-5	µg/L	--	--	--	0.31	U	0.31	--	--	--	--	--	--	0.31	U	0.31	0.32	U	0.32
Total Metals (TMET)																				

		Sample Location:	S 76304			S 76304			S 79269			S 79269			S 79269			S 79269		
		Sample Name:	S76304-1220D (FD)			S76304-0221			S79269-1220			S79269-1220D (FD)			S79269-0221			S79269-0221D (FD)		
		Onsite/Offsite:	Offsite			Offsite			Offsite			Offsite			Offsite			Offsite		
		Sample Date:	12/13/2020			2/27/2021			12/8/2020			12/8/2020			2/25/2021			2/25/2021		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Aluminum	7429-90-5	µg/L	800	J	30	30	U	30	30	U	30	30	U	30	30	U	30	30	U	30
Antimony	7440-36-0	µg/L	8.6		0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	µg/L	320	J	1.6	2.9		1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	µg/L	980	J	1.6	54		1.6	41		1.6	41		1.6	42		1.6	42		1.6
Beryllium	7440-41-7	µg/L	0.14	J	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	µg/L	17		0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	µg/L	26000		600	27000		120	15000		120	14000		120	15000		120	15000		120
Chromium (VI) - lab	18540-29-9	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	UJ	9	9	U	9	9	U	9
Chromium (III)	16065-83-1	µg/L	68	J	9	9	U	9	9	UJ	9	9	UJ	9	9	U	9	9	U	9
Chromium (Total)	7440-47-3	µg/L	68	J	0.8	0.8	U	0.8	0.8	U	0.8	0.66	J	0.8	0.8	U	0.8	0.8	U	0.8
Cobalt	7440-48-4	µg/L	25	J	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Copper	7440-50-8	µg/L	89		0.8	0.8	U	0.8	1.9		0.8	2.1		0.8	1.8		0.8	1.5		0.8
Iron	7439-89-6	µg/L	760000	J	400	170		40	200		40	190		40	180		40	190		40
Lead	7439-92-1	µg/L	640		0.25	0.27	J	0.25	0.19	J	0.25	0.23	J	0.25	0.26	J	0.25	0.26	J	0.25
Magnesium	7439-95-4	µg/L	4700	J	130	3100		25	11000		25	10000		25	11000		25	10000		25
Manganese	7439-96-5	µg/L	21000	J	16	270		1.6	34		1.6	33		1.6	29		1.6	28		1.6
Mercury	7439-97-6	µg/L	0.3		0.2	0.16	U	0.16	0.12	J	0.2	0.12	J	0.2	0.16	U	0.16	0.16	U	0.16
Nickel	7440-02-0	µg/L	82	J	1	1	U	1	2.5		1	2.6		1	1.5		1	1	J	1
Potassium	7440-07-9	µg/L	3600		160	3200		160	2000		160	1900		160	2000		160	2000		160
Selenium	7782-49-2	µg/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	µg/L	0.39	J	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	µg/L	54000		800	26000		160	30000		160	31000		160	30000		160	29000		160
Thallium	7440-28-0	µg/L	0.29	J	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	µg/L	4.4		1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	64000	J	100	10	U	10	10	U	10	10	U	10	10	U	10	10	U	10
Dissolved Metals (DMET)																				
Aluminum	7429-90-5	µg/L	30	U	30	31	U	31	31	U	31	31	U	31	31	U	31	31	U	31
Antimony	7440-36-0	µg/L	0.8	U	0.8	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Arsenic	7440-38-2	µg/L	1.6	J	1.6	2.8		1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	µg/L	46		1.6	54		1.6	39		1.6	40		1.6	42		1.6	42		1.6
Beryllium	7440-41-7	µg/L	0.25	U	0.25	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	µg/L	0.4	U	0.4	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	µg/L	11000		120	26000		120	14000		120	15000		120	14000		120	14000		120
Chromium (VI) - lab	18540-29-9	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	UJ	9	9	U	9	9	U	9
Chromium (III)	16065-83-1	µg/L	9	UJ	9	9	U	9	9	UJ	9	9	UJ	9	9	U	9	9	U	9
Chromium (Total)	7440-47-3	µg/L	0.8	U	0.8	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Cobalt	7440-48-4	µg/L	0.4	U	0.4	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Copper	7440-50-8	µg/L	0.8	U	0.8	0.82	U	0.82	1.5		0.82	1.1		0.82	2.4		0.82	1.9		0.82
Iron	7439-89-6	µg/L	40	UJ	40	150		41	160		41	150		41	150		41	140		41
Lead	7439-92-1	µg/L	0.25	U	0.25	0.26	U	0.26	0.15	J	0.26	0.15	J	0.26	0.3	J	0.26	0.27	J	0.26
Magnesium	7439-95-4	µg/L	1200		25	3400		26	10000		26	10000		26	11000		26	9800		26
Manganese	7439-96-5	µg/L	47		1.6	290		1.6	33		1.6	33		1.6	29		1.6	29		1.6
Mercury	7439-97-6	µg/L	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2	0.1	J	0.2	0.16	U	0.16	0.16	U	0.16
Nickel	7440-02-0	µg/L	0.74	J	1	1	U	1	2		1	1.4	J	1	2.2		1	1.4	J	1
Potassium	7440-07-9	µg/L	3000		160	3300		160	1900		160	1900		160	2000		160	1900		160

Appendix B2
Phase IV Groundwater Analytical Results
Camp Hero, Montauk, New York

		Sample Location:	S 76304			S 76304			S 79269			S 79269			S 79269			S 79269		
		Sample Name:	S76304-1220D (FD)			S76304-0221			S79269-1220			S79269-1220D (FD)			S79269-0221			S79269-0221D (FD)		
		Onsite/Offsite:	Offsite			Offsite			Offsite			Offsite			Offsite			Offsite		
		Sample Date:	12/13/2020			2/27/2021			12/8/2020			12/8/2020			2/25/2021			2/25/2021		
Chemical	CASRN	Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Selenium	7782-49-2	µg/L	0.8	U	0.8	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Silver	7440-22-4	µg/L	0.4	U	0.4	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	µg/L	50000		160	27000		160	29000		160	30000		160	30000		160	30000		160
Thallium	7440-28-0	µg/L	0.4	U	0.4	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	µg/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	µg/L	10	U	10	10	U	10	10	U	10	10	U	10	9.7	J	10	7.8	J	10

Notes
CASRN = Chemical Abstract Services Registry Number
LOD = Limit of Detection
SL = Screening Level
µg/L = micrograms per liter
VQ = Validation Qualifier

Data Validation Qualifier Codes
J = The analyte was positively identified and the associated value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.
X = The result is rejected and not usable due to quality control reasons.

Appendix C

Field Documentation

Appendix C1

Daily Field Reports

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United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/5/2020 Monday

DR No. 01		**WRITTEN BY**: Brendan McGuinness			**PROJECT NUMBER**: 60443903
Weather: H 45°F Cloudy		**Days without a lost time injury:** 1			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	8	SSHO, Geologist	AECOM	Solonist Water Level Meter (3)	PJ Mion, USACE
Brendan McGuinness	8	Senior Geologist	AECOM		
DAILY TOTAL	16				
TOTAL TO DATE	16	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0800, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with scheduled field work for the day.

Site Reconnaissance of Wells

Site reconnaissance of deep groundwater wells (i.e., screened within the Upper Glacial Aquifer [UGA]) was completed, as follows:

0900 – The team assessed United States Geological Survey (USGS) inactive well S72283 on Old Montauk Highway. Team located well head area and excavated in area of well head, but no well was identified.

0930 – The team assessed Former Supply Well Pump House S17859. The team searched around well house for potential well head outside of pump house; however, no evidence of a well outside the pump house was found. Access to inside of pump house was scheduled with park service assistance.

1000 – The team assessed former Supply Well Pump House S17231. The team located supply well outside of well house. An attempt to measure inside inner well casing was made, but a blockage was encountered at 6 feet below ground surface (bgs).

1030 – The team located the stick-up casing of former supply well S3260. An attempt was made to gauge the well but a blockage was encountered at 9 feet bgs.

1130 – The team located former USGS test well, Well S19494, as a flush mount well in parking lot behind former barracks building. The well head was in poor condition, but the well would be viable for gauging and sampling. Gauging of the well was scheduled for the synoptic gauging event on Tuesday 10/6/20.

1200 – The team located the former supply well pump house S21084 on the western perimeter of Camp Hero. A heavy cast iron cover exists over the well, which would require a breaker bar or sludge hammer to move. A return visit to well with equipment was planned for a later date during the reconnaissance event.

1445 – The team located the former supply well S19495/ATT Building. The team removed lid to vault and attempted to gauge the well. A poly-vinyl chloride (PVC) pipe existed in the well cap, which allowed tape measure access. A total depth of 84 feet bgs was measured from the ground surface. However, the team suspected that the PVC may lead to submersible pump at the bottom of the well. A return to the well head was planned with drilling equipment to drill a hole through the well cap to allow access in annular space surrounding PVC-submersible pump.

The AECOM team left the site for the day at 1600.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/5/2020 Monday

DR No. 01		**WRITTEN BY**: Brendan McGuinness	**PROJECT NUMBER**: 60443903

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

Brendan McGuinness

Daily Photos

Photo 1. S19494

Photo 2. Former Supply Well S21084 pumphouse

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/6/2020 Tuesday

DR No. 02		**WRITTEN BY**: Brendan McGuinness			**PROJECT NUMBER**: 60443903
Weather: H 55°F Cloudy		**Days without a lost time injury:** 2			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	8	SSHO, Geologist	AECOM	Solonist Water Level Meter (3)	PJ Mion, USACE
Brendan McGuinness	8	Senior Geologist	AECOM		
DAILY TOTAL	16				
TOTAL TO DATE	32	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0800, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with scheduled field work for the day.

Site Reconnaissance of Wells

Site reconnaissance of deep groundwater wells (i.e., screened within the Upper Glacial Aquifer [UGA]) was completed, as follows:

0900 - The team proceeded to inactive, co-located United States Geological Survey (USGS) well locations S70262 and S70262 on Route 27. No evidence of the wells identified by the team. It appeared that the wells may have been demolished by a Suffolk County Water Authority (SCWA) water line.

0930 - The team proceeded to USGS well location 19487 on former North Road (now a trail) off Route 27 toward Oyster Pond. No evidence of a well was found.

0945 - The team proceeded to meet with SCWA personnel at the former Madison Hill Well Field. The depth to water and total depth of the former supply wells numbered 1, 2, and 3A were measured and recorded. It was noted that the former supply well locations on project maps needed to be corrected to actual locations verified in field.

1100 - The team proceeded to USGS well S19494 located behind barracks building. The depth to water and total depth of S19494 was measured and recorded.

1145 – The team proceeded to Camp Hero Well S19495 (at the former AT&T Building). The depth to water and total depth of S19495 was measured and recorded. A hole needed to be drilled through the former supply well cap to obtain the measurements. A hole large enough to accommodate sampling tubing was installed, should the well be selected for sampling in future activities.

1200 – The team proceeded to the well pump house for well S21084, located on western perimeter of Camp Hero. The well house was observed to be vandalized and there was an open door and window with abandoned pipes. The well consisted of a weathered and eroded cast iron casing and a locking cap with a 2-inch poly-vinyl chloride (PVC) well casing. The water in the well PVC casing was observed to be at ground surface. The team indicated that it was likely the water was standing in the pipe above a back-flow device above the submersible pump. The total depth inside the PVC well casing was measured at 89 feet bgs. The team planned to return to this well to see if the well casing cap could be removed to measure the outside PVC casing.

1430 – The team called Mr. Jason Walter at the Montauk Lighthouse and arranged for meeting to view the lighthouse wells at 1445. The team subsequently met Mr. Walter and viewed the two active lighthouse wells. One well was identified to be for drinking water and supplied the Gift Shop. The other well was identified to be for non-drinking water purposes and supplied the museum. Mr. Walter indicated SCWA performs full analytical analysis on non-filtered water from the wells every year and would provide data for the project. The team indicated they would request the data. The second well has only bacteria (BAC-T) sampling monthly.

1500 – The team proceeded to active USGS gauging well S70627 located in median of Route 27 near the lighthouse. The team was able to locate and uncover the well head. The depth to groundwater and total depth of the well were obtained.

The AECOM team left the site for the day at 1600.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/6/2020 Tuesday

DR No. 02		**WRITTEN BY**: Brendan McGuinness	**PROJECT NUMBER**: 60443903

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

Brendan McGuinness

Daily Photos

Photo 1. Old Lighthouse well Nonpotable supply

Photo 2. New Lighthouse well potable supply

DATE: 10/6/2020 Tuesday

DR No. 02		WRITTEN BY: Brendan McGuinness	PROJECT NUMBER: 60443903

Photo 3. Madison Hills Supply Well 3A

Photo 4. Madison Hills Supply Well 2

Photo 5. Madison Hills Supply Well 1

Photo 6. S19495 ATT Building Well Vault

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/7/2020 Wednesday

DR No. 03	**WRITTEN BY**: Brendan McGuinness	**PROJECT NUMBER**: 60443903
Weather: H 55°F Cloudy	**Days without a lost time injury:** 3	

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	8	SSHO, Geologist	AECOM	Solonist Water Level Meter (3)	PJ Mion, USACE
Brendan McGuinness	8	Senior Geologist	AECOM		
DAILY TOTAL	16				
TOTAL TO DATE	48	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0800, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with scheduled field work for the day.

Site Reconnaissance of Wells

Site reconnaissance of deep groundwater wells (i.e., screened within the Upper Glacial Aquifer [UGA]) was completed, as follows:

0815 - The team visited and gauged to United States Geological Survey (USGS) active gauging well S48759 on Route 27.

0930 - The team visited and gauged USGS active gauging well S48759 on Route 27.

1100 - The team met the state park assistant to gain entry into pump house at former supply well 17859. A supply well was found inside the pump house but was dry and obstructed at 55 feet bgs.

1145 - The team proceeded to the Montauk State Park supply well near the State Park Superintendent's house with the park assistant. The well and supply system was observed to be in a vault. A sampling spigot was available for sampling the well in the vault prior to treatment. Pictures were taken of the sampling port.

1230 - The team proceeded to search for former Montauk State Park supply well S15812 behind parking and bath house area of Montauk Point State Park. A trail to the well area was found but a locked fence prevented entry into the suspected well pump house area.

1430 - The team proceeded to search for well S19496 located off Old Montauk Highway within Camp Hero (this was the location of former barracks well and emergency supply). The well was found after searching wooded area. The location of the well was measured using the existing roadway for reference. S19496 was gauged.

The AECOM team left the site for the day at 1600.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/7/2020 Wednesday

DR No. 03		**WRITTEN BY**: Brendan McGuinness	**PROJECT NUMBER**: 60443903

AIR MONITORING COMMENTS

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

Brendan McGuinness

Daily Photos

Photo 1. Montauk State Park Supply Well Sample Port S79269

Photo 2. S19496 Former Barracks well and emergency supply well

DATE: 10/7/2020 Wednesday

DR No. 03		**WRITTEN BY**: Brendan McGuinness	**PROJECT NUMBER**: 60443903

Photo 3. Montauk State Park well vault entrance

Photo 4. USGS active monitoring well along Route 27

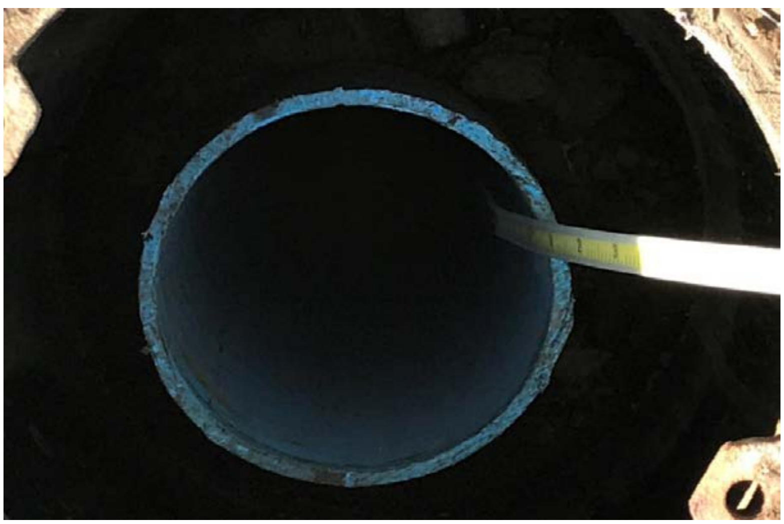

Photo 5. USGS active gauging well Pocahontas Drive

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/8/2020 Thursday

DR No. 04		**WRITTEN BY**: Brendan McGuinness		**PROJECT NUMBER**: 60443903	
Weather: H 55°F	Cloudy	**Days without a lost time injury:**	4		
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	8	SSHO, Geologist	AECOM	Solonist Water Level Meter (3)	PJ Mion, USACE
Brendan McGuinness	8	Senior Geologist	AECOM		
DAILY TOTAL	16				
TOTAL TO DATE	64	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0800, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with scheduled field work for the day.

Site Reconnaissance of Wells

Site reconnaissance of deep groundwater wells (i.e., screened within the Upper Glacial Aquifer [UGA]) was completed, as follows:

0815 - The team visited United States Geological Survey (USGS) inactive gauging well S72283 on Old Montauk Highway in another attempt to locate the potentially buried well head well with a magnetometer. The team excavated in areas of magnetic soundings but no evidence of a well was identified.

1000 - The team met park assistant for entrance into Former Supply Well Pump House S17231 off Camp Hero Road to assess former supply well. A well was found inside the well house and depth to water and total depth recorded. The well inside the well house appeared to be abandoned with concrete but the concrete cap was able to be broken open with a breaker bar. Another well was located immediately east and outside of the well house. The well inside the pump house had a depth to water (DTW) of 63.78 and total of 108 feet below ground surface (bgs). The well east and outside of well house S17231 had a DTW of 63.10 and total depth of 180 feet bgs. The team observed that DTW of the well inside the pump house may have been slightly different as the well may have been equilibrating due to the concrete cap seal over the well broken open for measurement.

1100 - The team returned to Former Pump Well House well S21084 on west perimeter of Camp Hero with the park assistant to attempt to gain access to the well through the steel cap by hammering it with breaker bar. The steel cap was able to be wedged aside by to allow for water level meter probe to measure DTW and total depth, which were recorded.

1145 - The team proceed to the Motor Pool to reassess if there was a pretreatment sample port available at the motor pool well. A sampling port was identified prior to treatment; therefore, this location would be viable to sample should sampling at this location be warranted.

1230 - The team proceeded to search for the remaining USGS test wells and Camp Hero wells on shown on Figure 10-5 of the Phase IV Remedial Investigation (RI) Quality Assurance Project Plan (QAPP) Addendum, but no evidence of these wells were found.

1600 - The team finished reconnaissance of the UGA wells at Camp Hero and the surrounding area. Prior to leaving Camp Hero, the team surveyed and took pictures of the proposed QAPP UGA well locations. Overhead electric lines were noted in the area as a conflict, as well as locked perimeter fencing and ground slope. Potential optimal well locations were noted and several pictures of slope, electric lines, and fencing taken for team consideration.

The AECOM team demobilized from the site at 1600.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/8/2020 Thursday

DR No. 04		WRITTEN BY: Brendan McGuinness	PROJECT NUMBER: 60443903

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

Brendan McGuinness

Daily Photos

Photo 1. Motor Pool sample spigot

Photo 2. Supply well S17231 in pump house

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 10/8/2020 Thursday

DR No. 04		**WRITTEN BY**: Brendan McGuinness	**PROJECT NUMBER**: 60443903

Photo 3. Supply well S21084 in pump house western perimeter of Camp Hero

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 11/30/2020 Monday

DR No. 05	**WRITTEN BY**: Mike Glinski	**PROJECT NUMBER**: 60443903
Weather: H 58°F Heavy Rain, High Wind	**Days without a lost time injury:** 5	

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	1	SSHO, Geologist	AECOM	None	None
Jim Christopher	0	Site Supervisor, Geologist	AECOM		
Brendan McGuinness	0	Senior Geologist	AECOM		
Jack Hollingsworth	0	Geologist	AECOM		
Matt Kerr	0	Scientist	AECOM		
Steve Glenn	0	Botanist	AECOM		
Shannon Linnane	0	UXO Tech II	AECOM		
DAILY TOTAL	1				
TOTAL TO DATE	65	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

Mike Glinski (AECOM) arrived onsite at 1000 and reviewed the safety protocols and the the task hazards associated with the scheduled work for the day.

Utility Clearance Site Walk

Mike completed a site walk to check for the utility clearance mark-out by New York DigSafe and completed the AECOM utility clearance checklist. The checklist was sent to the AECOM Project Manager, Mark MacEwan, for approval prior to the start of instrusive activities.

Mike left the site for the day at 1100.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None (air monitoring was not conducted because no drilling activities occurred)

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

AECOM

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 11/30/2020 Monday

DR No. 05		**WRITTEN BY**: Mike Glinski	**PROJECT NUMBER**: 60443903

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

Mike Glinski

Daily Photos

No photos were collected for today's daily report.

AECOM

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/1/2020 Tuesday

DR No. 06		**WRITTEN BY**: Jack Hollingsworth			**PROJECT NUMBER**: 60443903
Weather: H 55°F	Sunny, Windy	**Days without a lost time injury:**	6		
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	7.25	SSHO, Geologist	AECOM	Solonist Water Level Meter (3)	PJ Mion, USACE
Jim Christopher	6	Site Supervisor, Geologist	AECOM	DustTrak2 Dust Meter (1)	
Brendan McGuinness	7.25	Senior Geologist	AECOM	Geotech Bladder Pumps (2)	
Jack Hollingsworth	7.25	Geologist	AECOM	Controller/Compressor QED (2)	
Matt Kerr	7.25	Scientist	AECOM	Magnetometer-Schonstedt (1)	
Steve Glenn	6.5	Botanist	AECOM	Waterra HydroLift Pumps (2)	
Shannon Linnane	5	UXO Tech II	AECOM	MiniRae 3000 PID (4)	
				Honda Generator EU2000i (1)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Chainsaw (1, TWS)	
				Weed whacker (1, TWS)	
DAILY TOTAL	46.5				
TOTAL TO DATE	110.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Jeff Baker, TWS Environmental, LLC	5,000-gallon frac tank, AWT Environmental Services
	Equipment, Pine Environmental Services (delivered to Montauk Manor)
	Porta-John, Callahead New York

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0800, completed the Morning Tailgate Health and Safety Meeting and UXO Awareness Information Sheets, and reviewed the health and safety procedures and task hazards associated with scheduled field work for the day.

Site Preparations

New team members received a tour of the investigation areas within Camp Hero State Park. Rare plant species were flagged by the AECOM Botanist (Steve Glenn) near drilling locations CH-MW044 and CH-MW045. Vegetation clearance was completed by TWS Environmental Services with oversight by the AECOM botanist.
The 5,000-gallon frac tank (AWT Environmental Services) was delivered to the site and staged on the east side of the Motor Pool building, as approved by Tom Dess, the State Park Superintendent (New York State Office of Parks, Recreation, and Historic Preservation). Two additional deliveries were accepted, as noted above.
A key for the building at the West Gate of Camp Hero was picked up from Montauk Downs, as arranged by Tom Dess.

Site Reconnaissance

The team completed site reconnaissance at S 15812/ Former Montauk Point State Park Well, which could not be accessed during the October 2020 site reconnaissance (refer to Site Observations below for additional details).

The AECOM team left the site for the day at 1515.

WORK COMPLETED BY AECOM SUBCONTRACTORS

Jeff Baker, TWS Environmental, completed vegetation clearance at new well locations.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

While viewing the locations of the former supply wells at Madison Hills Drive, a resident, who self-identified herself as an attorney and lifetime resident of the area, inquired about the team's activities. Brendan McGuinness (AECOM) and PJ Mion (USACE) shared the purpose of the investigation and Brendan provided her with a Fact Sheet.

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/1/2020 Tuesday

DR No. 06	**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

AIR MONITORING COMMENTS:

None (air monitoring was not conducted because no drilling activities occurred)

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

Former supply well S 15812 was found to be attached to a metal apparatus that cannot be removed (Photo 1). PJ Mion (USACE) will discuss potential options for accessibility with Julie Rupp, the USACE Project Manager, and Tom Dess, State Park Superintendent.

ATTACHMENTS

None

Site Representative (Signature):

Jack Hollingsworth

Daily Photos

Photo 1. S 15812/ Former Montauk Point State Park Well

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/2/2020 Wednesday

DR No. 07		**WRITTEN BY:** Jack Hollingsworth	**PROJECT NUMBER:** 60443903
Weather: H 45°F	Cloudy	**Days without a lost time injury:**	7

NAME:	HRS	TRADE:	COMPANY:	EQUIPMENT:	VISITORS/AFFILIATION:
Mike Glinski	8.25	SSHO, Geologist	AECOM	Solonist Water Level Meter (3)	PJ Mion, USACE
Jim Christopher	9	Site Supervisor, Geologist	AECOM	DustTrak2 Dust Meter (1)	
Brendan McGuinness	6.5	Senior Geologist	AECOM	Geotech Bladder Pumps (2)	
Jack Hollingsworth	9	Geologist	AECOM	Controller/Compressor QED (2)	
Matt Kerr	9	Scientist	AECOM	Magnetometer-Schonstedt (1)	
Shannon Linnane	8	UXO Tech II	AECOM	Waterra HydroLift Pumps (2)	
				MiniRae 3000 PID (4)	
				Honda Generator EU2000i (1)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Fraste XL Max Drill Rig	
DAILY TOTAL	49.75				
TOTAL TO DATE	160.25	*(on-site hours only)*			

SUBCONTRACTORS:	SITE DELIVERIES
Jeff Baker, TWS Environmental, LLC	Cooler, Eurofins (delivered to Montauk Manor)
Tony Palomogue, Aquifer Drilling & Testing (ADT)	
Todd Laderwager, ADT	
Patrick Magill , ADT	

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0800, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with scheduled field work for the day.

Well Development

The team began redevelopment of S 70627, which ran dry during development. Team will revisit the well tomorrow to determine the amount of recharge in the well and make a determination about whether the well should be sampled, in discussion with the AECOM and USACE PMs. The team removed well cap on S 19495 and will begin development at that location tomorrow.

Well Installation

The team began drilling at CH-MW045 and reached a depth of 100 feet below ground surface (bgs) by the end of the day. Geotechnical samples were collected from 0 to 100 feet. Composite samples were collected within each 10-foot interval and biased to clay layers, where present. Samples from 10 to 40 feet bgs were collected in 20-foot intervals (composites) rather than 10-foot intervals, because the field geologist believed the drillers were using 5-foot rod rather than a 10-foot rod.

General observations of subsurface lithology at CH-MW045 was consistent with the site CSM and the lithology of nearby inactive USGS co-located wells S 72283 and S 70626 located on Old Montauk Highway. The upper portion of the till consisted of undifferentiated silt, sand, and clay units. A lean clay unit was intercepted in the lower portion of the upper till from approximately 73 feet to 85 feet bgs. The Upper Glacial Aquifer (UGA) was intercepted at 85 feet bgs. The UGA consisted of course quartz sand with fines. The UGA was encountered from 85 feet bgs to the total depth of the borehole.

The AECOM team left the site for the day at 1700.

WORK COMPLETED BY AECOM SUBCONTRACTORS

ADT arrived onsite, staged equipment and supplies, and participated in a Tailgate Health & Safety meeting. Drilling began at CH-MW045 at 1245 and ended for the day at 1600. The borehole was advanced to 100 feet bgs.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/2/2020 Wednesday

DR No. 07		**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

AIR MONITORING COMMENTS:

Continuous air monitoring was completed downwind of the drill rig, in accordance with the modified generic NYSDOH CAMP. No exceedances were observed.

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

A hole was drilled into the well cap of S19495. Upon drilling the hole, the team observed electrical wires leading to a submersible pump inside the well and immediately stopped work. A volt meter was used to confirm the cables were dead before proceeding further. The electrical wires were tied off so the wires and pump would not fall into the well.

ATTACHMENTS

None

Site Representative (Signature):

Jack Hollingsworth

Daily Photos

Photo 1. Core from 100 to 130 feet bgs at CH-MW035

Photo 2. Sandy recovered material from the UGA at CH-MW035

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/3/2020 Thursday

DR No. 08	**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903
Weather: H 55°F Sunny	**Days without a lost time injury:** 8	

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	11.5	SSHO, Geologist	AECOM	Solonist Water Level Meter (3)	PJ Mion, USACE
Jim Christopher	8.5	Site Supervisor, Geologist	AECOM	DustTrak2 Dust Meter (1)	
Brendan McGuinness	8.5	Senior Geologist	AECOM	Geotech Bladder Pumps (2)	
Jack Hollingsworth	8.5	Geologist	AECOM	Controller/Compressor QED (2)	
Matt Kerr	8.5	Scientist	AECOM	Magnetometer-Schonstedt (1)	
Shannon Linnane	2.5	UXO Tech II	AECOM	Waterra HydroLift Pumps (2)	
				MiniRae 3000 PID (4)	
				Honda Generator EU2000i (1)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
DAILY TOTAL	48			Fraste XL Max Drill Rig	
TOTAL TO DATE	208.25	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Jeff Baker, TWS Environmental, LLC	Cooler, Eurofins (delivered to Montauk Manor)
Tony Palomogue, Aquifer Drilling & Testing (ADT)	
Todd Laderwager, ADT	
Patrick Magill , ADT	

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Redevelopment of S 19494 was completed. Stabilization of water quality parameters was achieved and a minimum of three times the standing water volume of the well was removed.

Well Installation

The team resumed at CH-MW045 and reached a final depth of 135 feet bgs by the end of the day. One geotechnical sample was collected from 132 to 134 feet.
Both wells at this location, CH-MW045S and CH-MW045D, was constructed other than the well pad, which will be completed tomorrow. CH-MW045D was screened from 125 to 135 feet bgs and CH-MW045S was screened from 85 to 95 feet bgs.

Investigation-Derived Waste

Three drums of soil IDW were generated from CH-MW045 and are currently staged on the east side of the Motor Pool. Liquid IDW was transported to the Motor Pool in drums and transferred to the 5,000-gallon frac tank.

New York State COVID-19 Travel Advisory

S. Linnane left the site around 0930 to obtain a COVID-19 diagnostic test in accordance with the New York State COVID-19 Travel Advisory. The other team members requiring testing for compliance with the advisory completed at-home COVID-19 testing during a Zoom call with Vault Health after leaving the site for the day.

The AECOM team left the site for the day at 1600.

WORK COMPLETED BY AECOM SUBCONTRACTORS

ADT completed drilling at CH-MW045 to 135 feet bgs and constructed the wells (CH-MW045S and CH-MW045D), as described above. J. Baker (TWS) left the site for approximately 3 hours to obtain a COVID-19 diagnostic test in accordance with the New York State COVID-19 Travel Advisory.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

J. Hollingsworth spoke with Stephen Gordon (Eurofins Lancaster Laboratories Environmental, LLC) to schedule the courier, who is scheduled to pick up samples next week on Monday around 0800 and Friday around 0800. 'Additionally, AECOM and USACE agreed to collect discrete samples for grain size analysis at CH-MW044, rather than composite samples, which were collected CH-MW045.

The following topics were discussed on a check-in call between USACE and AECOM. The call is summarized in separate meeting minutes, but key field decision are included below:

- USACE and AECOM agreed that the Former Montauk Point State Park Well (S 15812) could not be sampled or gauged due to the presence of metal equipment installed at the well preventing access.
- USACE and AECOM discussed well S 70627, which ran dry during redevelopment after one well volume was removed. The field team will return to this well to assess recharge at a later date.
- USACE is in the process of coordinating access to the Madison Hill Wells.
- USACE will reach out to USGS to inquire whether two USGS wells west of Camp Hero, S 58922 and S 48579, can be re-developed and sampled.
- Vehicle traffic along access roads to Old Montauk Highway has caused deep ruts in the roadway. The team discussed the best approach to restore the roadways.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/3/2020 Thursday

DR No. 08		**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

Continuous air monitoring was completed downwind of the drill rig, in accordance with the modified generic NYSDOH CAMP. No exceedances were observed.

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

S 19495 has a feeder tube attached to the pump in the well. When AECOM attempted to remove the pipe and pump, the apparatus got stuck. AECOM will attempt to push the apparatus back down and develop with the Waterra tomorrow.

ATTACHMENTS

None

Site Representative (Signature):

Jack Hollingsworth

Daily Photos

Photo 1. Ruts in the access path to Old Montauk Highway caused by vehicle traffic. USACE and AECOM will discuss restoration of the roadway with the State Park Superintendent.

Photo 2. Ruts in the access path to Old Montauk Highway caused by vehicle traffic. USACE and AECOM will discuss restoration of the roadway with the State Park Superintendent.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/4/2020 Friday

DR No. 09		**WRITTEN BY:** Jack Hollingsworth	**PROJECT NUMBER:** 60443903
Weather: H 55°F	Cloudy, rain in afternoon	**Days without a lost time injury:** 9	

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	10	SSHO, Geologist	AECOM	Solonist Water Level Meter (2)	PJ Mion, USACE
Jim Christopher	9	Site Supervisor, Geologist	AECOM	DustTrak2 Dust Meter (1)	
Brendan McGuinness	9.75	Senior Geologist	AECOM	Geotech Bladder Pumps (2)	
Jack Hollingsworth	10	Geologist	AECOM	Controller/Compressor QED (2)	
Matt Kerr	9	Scientist	AECOM	Magnetometer-Schonstedt (1)	
Shannon Linnane	9.75	UXO Tech II	AECOM	Waterra HydroLift Pumps (1)	
				MiniRae 3000 PID (3)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (1)	
DAILY TOTAL	57.5				
TOTAL TO DATE	265.75	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Tony Palomogue, ADT	Received a 2" Grundfos Redi-Flo 2 submersible pump from PINE (delivered to Montauk Manor)
Todd Laderwager, ADT	Returned 1 Waterra HydroLift Pump, 1 Honda Generator EU2000i, 1 Solonist Water Level Meter, 1 MiniRae 3000 PID
Patrick Magill , ADT	

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Progress was made on the redevelopment of three existing wells, as follows:

S 17231 S/D (Former USAF supply wells, inside/outside respectively):

Reconnaissance of area identified steep terrain and dense foliage around wells to be gauged and redeveloped. Purged water will be "leapfrogged" up the slope with a sump pump, to minimize identified health and safety risks (carrying buckets upslope, etc.).

S 19495 (AT&T Building well):

Unused pumping components were removed from the riser to gain full access to the well for redevelopment and sampling. The well head assembly, riser tube (approximately 80 feet, 1" schedule 40 PVC), and 3" submersible pump were removed from the well and disposed of per direction from T. Dess (State Park Superintendent). Total depth of S 19495 is 116.68 feet below ground surface (bgs); the total redevelopment (3x well volume) purge is 123 gallons. A Waterra Hydrolift pump was used to clear accumulated sediment and remove partial volume (23 gallons) from the well. Water quality parameters were collected continuously throughout redevelopment; pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), specific conductivity, temperature, turbidity, and drawdown. Field data were recorded on the field sampling forms.

A Grundfos Redi-Flo 2 submersible pump will be used to purge the remaining redevelopment volume (100 gallons).

S 70627 (USGS well, Route 27 median):

During previous redevelopment efforts on 12/2/2020, the recharge rate was observed to be slow (on a scale of feet/hour). The well was gauged to assess recharge status; it was fully recharged. A Grundfos Redi-Flo 2 submersible pump will be used to purge additional volume and surge within the screen interval; ideally improving/re-establishing hydraulic connectivity to formation water.

Well Installation

The team began drilling at CH-MW044 and reached a depth of 110 feet bgs by the end of the day. Geotechnical samples were collected at a rate of 1 per 10 feet. General observations of subsurface lithology at CH-MW044 were consistent with the site Conceptual Site Model (CSM). The upper portion of the till consisted of undifferentiated silt, sand, and clay units. A lean clay unit was intercepted in the lower portion of the upper till from approximately 89 feet to 109 feet bgs (20 feet). The Upper Glacial Aquifer (UGA) was intercepted at 109 feet. The borehole drilling and well installation is anticipated to be completed on Sunday (12/06/20).

Groundwater Sampling

No groundwater samples have been collected to date.

Sample Management

Soil samples collected were Quality Control checked, recorded on chain of custody (CoC) records, and packed for shipment. B. McGuinness will drop the cooler at FedEx tomorrow (12/05/20) for shipment to Geotesting Express.

AECOM left the site at 1700.

WORK COMPLETED BY AECOM SUBCONTRACTORS

ADT began drilling at CH-MW044 and reached a depth of 110 feet bgs by the end of the day.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/4/2020 Friday

DR No. 09		WRITTEN BY: Jack Hollingsworth	PROJECT NUMBER: 60443903

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

USACE indicated AECOM should to return to the wells previously re-developed (by removing a minimum of three well volumes and reaching stabilization of water quality parameters) to use surge blocks to surge the wells. A 4" surge block will be obtained for the 4" wells. Additionally, USACE and AECOM agreed that a surging with a 2" submersible pump was an acceptable approach to surging 2" well (in lieu of a surge block).

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

Continuous air monitoring was completed downwind of the drill rig, in accordance with the modified generic NYSDOH CAMP. No exceedances were observed. Values temporarily reached 0.111 mg/m^3 when replacing the intake of the DustTrak.

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

The vehicle traffic along the access roadway continued to make the ruts in the road worse; two yards of gravel was ordered from Bistraine Materials for delivery to the site on Monday to fill the ruts.

ATTACHMENTS

None

Site Representative (Signature):

Jack Hollingsworth

Daily Photos

Photo 1: Pump and feeder tube removed from S 19495.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/5/2020 Saturday

DR No. 10		**WRITTEN BY**: Amanda Martin	**PROJECT NUMBER**: 60443903
Weather: H 50°F	High Wind, Heavy Rain	**Days without a lost time injury:** 10	

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Mike Glinski	0.5	SSHO, Geologist	AECOM	Solonist Water Level Meter (2)	None
Jim Christopher	0	Site Supervisor, Geologist	AECOM	DustTrak2 Dust Meter (1)	
Brendan McGuinness	0	Senior Geologist	AECOM	Geotech Bladder Pumps (2)	
Jack Hollingsworth	0	Geologist	AECOM	Controller/Compressor QED (2)	
Matt Kerr	0	Scientist	AECOM	Magnetometer-Schonstedt (1)	
Shannon Linnane	0	UXO Tech II	AECOM	Waterra HydroLift Pumps (1)	
				MiniRae 3000 PID (3)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (1)	
DAILY TOTAL	0.5				
TOTAL TO DATE	266.25	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Tony Palomogue, ADT	None

WORKED PERFORMED BY AECOM

Due to safety concerns over severe weather conditions associated with a nor-easter storm (high wind and heavy rain), work at the site was cancelled for the day. One AECOM team member was briefly onsite in the morning to oversee ADT lowering the mast on the drill rig due to the high winds. Additionally, B. McGuinness demobilized from the site.

WORK COMPLETED BY AECOM SUBCONTRACTORS

ADT was briefly onsite to lower the mast of the drill rig.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None (air monitoring was not conducted because no drilling activities occurred)

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/5/2020 Saturday

DR No. 10		WRITTEN BY: Amanda Martin	PROJECT NUMBER: 60443903

SITE OBSERVATIONS

None

ATTACHMENTS

None

Deputy Project Manager (Signature):

Amanda Martin

Daily Photos

No photos were collected for today's daily report.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/6/2020 Sunday

DR No. 11	WRITTEN BY: Jack Hollingsworth	PROJECT NUMBER: 60443903
Weather: H 40°F Sunny	Days without a lost time injury: 11	

NAME:	HRS	TRADE:	COMPANY:	EQUIPMENT:	VISITORS/AFFILIATION:
Mike Glinski	7	SSHO, Geologist	AECOM	Solonist Water Level Meter (2)	PJ Mion, USACE
Jim Christopher	10.25	Site Supervisor, Geologist	AECOM	DustTrak2 Dust Meter (1)	
Jack Hollingsworth	10.25	Geologist	AECOM	Geotech Bladder Pumps (2)	
Matt Kerr	10	Scientist	AECOM	Controller/Compressor QED (2)	
Shannon Linnane	6.5	UXO Tech II	AECOM	Magnetometer-Schonstedt (1)	
				Waterra HydroLift Pumps (1)	
				MiniRae 3000 PID (3)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (1)	
DAILY TOTAL	44			Fraste XL Max Drill Rig	
TOTAL TO DATE	310.25	*(on-site hours only)*			

SUBCONTRACTORS:	SITE DELIVERIES
Jeff Baker, TWS Environmental, LLC	None
Tony Palomogue, ADT	
Todd Laderwager, ADT	
Patrick Magill , ADT	

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Progress was made on the redevelopment of three existing wells, as follows:

S 19495 (AT&T Building well):

Total depth of S 19495 is 116.68 feet bgs; the total minimum redevelopment (3x well volume) purge is 123 gallons. A Waterra Hydrolift pump was used to clear accumulated sediment and remove the volume (23 gallons) from the well. Water quality parameters were collected continuously throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, turbidity, and drawdown. Field data were recorded on the field sampling forms (12/4/2020) . Stability in all parameters had been achieved, final turbidity was 3.86 NTU. A Grundfos Redi-Flo 2 submersible pump was used to remove additional volume of water (110 gallons).

S 70627 (USGS well, Route 27 median):

Total depth of S 70627 is 95.77 feet bgs; the total minimum redevelopment (3x well volume) purge is 3.72 gallons. During previous redevelopment efforts on 12/2/2020, the recharge rate was observed to be slow (~2 feet/hr). A Grundfos Redi-Flo 2 submersible pump was used to purge additional volume and surge within the screen interval. An additional 4 gallons of water were purged from the well, while surging within the screen interval. The turbidity of the redeveloped well was 135 NTU, and the new recharge rate was ~3 feet/hr.

S 19494 (USGS Test Well):

Total depth of S 19494 is 93.27 feet bgs; the total minimum redevelopment (3x well volume) purge is 16.2 gallons. A Waterra Hydrolift pump was used to clear accumulated sediment and remove the volume (22.1 gallons) from the well. Field data were recorded on the field sampling forms (12/3/2020). Stability in all parameters had been achieved, final turbidity was 54.5 NTU. A Grundfos Redi-Flo 2 submersible pump was used to create a surging within the screen interval, and remove additional volume of water (55 gallons).

Well Installation

The team finished drilling at CH-MW044 155 feet bgs and constructed the nested well pair (minus well pad). Geotechnical samples were collected from 110 to 160 feet at a rate of 1 per 10 feet. General observations of subsurface lithology at CH-MW044 were consistent with the site Conceptual Site Model (CSM). CH-M044D was screened from 145 to 155 feet bgs and CH-MW044S was screened from 110 to 120 feet bgs.

Groundwater Sampling

Groundwater samples were collected from the following monitoring wells:

S 1202 (Lighthouse Well/ Giftshop):

A sample was collected from the sampling port in the basement of the lighthouse giftshop. The sampling port was confirmed to be in line prior to any filters, softeners, or other water treatment components.

Samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the liquid hexavalent chromium was checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, and turbidity. Field data were recorded on the field sampling forms. Samples are being held by AECOM (continuously on ice) until 12/8/2020, the date of the next scheduled courier pickup.

Sample Management

One cooler of soil samples (the samples from CH-MW045) was shipped via FedEx to the geotechnical laboratory, Geotesting Express. The cooler is scheduled for delivery on 12/8/20. The CoC record was emailed to the project chemist (D. Chicoine).

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/6/2020 Sunday

DR No. 11		**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

Investigation-Derived Waste Management

Four drums of soil IDW was generated at CH-MW044. Seven drums of soil generated to date. To date, approximately 200 gallons of liquid IDW has been generated.

The AECOM team left the site for the day at 1700.

WORK COMPLETED BY AECOM SUBCONTRACTORS

ADT completed drilling at CH-MW044 to 155 feet bgs. Wells CH-MW044S and CH-MW044D were constructed, with the exception of the well pad. Jeff Baker demobilized from the site in the afternoon.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

Continuous air monitoring was completed downwind of the drill rig, in accordance with the modified generic NYSDOH CAMP. No exceedances were observed.

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

Pathway leading to the new wells got worse after the storm and driving to the site. Gravel will be delivered tomorrow (Monday 12/7/20) to fix the paths.

ATTACHMENTS

None

Site Representative (Signature):

Jack Hollingsworth

Daily Photos

No photos were collected for today's daily report.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/7/2020 Monday

DR No. 12		**WRITTEN BY**: Jack Hollingsworth			**PROJECT NUMBER**: 60443903
Weather: H 40°F	Sunny	**Days without a lost time injury:**	12		
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Jim Christopher	11	SSHO, Geologist	AECOM	Solonist Water Level Meter (2)	PJ Mion, USACE
Jack Hollingsworth	11	Geologist	AECOM	DustTrak2 Dust Meter (1)	
Matt Kerr	10.25	Scientist	AECOM	Geotech Bladder Pumps (2)	
				Controller/Compressor QED (2)	
				Waterra HydroLift Pumps (1)	
				MiniRae 3000 PID (3)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (1)	
				Fraste XL Max Drill Rig	
DAILY TOTAL	32.25				
TOTAL TO DATE	342.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Tony Palomogue, ADT	2 yards of gravel for repairing access road
Todd Laderwager, ADT	

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Progress was made on redevelopment/development, as follows:

S 17231S (Former USAF Supply Well; inside pump house):

Total depth of S 17231S is 107.48 fbg; the total redevlopment (3x well volume) purge is 190.8 gallons.
A Grundfos Redi-Flo 2 submersible pump was used to clear accumulated sediment and remove the volume from the well (205 gallons).
Water quality parameters were collected continuously throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, turbidity, and drawdown.
Field data were recorded on the field sampling forms (12/7/2020).
Stability in some parameters was not achieved, final turbidity was out of range. Of note, turbid and clear surges of water occurred in ~40 gallon intervals.
The drawdown of the well did stabilize under the strain of a ~4gpm purge rate.

CH-MW045S

Total depth of the well is 98.4 fbg; 3x well volume is ~36 gallons to be purged plus 200 gallons added during drilling to the borehole, which will be split between the two wells in the nested pair. Well was developed using a gravity lift. Approximately 100 gallons were purged before the compressor broke. ADT will repair tonight so that development can continue tomorrow. Field data will be collected to display stability.

Well Installation

Well pads will be constructed tomorrow (Tuesday 12/8/20).

Groundwater Sampling

Groundwater samples were collected from the following monitoring wells:

S 19494 (USGS Test Well; behind barracks)

A sample was collected by means of low flow sampling with a QED Bladder Pump. Stability in all parameters was achieved, final turbidity was 1.72 NTU.
The sample, along with MS/MSD samples, were collected at 0925.

Samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the liquid hexavalent chromium was checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, and turbidity. Field data were recorded on the field sampling forms. Samples are being held by AECOM (continuously on ice) until 12/8/2020, the date of the next scheduled courier pickup.

Sample Management

Courier is scheduled to pickup the coolers tomorrow (12/8/20) at 0800.

Investigation-Derived Waste Management

Seven drums of soil generated to date. To date, approximately 490 gallons of liquid IDW has been generated during well development .

The AECOM team left the site for the day at 1800.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/7/2020 Monday

DR No. 12		**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

WORK COMPLETED BY AECOM SUBCONTRACTORS

ADT began developing CH-MW045S and purged approximately 100 gallons before their compressor broke down. ADT will fix/replace before work on Tuesday.
ADT packed up the drill rig and drove it offsite at the end of the day. ADT left the site at 1645.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None. Drilling activities complete.

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

Gravel was dumped in the pathway leading to the new wells; ADT will use their bobcat to spread out the gravel tomorrow (12/08/20).

ATTACHMENTS

None

Site Representative (Signature):

Jack Hollingsworth

	United States Army Corps of Engineers **Remedial Investigation, Phase IV** **Camp Hero, Montauk, New York**
DATE: 12/7/2020 Monday	**Contractor Daily Reports**

DR No. 12		**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

Daily Photos

Photo 1. Well redevelopment at S 17231S (Former USAF Supply Well; inside pump house).

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/8/2020 Tuesday

DR No. 13		**WRITTEN BY**: Jack Hollingsworth			**PROJECT NUMBER**: 60443903
Weather: H 37°F	Sunny	**Days without a lost time injury:**	13		
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Jim Christopher	11	SSHO, Geologist	AECOM	Solonist Water Level Meter (2)	PJ Mion, USACE
Jack Hollingsworth	10.25	Geologist	AECOM	DustTrak2 Dust Meter (1)	
Matt Kerr	10.25	Scientist	AECOM	Geotech Bladder Pumps (2)	
				Controller/Compressor QED (2)	
				Waterra HydroLift Pumps (1)	
				MiniRae 3000 PID (3)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (1)	
DAILY TOTAL	31.5				
TOTAL TO DATE	374	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Tony Palomogue, ADT	None
Todd Laderwager, ADT	

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Progress was made on redevelopment/development, as follows:

S 58922 (USGS well on Pocahontas Lane)

Total depth is 58.41 fbg; the total minimum redevelopment volume (3x well volume) is 26 gallons.
A Grundfos Redi-Flo 2 submersible pump was used to clear accumulated sediment and remove the volume from the well (30 gallons).
Water quality parameters were collected continuously throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, turbidity, and drawdown.
Field data were recorded on the field sampling forms (12/8/2020). Stability achieved in all parameters with a final turbidity of 0.95 NTU.

CH-MW045S

Total depth of the well is 98.4 fbg; 3x well volume is ~36 gallons. An additional 200 gallons were added during drilling, and was split between the two wells in the nested pair. Approximately 100 gallons were purged using a gravity lift, in addition to the 100 gallons purged yesterday (12/7/2020). Groundwater parameters were collected at the beginning of purging and four times towards the end of development. Final turbidity was 21.4 NTU.

CH-MW045D

Total depth of the well is 139.0 fbg; 3x well volume is 44.7 gallons. An additional 200 gallons were added during drilling, and was split between the two wells in the nested pair. Approximately 175 gallons were purged using a gravity lift. Groundwater parameters were collected at the beginning of purging and four times towards the end of development. Final turbidity was 12.7 NTU; however, stabilization of parameters was not achieved, likely due to the powerful surging of the gravity lift. Therefore, AECOM will return to the well tomorrow to continue development with a the Grundfos submersible pump to achieve stabilization per the Well Development SOP and finalize the well development.

CH-MW044S

Total depth of the well is 123.9 fbg; 3x well volume is 27.6 gallons. An additional 500 gallons were added during drilling, and was split between the two wells in the nested pair. Approximately 175 gallons were purged using a gravity lift. Groundwater parameters were collected at the beginning of purging and four times towards the end of development. Stabilization of parameters has not yet been achieved and turbidity at the end of the day was above the maximum detection of the turbidity meter; therefore, AECOM will return to the well tomorrow to continue development with a the Grundfos submersible pump to achieve stabilization per the Well Development SOP and finalize the well development.

CH-MW044D

Total depth of the well is 160.1 fbg; 3x well volume is 44.9 gallons. An additional 500 gallons were added during drilling, and was split between the two wells in the nested pair. Approximately 450 gallons were purged using a gravity lift. Groundwater parameters were collected at the beginning of purging and four times towards the end of development. Stabilization of parameters has not yet been achieved and turbidity was 76.1 NTU; therefore, AECOM will return to the well tomorrow to continue development with a the Grundfos submersible pump to achieve stabilization per the Well Development SOP and finalize the well development.

An additional Waterra pump was ordered for delivery to the site tomorrow, in the instance that the field team may be able to redevelop two wells at Madison Hills simultaneously; additionally, three D-32 foot valves and 1" OD HDPE tubing were ordered from Waterra for overnight delivery in order to use the high-flow Waterra system for development of the wells at Madison Hills.

Well Installation

Two 2x2 well pads were constructed at CH-MW044 and CH-MW045.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/8/2020 Tuesday

DR No. 13		**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

Groundwater Sampling

Groundwater samples were collected from the following monitoring wells:

S 19495
A sample was collected by means of low flow sampling with a QED Bladder Pump.

S 79264
A sample was collected by means of low flow sampling with a QED Bladder Pump. A duplicate was also collected at this location.

Samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the liquid hexavalent chromium was checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, and turbidity. Field data were recorded on the field sampling forms.

Sample Management

Soil samples collected were Quality Control checked, recorded on chain of custody (CoC) records, and packed on ice for storage. Samples were from previous days were picked up by the courier for transport to the laboratory at 0900. Samples collected after courier pick-up will be held on fresh ice until the next courier pick-up, scheduled for 12/11/20. CoC records were e-mailed to the Project Chemist (Devon Chicoine) prior to delivery to the lab.

Investigation-Derived Waste Management

Seven drums of soil generated to date. To date, approximately 1,390 gallons of liquid IDW has been generated during well development .

The AECOM team left the site for the day at 1800.

WORK COMPLETED BY AECOM SUBCONTRACTORS

ADT developed well pairs CH-MW044S/D and CH-MW045S/D and constructed well pads. ADT demobilized from the site at 1600.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

Permission from Suffolk County Water Authority (SCWA) was obtained to sample the Madison Hills wells. P. Mion (USACE) picked up keys to the wells from SCWA at the Bay Shore, New York office and delivered them to the site. The keys will be returned by an AECOM team member after the field event.

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None. Drilling activities complete.

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

AECOM noticed a large tree branch was broken off a tree adjacent to CH-MW044 (on the northern side of the well pair) and hanging over a portion of the work area. AECOM assessed the situation and determined that the team should wear hard hats in the vicinity of the tree and park away from the broken branch.

SITE OBSERVATIONS

None

ATTACHMENTS

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/8/2020 Tuesday

DR No. 13		**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

Site Representative (Signature):

Jack Hollingsworth

Daily Photos

No photos were collected for today's daily report.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/9/2020 Wednesday

DR No. 14		**WRITTEN BY**: Jack Hollingsworth			**PROJECT NUMBER**: 60443903
Weather: H 38°F Cloudy, some snow		**Days without a lost time injury:** 14			

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Jim Christopher	10.75	SSHO, Geologist	AECOM	Solonist Water Level Meter (2)	PJ Mion, USACE
Jack Hollingsworth	10.75	Geologist	AECOM	DustTrak2 Dust Meter (1)	
Matt Kerr	10.75	Scientist	AECOM	Geotech Bladder Pumps (2)	
				Controller/Compressor QED (2)	
				Magnetometer-Schonstedt (1)	
				Waterra HydroLift Pumps (2)	
				MiniRae 3000 PID (3)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (1)	
DAILY TOTAL	32.25			Honda Generator EU2000i (1)	
TOTAL TO DATE	406.25	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	Waterra - 1 x 200’ roll of 1” HDPE tubing
	Pine Environmental - Waterra Hydrolift Pump (1), Honda Generator EU2000i (1), foot valves, and Grundfos Pump tubing

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Progress was made on redevelopment/development, as follows:

S 48579 (USGS Testing Well, Rte 27)

Total depth of S 48579 is 63.25 fbg; the total minimum redevlopment volume (3x well volume) to purge is 130 gallons.
A Grundfos Redi-Flo 2 submersible pump was used to clear accumulated sediment and remove the volume from the well (135 gallons).
Water quality parameters were collected continuously throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, and drawdown; stability was achieved for all parameters; final turbidity 8.01 NTU. Field data were recorded on the field sampling forms (12/9/2020).

CH-MW044D (Newly installed)

Total depth of CH MW-044D is 160.71 fbg; the total minimum redevlopment volume (3x well volume) to purge is 46 gallons.
A Grundfos Redi-Flo 2 submersible pump was used to surge the screen interval, clear accumulated sediment, and remove the volume from the well (120 gallons). Water quality parameters were collected continuously throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, and drawdown; stability was achieved for all parameters, final turbidity 0.17NTU. Field data were recorded on the field sampling forms (12/9/2020).

The team received partial delivery of the supplies for the high-flow Waterra system to be used at the Madison Hill wells (1 x 200’ roll of 1” HDPE tubing). FedEx tracking indicates the remaining supplies (2 x 200’ rolls of 1" HDPE tubing and the check valves) will be delivered tomorrow (12/10/2020).

Groundwater Sampling

Groundwater samples were collected from the following monitoring wells:

CH-MW045S

A sample (CH-MW045S-1220) was collected at 1129 by means of low flow sampling with a QED Bladder Pump.
An equipment blank was collected off the bladder pump at 1540.

S 58922 (USGS well on Pocahontas Lane)

A sample (S58922-1220) was collected at 1343 by means of low flow sampling with a QED Bladder Pump.

S 1202 (Lighthouse Pump; Giftshop)

A sample (S1202-1220) was collected at 1150 from a sample port prior to water treatment components. The sample port was debrided and purged for 6 minutes prior to sample collection (~3 gallons). A single set of water quality parameters were recorded post sample collection.

S 3599 (Lighthouse Pump; Lighthouse basement)

A sample (S3599-1220) was collected at 1230 from sample port prior to water treatment components. The sample port was debrided and purged for 6 minutes prior to sample collection (~3 gallons). A single set of parameters were recorded post sample collection.

Samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the liquid hexavalent chromium was checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, and turbidity. Field data were recorded on the field sampling forms.

Sample Management

Samples are being held by AECOM (continuously on ice) until the next courier scheduled pickup, scheduled for 0800 on Friday (12/11/20).

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/9/2020 Wednesday

DR No. 14		**WRITTEN BY**: Jack Hollingsworth	**PROJECT NUMBER**: 60443903

Investigation-Derived Waste Management

Eight drums of soil generated to date. To date, approximately 1,570 gallons of liquid IDW has been generated during well development .

The AECOM team left the site for the day at 1745.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None. Drilling activities complete.

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

Jack Hollingsworth

Daily Photos

No photos were collected for today's daily report.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/10/2020 Thursday

DR No. 15		**WRITTEN BY**: James Christopher			**PROJECT NUMBER**: 60443903
Weather: H 48°F/L 38°F, mostly sunny		**Days without a lost time injury:** 15			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Jim Christopher	10.25	SSHO, Geologist	AECOM	Solonist Water Level Meter (2)	None
Jack Hollingsworth	10.25	Geologist	AECOM	Geotech Bladder Pumps (2)	
Matt Kerr	10.25	Scientist	AECOM	Controller/Compressor QED (2)	
				Waterra HydroLift Pumps (2)	
				MiniRae 3000 PID (3)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (1)	
				Honda Generator EU2000i (1)	
DAILY TOTAL	30.75				
TOTAL TO DATE	437	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Young & Young - Surveying	Waterra - 2 x 200' rolls of 1" HDPE tubing and the check valves
Callahead - Porta-John servicing	
United Rentals - TWS/ADT equipment demob	

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Progress was made on development, as follows:

CH-MW044S (Newly installed)

Development was continued from previous date. Total depth of CH-MW044S is 124.55 ft below top of riser; the total minimum development purge (3x well volume)is 28 gallons. A Grundfos Redi-Flo 2 submersible pump was used to surge the screen interval, clear accumulated sediment, and remove the volume from the well (66 gallons). Water quality parameters were collected continuously throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, and drawdown; stability was achieved for all parameters, final turbidity 9.53 NTU. Field data were recorded on the field sampling forms (12/10/2020).

CH-MW045D (Newly installed)

Development was continued from previous date. Total depth of CH-MW045D is 138.85 fbg; the total development purge (3x well volume) is 46 gallons. A Grundfos Redi-Flo 2 submersible pump was used to surge the screen interval, clear accumulated sediment, and remove the volume from the well (83 gallons). Water quality parameters were collected continuously throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, and drawdown; stability was achieved for all parameters, final turbidity 3.23NTU. Field data were recorded on the field sampling forms (12/10/2020).

The remaining portion of the shipment of the high-flow Waterra supplies arrived at the site.

Well Installation

Well installation complete.

Groundwater Sampling

Groundwater samples were collected from the following monitoring wells:

S 17231S (Former USAF Supply Well)

A sample (S17231S-1220) was collected at 1130 by means of low flow sampling with a QED Bladder Pump.

CH-EB-1220-02 (Bladder pump equipment blank #2)

An equipment blank (CH-EB-1220-02) was collected from a bladder pump at 1340.

S 45879 (USGS Testing well, Rte 27 West of site)

A sample (S45879-1220) was collected at 1525 by means of low flow sampling with a QED Bladder Pump.

Samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the liquid hexavalent chromium was checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, and turbidity. Field data were recorded on the field sampling forms.

Sample Management

Samples are being held by AECOM (continuously on ice) until the next courier scheduled pickup, scheduled for 0800 on Friday (12/11/20).

Investigation-Derived Waste Management

Eight drums of soil generated to date. To date, approximately 1,735 gallons of liquid IDW has been generated during well development and sampling.

The AECOM team left the site for the day at 1715.

AECOM

United States Army Corps of Engineers
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Contractor Daily Reports

DATE: 12/10/2020 Thursday

DR No. 15		WRITTEN BY: James Christopher	PROJECT NUMBER: 60443903

WORK COMPLETED BY AECOM SUBCONTRACTORS

Young and Young surveyed 13 wells at various locations across the site (0830 - 1230)
Callahead serviced the on-site Porta-John (1400)
United Rentals (under TWS/ADT) demobilized the skid steer utilized during drilling operations (1130)

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

When working separately, personnel frequently provided each other with safety checks (proof of life checks).

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):
James Christopher

Daily Photos

No photos were collected for today's daily report.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/11/2020 Friday

DR No. 16		**WRITTEN BY:** James Christopher	**PROJECT NUMBER:** 60443903
Weather: H 48°F/L 38°F, mostly sunny		**Days without a lost time injury:** 16	

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT:**	**VISITORS/AFFILIATION:**
Jim Christopher	10.5	SSHO, Geologist	AECOM	Solonist Water Level Meter (2)	None
Jack Hollingsworth	10.5	Geologist	AECOM	Geotech Bladder Pumps (2)	
Matt Kerr	10.5	Scientist	AECOM	Controller/Compressor QED (2)	
				Waterra HydroLift Pumps (2)	
				MiniRae 3000 PID (3)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (2)	
				Honda Generator EU2000i (2)	
DAILY TOTAL	31.5				
TOTAL TO DATE	468.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Courier - Ship Accurate	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Progress was made on development, as follows:

S 76304 (Madison Hill Well 1)

Total depth (measured previously) of S 76304 is 140 ft below top of riser; the total minimum development purge (3x well volume) is 270 gallons. A Waterra pump with a high volume system was used to remove 180 gallons from the well, from 80 - 87 ft (an obstruction is present at 87 ft). Water quality parameters were collected intermittently throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, and drawdown; turbidity was 24 NTU at the end of the day. Field data were recorded on the field sampling forms (12/11/2020). 90 gallons remain to be purged.

S 121808 (Madison Hill Well 2)

Total depth (measured previously) of S 121808 is 132 ft below top of riser; an obstruction was encountered at ~16 ft that would not allow tubing to pass; therefore, no development or sampling was performed on this well.

S 121811 (Madison Hill Well 3A)

Total depth (measured previously) of S 121811 is 140 ft below top of riser; an obstruction is encountered at ~6 ft that would not allow tubing to pass; therefore, no development or sampling was performed on this well.

Well Installation

Well installation complete.

Groundwater Sampling

Groundwater samples were collected from the following monitoring wells:

CH MW-044S

A sample (CH MW044S-1220) was collected by means of low flow sampling with a QED Bladder Pump.

CH MW-044D

A sample (CH MW044D-1220) was collected by means of low flow sampling with a QED Bladder Pump.

Samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the liquid hexavalent chromium was checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, and turbidity. Water quality paramaters were stabilized prior to sample collection. Field data were recorded on the field sampling forms.

Sample Management

Samples collected were Quality Control checked, recorded on chain of custody (CoC) records, and packed on ice for storage. Samples were from previous days were picked up by the courier for transport to the laboratory at 0830. Samples collected after courier pick-up will be held on fresh ice until the next courier pick-up, scheduled for 12/14/20. CoC records were e-mailed to the Project Chemist (D. Chicoine) prior to delivery to the lab.

Investigation-Derived Waste Management

Eight drums of soil generated to date. To date, approximately 1,920 gallons of liquid IDW has been generated during well development and sampling.

The AECOM team left the site for the day at 1730.

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Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/11/2020 Friday

DR No. 16		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

T. Dess indicated displeasure regarding the amount and type of debris left in his dumpster (notably bags of set-up concrete from extreme wind/rain event and damaged large fresh water tote). TWS/ADT will return to site tomorrow 12/12/2020 to retrieve materials from dumpster.

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

Large or bulky items in the bed of the truck were removed using a buddy system to prevent strain on personnel.

SITE OBSERVATIONS

The roadway to the newly installed wells is in poor, but usable, condition. Preexisting boggy areas were especially impacted by vehicular traffic.

ATTACHMENTS

None

Site Representative (Signature):

James Christopher

DATE: 12/11/2020 Friday

DR No. 16		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Daily Photos

Photo 1. Well redevelopment at S 76304 (Madison Hill Well 1).

Photo 2. Turbid water from S 76304 (Madison Hill Well 1) at the beginning of well redevelopment.

Photo 3. Sediment from turbid water from S 76304 (Madison Hill Well 1) at the beginning of well redevelopment.

Photo 4. S 121811 (Madison Hill Well 3A)

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Contractor Daily Reports

DATE: 12/11/2020 Friday

DR No. 16		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Photo 5. Inside S 121811 (Madison Hill Well 3A)

Photo 6. Access roadway to new monitoring wells after application of gravel and smoothing of ruts with Bobcat (TWS/ADT).

Photo 7. Access roadway to new monitoring wells after application of gravel and smoothing of ruts with Bobcat (TWS/ADT).

Photo 8. Access roadway to new monitoring wells after application of gravel and smoothing of ruts with Bobcat (TWS/ADT).

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Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/11/2020 Friday

DR No. 16	**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Photo 9. Materials disposed in Camp Hero Motor Pool dumpster by TWS/ADT; ADT will return to the site tomorrow (12/12/20) to remove the items from the dumpster to take back to their shop. (Photo by T. Dess.)

Photo 10. Materials disposed in Camp Hero Motor Pool dumpster by TWS/ADT; ADT will return to the site tomorrow (12/12/20) to remove the items from the dumpster to take back to their shop. (Photo by T. Dess.)

Photo 11. Materials disposed in Camp Hero Motor Pool dumpster by TWS/ADT; ADT will return to the site tomorrow (12/12/20) to remove the items from the dumpster to take back to their shop. (Photo by T. Dess.)

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/12/2020 Saturday

DR No. 17		**WRITTEN BY**: James Christopher			**PROJECT NUMBER**: 60443903
Weather: H 54°F/L 40°F, rain		**Days without a lost time injury:** 17			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT (Active/Inactive):**	**VISITORS/AFFILIATION:**
Jim Christopher	8.5	SSHO, Geologist	AECOM	Solonist Water Level Meter (1/1)	None
Janine Hlavaty	8.5	Geologist	AECOM	Geotech Bladder Pumps (2)	
				Controller/Compressor QED (2)	
				Waterra HydroLift Pumps (1/1)	
				MiniRae 3000 PID (1/2)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (0/2)	
				Honda Generator EU2000i (1/1)	
DAILY TOTAL	17				
TOTAL TO DATE	485.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
Cascade - Pat MacGill	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0730, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Due to the inability of equipment to be safely operated in wet weather, redevelopment of S 76304 (Madison Hill Well 1) will be continued tomorrow (12/13/20).

Synoptic Gauging

A synoptic round of water level gauging was completed; 13 of 14 identified wells were gauged. There was no access to S 17231S on this date due to Parks Department re-securing the well house; however, data are available from the date of sampling, 12/9/2020.

Well Installation

Well installation complete.

Groundwater Sampling

Groundwater samples were collected from the following monitoring wells:

CH MW-045D

A sample (CH-MW045D-1220) was collected by means of low flow sampling with a QED Bladder Pump.

S 70627

A sample (S70627-1220) was collected by means of low flow sampling with a QED Bladder Pump.

Samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the liquid hexavalent chromium was checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, and turbidity. Water quality parameters were stabilized prior to sample collection. Field data were recorded on the field sampling forms.

Sample Management

Samples are being held by AECOM (continuously on ice) until the next courier scheduled pickup, scheduled for Monday (12/14/20).

Investigation-Derived Waste Management

Eight drums of soil generated to date. To date, approximately 1,930 gallons of liquid IDW has been generated during well development and sampling.

The AECOM team left the site for the day at 1530.

WORK COMPLETED BY AECOM SUBCONTRACTORS

TWS/ADT returned to the site and removed drilling materials (i.e., PVC piping from air lifting, crushed tote, etc.) from the dumpster across the street from the Motor Pool, as requested by T. Dess.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/12/2020 Saturday

DR No. 17		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

Excessive rain prevented use of electric powered equipment. Also, a raccoon was found trapped in the dumpster that personnel intended to use for generated trash. The AECOM team avoided contact with the racoon per the APP/SSHP and lowered a section of chain-link fence into the dumpster to allow the racoon to safely climb out once the AECOM team had retreated from the dumpster.

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

James Christopher

Daily Photos

No photos were collected for today's daily report.

AECOM

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 12/13/2020 Sunday

DR No. 18		**WRITTEN BY**: James Christopher		**PROJECT NUMBER**: 60443903	
Weather: H 59°F/L 46°F, mostly sunny		**Days without a lost time injury:** 18			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT (Active/Inactive):**	**VISITORS/AFFILIATION:**
Jim Christopher	8	SSHO, Geologist	AECOM	Solonist Water Level Meter (1/1)	None
Janine Hlavaty	8	Geologist	AECOM	Geotech Bladder Pumps (0/2)	
				Controller/Compressor QED (2)	
				Waterra HydroLift Pumps (1/1)	
				MiniRae 3000 PID (1/2)	
				Peristaltic Pump (1)	
				Rechargeable Battery (1)	
				Grundfos Redi-Flo 2 Pump (0/2)	
				Honda Generator EU2000i (1/1)	
DAILY TOTAL	16				
TOTAL TO DATE	501.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Progress made on development, as follows:

S 76304 (Madison Hill Well 1)

Total depth (measured previously) of S 76304 is 140 ft below top of riser; the total minimum development purge (3x well volume) is 270 gallons.
A Waterra pump with a high volume system was used to remove additional volume from the well (60 gallons, 240 gallons total), from 80 - 87 ft.
Upon resuming well redevelopment, the turbidity had returned to the level visually observed when beginning redevelopment (see photo from 12/11/20 Daily Report). Water quality parameters were collected intermittently throughout redevelopment; pH, DO, ORP, specific conductivity, temperature, and drawdown; the team was only able to reduce the final turbidity to 248 NTU. Field data were recorded on the field sampling forms (12/11/2020, 12/13/2020).

Well Installation

Well installation complete. The new wells were secured with the locks that match those used in previous phases of the RI and can be opened with the same keys. The USACE and the New York State Office of Parks, Recreation and Historic Preservation (office at Montauk Downs) have a set of matching keys from the previous phases.

Sampling

Groundwater samples were collected from the following monitoring wells:

S 76304 (Madison Hill Well 1)

A sample (S76304-1220) was collected by (non-submersible) means of a Waterra pump, per SCWA requirements.
A duplicate sample (S76304-1220D) was also collected at this location.

IDW samples were collected:

Liquid IDW

A liquid IDW sample was collected from the on site frac tank by means of a peristaltic pump.

Soil IDW

A soil IDW sample was collected from drums of drilling spoils.

Groundwater samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the hexavalent chromium sample was checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, and turbidity. Field data were recorded on the field sampling forms.

Sample Management

Samples are being held by AECOM (continuously on ice) until the next courier scheduled pickup. Arrangements were made for the analytical laboratory to pick up the samples from J. Christopher via the Long Island City service center on Tuesday, 12/15/20.

Investigation-Derived Waste Management

Eight drums of soil generated to date. To date, approximately 2,000 gallons of liquid IDW has been generated during well development and sampling.

The AECOM team demobilized from the site at 1530.

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Contractor Daily Reports

DATE: 12/13/2020 Sunday

DR No. 18		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

When traveling with generators inside a vehicle, personnel maintained windows in a down position to provide sufficient ventilation.

SITE OBSERVATIONS

No park personnel were present at the Motor Pool upon departure of AECOM field team; site supervisor maintained possession of the keys to ship back to pertinent parties.

ATTACHMENTS

None

Site Representative (Signature):

James Christopher

Daily Photos

No photos were collected for today's daily report.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/22/2021 Monday

DR No. 19	**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903
Weather: H 44°F/L 35°F, cloudy, PM showers	**Days without a lost time injury:** 19	

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT (Active/Inactive):**	**VISITORS/AFFILIATION:**
James Christopher	9.5	Site Supervisor	AECOM	Solonist WLM (2/1)	None
Mike Glinski	9.5	SSHO	AECOM	YSI 6920 V2 (2/1)	
Matthew Kerr	9.5	Scientist	AECOM	Hach Turbidity Meter (0/1)	
Chanel Hardy	9.5	Scientist	AECOM	MiniRae 3000 PID (2/1)	
				QED Bladder Pumps (4/0)	
				QED MP-50 Control Box (3/0)	
				Waterra HydroLift Pumps (0/1)	
				Rechargeable Battery (0/3)	
				Honda Generator EU2000i (0/1)	
DAILY TOTAL	38				
TOTAL TO DATE	539.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	Callahead New York - One (1) Porta Pot

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Well development has not started for the one well to be redeveloped:

S 76304 (Madison Hill Well 1)

Total depth (measured previously) of S76304 is 140 feet below top of riser; the total minimum development purge (3x well volume) is estimated to be 270 gallons.

Sampling

Groundwater samples were collected from the following monitoring wells:

CH-MW044D

Sample CH-MW044D-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 7.7 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

CH-MW044S

Sample CH-MW044S-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 3.4 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

CH-MW045D

Sample CH-MW045D-0221 was collected via low-flow sampling using a bladder pump; final turbidity: -3.6 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

CH-MW045S

Sample CH-MW045S-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 7.8 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

Groundwater samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the hexavalent chromium samples were checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, turbidity, and salinity. Field data were recorded on the field sampling forms.

Sample Management

Samples are being held by AECOM (continuously on ice) until the next courier pickup, scheduled for Wednesday (2/24/2021).

Investigation-Derived Waste Management

Previously-generated waste remaining on site: Eight drums of soil generated during drilling activities within containment. ~2,000 gallons of water generated during development and sampling is contained within a plastic frac tank

Currently-generated waste: ~5.5 gallons of water has been generated and will be added to the frac tank. 2 bags of garbage/IDW have been disposed of, with permission, in the motorpool dumpsters.

The AECOM team left the site for the day at 1640.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
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Contractor Daily Reports

DATE: 2/22/2021 Monday

DR No. 19		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

Vehicles driving in the park were observed to be traveling with excessive speed. The field team was reminded to: #1) maintain constant vigilance with regard to moving vehicles when working near roadways and #2) not be tempted or led to break ANY park traffic rules.

SITE OBSERVATIONS

Newly installed wells CH-MW044S/D and CH-MW045S/D were resecured using AECOM site locks upon completion of sampling.

ATTACHMENTS

None

Site Representative (Signature):
James Christopher

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/22/2021 Monday

DR No. 19		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Daily Photos

Photo 1. Sampling setup at CH-MW044 series wells.

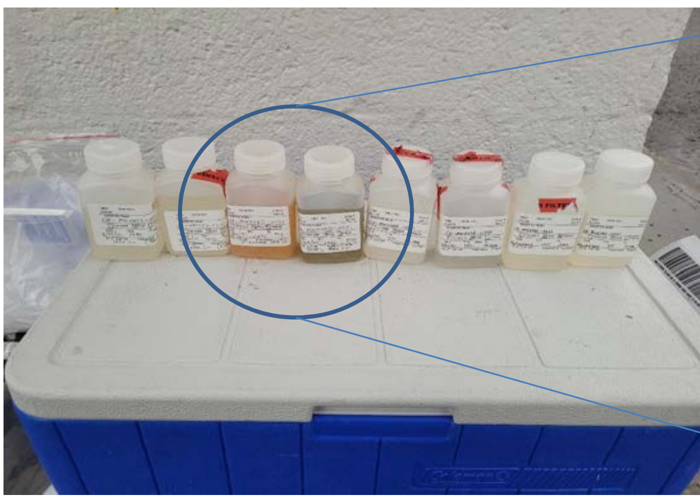

Photo 2. Hexavalent chromium samples after addition of pH buffer.

Photo 3. Discolored hexavalent chromium samples after addition of pH buffer.

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Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/23/2021 Tuesday

DR No. 20		WRITTEN BY: James Christopher			PROJECT NUMBER: 60443903
Weather: H 42°F/L 37°F, mostly sunny, PM rain		Days without a lost time injury: 20			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT (Active/Inactive):**	**VISITORS/AFFILIATION:**
James Christopher	9.5	Site Supervisor	AECOM	Solonist WLM (2/1)	PJ Mion (USACE)
Mike Glinski	9.5	SSHO	AECOM	YSI 6920 V2 (2/1)	
Matthew Kerr	9.5	Scientist	AECOM	Hach Turbidity Meter (0/1)	
Chanel Hardy	9.5	Scientist	AECOM	MiniRae 3000 PID (2/1)	
				QED Bladder Pumps (4/0)	
				QED MP-50 Control Box (3/0)	
				Waterra HydroLift Pumps (0/1)	
				Rechargeable Battery (2/1)	
				Honda Generator EU2000i (0/1)	
DAILY TOTAL	38				
TOTAL TO DATE	577.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Well development has not started for the one well to be redeveloped:

S 76304 (Madison Hill Well 1)

Total depth (measured previously) of S76304 is 140 feet below top of riser; the total minimum development purge (3x well volume) is estimated to be 270 gallons.

Sampling

Groundwater samples were collected from the following monitoring wells:

S19494 (Barracks)

Sample S19494-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 12.8 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5. QC sample, MS/MSD, was collected at this location.

S19495 (AT&T)

Sample S19495-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 33.3 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

S48579 (USGS Ranch)

Sample S48579-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 10.3 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.4

S58922 (USGS Pocahontas)

Sample S58922-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 0.1 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

Groundwater samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the hexavalent chromium samples were checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, turbidity, and salinity. Field data were recorded on the field sampling forms.

Sample Management

Samples are being held by AECOM (continuously on ice) until the next courier pickup, scheduled for Wednesday (2/24/2021).

Investigation-Derived Waste Management

Previously-generated waste remaining on site: Eight drums of soil generated during drilling activities within containment. ~2,000 gallons of water generated during development and sampling is contained within a plastic frac tank

Currently-generated waste: ~25 gallons of water has been generated and will be added to the frac tank. 4 bags of garbage/IDW have been disposed of, with permission, in the motorpool dumpsters.

The AECOM team left the site for the day at 1630.

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Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/23/2021 Tuesday

DR No. 20		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

When working along roadways, AECOM personnel utilized cones as a traffic safety measure.

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

James Christopher

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/23/2021 Tuesday

DR No. 20		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Daily Photos

Photo 1. Preparing tubing for development/sampling; S76304.

Photo 2. Recurrence of discoloration of hexavalent chromium samples once the buffer solution was added was observed at S48579.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/24/2021 Wednesday

DR No. 21		**WRITTEN BY**: James Christopher		**PROJECT NUMBER**: 60443903	
Weather: H 45°F/L 38°F, mostly sunny		**Days without a lost time injury:** 21			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT (Active/Inactive):**	**VISITORS/AFFILIATION:**
James Christopher	9.5	Site Supervisor	AECOM	Solonist WLM (2/1)	PJ Mion (USACE)
Mike Glinski	9.5	SSHO	AECOM	YSI 6920 V2 (2/1)	
Matthew Kerr	9.5	Scientist	AECOM	Hach Turbidity Meter (1/0)	
Chanel Hardy	9.5	Scientist	AECOM	MiniRae 3000 PID (2/1)	
				QED Bladder Pumps (2/2)	
				QED MP-50 Control Box (1/2)	
				Waterra HydroLift Pumps (1/0)	
				Rechargeable Battery (1/2)	
				Honda Generator EU2000i (1/0)	
DAILY TOTAL	38				
TOTAL TO DATE	615.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Well development was attempted for the one well to be redeveloped:

S 76304 (Madison Hill Well 1)
Total depth of S76304 is 116 feet below top of riser; the total minimum development purge (3x well volume) is estimated to be 162 gallons
Attempts to develop S76304 failed upon the loss of two on site Waterra check valves. 5 gallons total has been purged.

Sampling

Groundwater samples were collected from the following monitoring wells:

S1202 (Giftshop spigot)
Sample S1202-0221 was collected via influent pre-treatment sampling port; final turbidity: 3.7 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

S3599 (Lighthouse)
Sample S3599-0221 was collected via influent pre-treatment sampling port; final turbidity: 11.4 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.4

S70627 (USGS Triangle)
Sample S70627-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 17.7 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.4

CH-EB-0221-01 (Equipment Blank #1)
Sample CH-EB-0221-01 was collected from bladder pump #9516; ; final pH of hexavalent chromium sample after addition of buffer: ~9.5

Groundwater samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the hexavalent chromium samples were checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, turbidity, and salinity. Field data were recorded on the field sampling forms.

Sample Management

Samples were handed off to the Eurofins courier; 5 coolers containing 14 samples (including QC samples).

Investigation-Derived Waste Management

Previously-generated waste remaining on site: Eight drums of soil generated during drilling activities within containment. ~2,000 gallons of water generated during development and sampling is contained within a plastic frac tank
Currently-generated waste: ~32 gallons of water has been generated and will be added to the frac tank. 4 bags of garbage/IDW have been disposed of, with permission, in the motorpool dumpsters.

The AECOM team left the site for the day at 1630.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AECOM

United States Army Corps of Engineers
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Contractor Daily Reports

DATE: 2/24/2021 Wednesday

DR No. 21	**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

When relocating heavy and/or awkward-shaped equipment, AECOM personnel would request help, rather than perform unsafe lifting.

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

James Christopher

Daily Photos

Photo 1. Giftshop water supply system; influent sample port identified.

Photo 2. S76304 (Madison Hills Well 1) well redevelopment setup.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/24/2021 Wednesday

DR No. 21		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Photo 3. Check valve security, decontaminated stainless steel components, for well redevelopment at S76304 (Madison Hills Well 1).

Photo 4. Failed check valve security during well redevelopment at S76304 (Madison Hills Well 1).

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/25/2021 Thursday

DR No. 22	**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903
Weather: H 45°F/L 38°F, mostly sunny	**Days without a lost time injury:** 22	

NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT (Active/Inactive):**	**VISITORS/AFFILIATION:**
James Christopher	10	Site Supervisor	AECOM	Solonist WLM (2/1)	PJ Mion (USACE)
Mike Glinski	10	SSHO	AECOM	YSI 6920 V2 (1/2)	
Matthew Kerr	10	Scientist	AECOM	Hach Turbidity Meter (0/1)	
Chanel Hardy	10	Scientist	AECOM	MiniRae 3000 PID (2/1)	
				QED Bladder Pumps (1/3)	
				QED MP-50 Control Box (1/2)	
				Waterra HydroLift Pumps (1/0)	
				Rechargeable Battery (0/3)	
				Honda Generator EU2000i (1/0)	
DAILY TOTAL	40				
TOTAL TO DATE	655.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	DI Water
	2 x D-32 Waterra check valves

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Well development was attempted for the one well to be redeveloped:

S 76304 (Madison Hill Well 1)

Total depth of S76304 is 116 feet below top of riser; the total minimum development purge (3x well volume) is estimated to be 162 gallons

Attempts to develop S76304 failed upon the loss of four Waterra check valves. 10 gallons total has been purged.

Sampling

Groundwater samples were collected from the following monitoring wells:

S17231S

Sample S17231S-0221 was collected via low flow methods using a QED bladder pump; final turbidity: 17.2 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

S17231S duplicate sample

Sample S17231S-0221D was collected via low flow methods using a QED bladder pump; final turbidity: 17.2 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

S79269 (Pumphouse/Bunker)

Sample S79269-0221 was collected via influent pre-treatment sampling port; final turbidity: 7.3 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

S79269 (Pumphouse/Bunker) duplicate sample

Sample S79269-0221 was collected via influent pre-treatment sampling port; final turbidity: 7.3 NTU; final pH of hexavalent chromium sample after addition of buffer: ~9.5

Groundwater samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the hexavalent chromium samples were checked and adjusted in the field according to the procedure outlined in the QAPP. Water quality parameters were collected, including pH, DO, ORP, specific conductivity, temperature, turbidity, and salinity. Field data were recorded on the field sampling forms.

Synoptic Gauging

Synoptic groundwater elevation measurements were collected from the local UGA wells.

Sample Management

Samples are being held by AECOM (continuously on ice) until the next courier pickup, scheduled for Friday (2/26/2021).

Investigation-Derived Waste Management

Previously-generated waste remaining on site: Eight drums of soil generated during drilling activities within containment. ~2,000 gallons of water generated during development and sampling is contained within a plastic frac tank

Currently-generated waste: ~40 gallons of water has been generated and will be added to the frac tank. 6 bags of garbage, 200ft of HDPE tubing have been disposed of, with permission, in the motorpool dumpsters.

The AECOM team left the site for the day at 1700.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/25/2021 Thursday

DR No. 22		WRITTEN BY: James Christopher	PROJECT NUMBER: 60443903

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

A spotter was utilized whenever vehicles were operating in reverse in low-visibility settings.

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

James Christopher

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/25/2021 Thursday

DR No. 22		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Daily Photos

Photo 1. S19496 access; difficult to locate.

Photo 2. Wells were secured upon completion of activities.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/26/2021 Friday

DR No. 23	**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903
Weather: H 39°F/L 36°F, mostly sunny	**Days without a lost time injury:** 23	

NAME:	HRS	TRADE:	COMPANY:	EQUIPMENT (Active/Inactive):	VISITORS/AFFILIATION:
James Christopher	8.5	Site Supervisor	AECOM	Solonist WLM (1/0)	
Mike Glinski	8.5	SSHO	AECOM	YSI 6920 V2 (1/0)	
Matthew Kerr	8.5	Scientist	AECOM	Hach Turbidity Meter (1/0)	
Chanel Hardy	8.5	Scientist	AECOM	MiniRae 3000 PID (1/0)	
DAILY TOTAL	34				
TOTAL TO DATE	689.5	*(on-site hours only)*			

SUBCONTRACTORS:	SITE DELIVERIES
None	Mega-Purge Whale Pump
	LDPE poly tubing

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0900, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Well development was resumed for the one well to be redeveloped:

S 76304 (Madison Hill Well 1)

Total depth of S76304 is measured at 116 feet below top of riser, construction details indicate the total depth to be 141 feet bgs; the total minimum redevelopment purge (3x well volume) is estimated to be 270 gallons.

Previous attempts to redevelop S76304 utilizing a Waterra pump failed upon the loss of four check valves. 10 gallons total had been purged.

A Mega-Purge 3 stage submersible whale pump has been installed to maximum achievable depth, ~87 feet below top of riser. The well was purged at ~1 gpm (maximum flow for this model and depth), 60 gallons total were purged from S76304, and an interim turbidity of 20.7 NTU was recorded.

Sampling

Water quality samples were collected:

CH-EB-0221-02

Sample CH-EB-0221-02 was collected from QED bladder pump #35589; final pH of hexavalent chromium sample after addition of buffer: ~9.5

CH-EB-0221-03

Sample CH-EB-0221-03 was collected from QED bladder pump #33121; final pH of hexavalent chromium sample after addition of buffer: ~9.5

CH-EB-0221-04

Sample CH-EB-0221-04 was collected from QED bladder pump #R9723; final pH of hexavalent chromium sample after addition of buffer: ~9.5

Water quality samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the hexavalent chromium samples were checked and adjusted in the field according to the procedure outlined in the QAPP.

Sample Management

Samples were relinquished to the Eurofins courier.

Investigation-Derived Waste Management

Previously-generated waste remaining on site: Eight drums of soil generated during drilling activities within containment. ~2,000 gallons of water generated during development and sampling is contained within a plastic frac tank

Currently-generated waste: ~110 gallons of water has been generated and will be added to the frac tank. 6 bags of garbage, 200ft of HDPE tubing have been disposed of, with permission, in the motorpool dumpsters.

The AECOM team left the site for the day at 1730.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/26/2021 Friday

DR No. 23		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

Vehicles were used to transport heavy or bulky equipment whenever possible.

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

James Christopher

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/26/2021 Friday

DR No. 23		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Daily Photos

Photo 1. S76304 (Madison Hill Well 1) access; power supply- background, water discharge- right.

Photo 2. S76304 water quality; 84.2 NTU, steady 1 gpm discharge rate.

AECOM

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/27/2021 Saturday

DR No. 24		**WRITTEN BY**: James Christopher			**PROJECT NUMBER**: 60443903
Weather: H 49°F/L 37°F, rain		**Days without a lost time injury:** 24			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT (Active/Inactive):**	**VISITORS/AFFILIATION:**
James Christopher	5	Site Supervisor	AECOM	Solonist WLM (1/0)	None
Mike Glinski	5	SSHO	AECOM	YSI 6920 V2 (1/0)	
Matthew Kerr	5	Scientist	AECOM	Hach Turbidity Meter (1/0)	
Chanel Hardy	5	Scientist	AECOM	MiniRae 3000 PID (1/0)	
				Mega-Purge Whale Pump (1/0)	
DAILY TOTAL	20				
TOTAL TO DATE	709.5	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
None	None

WORKED PERFORMED BY AECOM

The AECOM team arrived on site at 0700, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Well Development

Well redevelopment was completed for S76304 (Madison Hill Well 1):

S 76304 (Madison Hill Well 1)

Total depth of S76304 is measured at 116 feet below top of riser, construction details indicate the total depth to be 141 feet bgs; the total minimum redevelopment purge (3x well volume) was estimated to be 270 gallons.

Previous attempts to develop S76304 utilizing a Waterra pump failed upon the loss of four check valves. 10 gallons total had been purged earlier in the week.

A Mega-Purge 3 stage submersible whale pump installed to the maximum achievable depth, ~87 feet below top of riser. The well was purged at ~1 gpm (maximum flow for this model and depth), an additional 230 gallons total were purged from S76304; total purge volume 290 gallons and a final turbidity of 0.62 NTU was recorded.

Sampling

The following groundwater sample was collected:

S76304-0221

Sample S76304-0221 was collected via low-flow sampling using a bladder pump; final turbidity: 0.62 NTU, final pH of the hexavalent chromium sample after addition of buffer: ~9.5

Water quality samples were collected for analysis of VOCs, SVOCs/PAHs, PCBs, and total and dissolved metals (incl. hexavalent chromium and mercury). The pH of the hexavalent chromium samples were checked and adjusted in the field according to the procedure outlined in the QAPP.

Sample Management

The final sample was transported by AECOM to the analytical laboratory, Eurofins Lancaster Laboratories Environmental, LLC., in Lancaster, PA.

Investigation-Derived Waste Management

Previously-generated waste remaining on site: Eight drums of soil generated during drilling activities within containment. ~2,000 gallons of water generated during development and sampling is contained within a plastic frac tank

Currently-generated waste: ~340 gallons of water has been generated and will be added to the frac tank. 8 bags of garbage, 400 feet of tubing have been disposed of, with permission, in the motorpool dumpsters.

The AECOM team demobilized from the site at 1200.

WORK COMPLETED BY AECOM SUBCONTRACTORS

None

AECOM

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/27/2021 Saturday

DR No. 24		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

Wire cutters were used to clip zip-ties from the tubing/wire setup (the proper tool for the job); personnel wore appropriate work gloves for the task, as well.

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

James Christopher

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 2/27/2021 Saturday

DR No. 24		**WRITTEN BY**: James Christopher	**PROJECT NUMBER**: 60443903

Daily Photos

Photo 1. Purge water transfer to the frac tank at the motorpool.

Photo 2. Purge water from S76304 (Madison Hill Well 1) at the end of the purge period; 0.62 NTU, steady 1 gpm discharge rate.

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 5/10/2021 Monday

DR No. 25		**WRITTEN BY**: Chanel Hardy			**PROJECT NUMBER**: 60443903
Weather: H 55°F/L 49°F, cloudy		**Days without a lost time injury:** 25			
NAME:	**HRS**	**TRADE:**	**COMPANY:**	**EQUIPMENT (Active/Inactive):**	**VISITORS/AFFILIATION:**
Chanel Hardy	3.5	Scientist	AECOM	None	Shewen Bian, USACE
DAILY TOTAL	3.5				
TOTAL TO DATE	693	*(on-site hours only)*			

SUBCONTRACTORS:	**SITE DELIVERIES**
AWT Environmental Services	None

WORKED PERFORMED BY AECOM

AECOM arrived on site at 1000, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

IDW Disposal

AECOM oversaw disposal activities of liquid and soil IDW.

The AECOM team demobilized from the site at 1330.

WORK COMPLETED BY AECOM SUBCONTRACTORS

The AWT team arrived on site at 1000, completed the Morning Tailgate Health and Safety Meeting, and reviewed the health and safety procedures and activity hazard analyses associated with the scheduled field work for the day.

Eight drums of soil generated during drilling activities and three empty drums were loaded on a rack truck and transported to a land disposal location.
~2,340 gallons of water generated during development and sampling contained within a plastic frac tank was pumped out for disposal.
The frac tank was pressure washed clean and removed from the site.

The AWT team demobilized from the site at 1330.

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, phone records, and/or logbooks for details)

None

REQUEST FOR INFORMATION (RFI)

None

TRANSMITTALS / SUBMITTALS

None

AIR MONITORING COMMENTS:

None

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

None

United States Army Corps of Engineers
Remedial Investigation, Phase IV
Camp Hero, Montauk, New York

Contractor Daily Reports

DATE: 5/10/2021 Monday

DR No. 25		**WRITTEN BY**: Chanel Hardy	**PROJECT NUMBER**: 60443903

SITE OBSERVATIONS

None

ATTACHMENTS

None

Site Representative (Signature):

Chanel Hardy

Daily Photos

Photo 1. IDW staging area at the motorpool before removal.

Photo 2. Liquid IDW being pumped out of frac tank.

Photo 3. Soil IDW drum storage area at the motorpool prior to removal.

Photo 4. IDW staging area at the motorpool after removal.

Appendix C2

Community Air Monitoring Data

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Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II
==

Instrument Name	DustTrak II
Model Number	8530
Serial Number	8530172403
Firmware Version	3.7
Calibration Date	6/12/2017
Test Name	MANUAL_001
Test Start Time	12:48:05 PM
Test Start Date	12/2/2020
Test Length [D:H:M]	0:03:13
Test Interval [M:S]	1:00
Mass Average [mg/m3]	0.002
Mass Minimum [mg/m3]	0
Mass Maximum [mg/m3]	0.071
Mass TWA [mg/m3]	0.001
Photometric User Cal	0.76
Flow User Cal	0
Errors	
Number of Samples	193

Elapsed Time [s]	Mass [mg/m3]	Alarms	Errors
60	0.071		
120	0.005		
180	0.005		
240	0.006		
300	0.005		
360	0.005		
420	0.004		
480	0.005		
540	0.004		
600	0.004		
660	0.004		
720	0.004		
780	0.004		
840	0.003		
900	0.004		
960	0.004		
1020	0.003		
1080	0.003		
1140	0.003		
1200	0.004		
1260	0.004		
1320	0.003		
1380	0.004		
1440	0.003		
1500	0.003		
1560	0.003		
1620	0.003		
1680	0.003		

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II
===

1740	0.003
1800	0.003
1860	0.003
1920	0.003
1980	0.003
2040	0.003
2100	0.003
2160	0.003
2220	0.003
2280	0.003
2340	0.003
2400	0.003
2460	0.003
2520	0.003
2580	0.003
2640	0.003
2700	0.003
2760	0.003
2820	0.004
2880	0.004
2940	0.003
3000	0.003
3060	0.004
3120	0.003
3180	0.003
3240	0.003
3300	0.003
3360	0.003
3420	0.003
3480	0.003
3540	0.003
3600	0.003
3660	0.003
3720	0.003
3780	0.003
3840	0.003
3900	0.003
3960	0.003
4020	0.003
4080	0.003
4140	0.003
4200	0.003
4260	0.003
4320	0.003
4380	0.003
4440	0.002
4500	0.002
4560	0.003

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II
==

4620	0.003
4680	0.002
4740	0.002
4800	0.002
4860	0.003
4920	0.003
4980	0.002
5040	0.002
5100	0.002
5160	0.002
5220	0.002
5280	0.002
5340	0.002
5400	0.002
5460	0.002
5520	0.002
5580	0.002
5640	0.001
5700	0.002
5760	0.002
5820	0.002
5880	0.002
5940	0.002
6000	0.002
6060	0.001
6120	0.001
6180	0.001
6240	0.002
6300	0.002
6360	0.002
6420	0.002
6480	0.002
6540	0.002
6600	0.002
6660	0.002
6720	0.002
6780	0.001
6840	0.002
6900	0.002
6960	0.002
7020	0.002
7080	0.002
7140	0.002
7200	0.002
7260	0.002
7320	0.001
7380	0.001
7440	0.001

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II
==

7500	0.001
7560	0.001
7620	0.001
7680	0.001
7740	0.001
7800	0.001
7860	0.001
7920	0.001
7980	0.001
8040	0.001
8100	0.001
8160	0.001
8220	0.001
8280	0.001
8340	0.001
8400	0.001
8460	0.001
8520	0.001
8580	0.001
8640	0.001
8700	0.001
8760	0.001
8820	0.001
8880	0.001
8940	0.001
9000	0.001
9060	0.001
9120	0.001
9180	0.001
9240	0.001
9300	0.001
9360	0.001
9420	0.001
9480	0.002
9540	0.001
9600	0.001
9660	0.001
9720	0.001
9780	0.001
9840	0.001
9900	0
9960	0.001
10020	0.001
10080	0.001
10140	0
10200	0.001
10260	0.001
10320	0.001

Community Air Monitoring Data

Phase IV Remedial Investigation

Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations

Geologist: M. Glinski, AECOM

Instrument: DustTrak II

===

10380	0.001
10440	0.001
10500	0.001
10560	0.001
10620	0.001
10680	0.001
10740	0.001
10800	0.001
10860	0.001
10920	0.001
10980	0.001
11040	0.001
11100	0.001
11160	0.001
11220	0.001
11280	0.001
11340	0.001
11400	0.001
11460	0.001
11520	0.001
11580	0.001

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

==

Instrument Name	DustTrak II
Model Number	8530
Serial Number	8530172403
Firmware Version	3.7
Calibration Date	6/12/2017
Test Name	MANUAL_002
Test Start Time	8:39:56 AM
Test Start Date	12/3/2020
Test Length [D:H:M]	0:03:54
Test Interval [M:S]	1:00
Mass Average [mg/m3]	0.004
Mass Minimum [mg/m3]	0
Mass Maximum [mg/m3]	0.263
Mass TWA [mg/m3]	0.002
Photometric User Cal	0.76
Flow User Cal	0
Errors	
Number of Samples	221

Elapsed Time [s]	Mass [mg/m3]	Alarms	Errors
60	0.263		
120	0.007		
180	0.005		
240	0.005		
300	0.004		
360	0.005		
420	0.004		
480	0.004		
540	0.004		
600	0.003		
660	0.003		
720	0.003		
780	0.004		
840	0.003		
900	0.003		
960	0.003		
1020	0.003		
1080	0.003		
1140	0.003		
1200	0.003		
1260	0.003		
1320	0.003		
1380	0.003		
1440	0.003		
1500	0.003		
1560	0.003		
1620	0.003		
1680	0.003		

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

1740	0.003
1800	0.003
1860	0.003
1920	0.003
1980	0.003
2040	0.004
2100	0.003
2160	0.003
2220	0.003
2280	0.003
2340	0.003
2400	0.003
2460	0.003
2520	0.003
2580	0.003
2640	0.003
2700	0.003
2760	0.021
2820	0.003
2880	0.003
2940	0.003
3000	0.002
3060	0.002
3120	0.003
3180	0.002
3240	0.002
3300	0.002
3360	0.002
3420	0.002
3480	0.002
3540	0.002
3600	0.002
3660	0.002
3720	0.002
3780	0.002
3840	0.002
3900	0.002
3960	0.002
4020	0.002
4080	0.002
4140	0.002
4200	0.002
4260	0.002
4320	0.002
4380	0.002
4440	0.002
4500	0.002
4560	0.002

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

==

4620	0.002
4680	0.002
4740	0.002
4800	0.002
4860	0.002
4920	0.002
4980	0.003
5040	0.002
5100	0.002
5160	0.002
5220	0.002
5280	0.002
5340	0.002
5400	0.002
5460	0.002
5520	0.002
5580	0.002
5640	0.002
5700	0.002
5760	0.002
5820	0.002
5880	0.001
5940	0.002
6000	0.002
6060	0.002
6120	0.002
6180	0.003
6240	0.002
6300	0.001
6360	0.002
6420	0.001
6480	0.001
6540	0.002
6600	0.002
6660	0.002
6720	0.001
6780	0.001
6840	0.001
6900	0.001
6960	0.001
7020	0.002
7080	0.002
7140	0.002
7200	0.002
7260	0.001
7320	0.002
7380	0.002
7440	0.002

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

7500	0.002
7560	0.001
7620	0.001
7680	0.001
7740	0.001
8000	0
8040	0.001
8100	0.001
8160	0.001
8220	0.001
8280	0.001
8340	0.002
9021	0
9060	0.024
9120	0.004
9180	0.002
9240	0.002
9300	0.001
9360	0.002
9420	0.002
9480	0.002
9540	0.002
9600	0.002
9660	0.002
9720	0.002
9780	0.002
9840	0.002
9900	0.002
9960	0.002
10020	0.002
10080	0.002
10140	0.002
10200	0.002
10260	0.002
10320	0.002
10380	0.002
10440	0.002
10500	0.002
10560	0.003
10620	0.003
10680	0.003
10740	0.003
10800	0.003
10860	0.003
10920	0.003
10980	0.003
11040	0.002
11100	0.003

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

11160	0.002
11220	0.002
11280	0.002
11340	0.002
11400	0.002
11460	0.002
11520	0.002
11580	0.002
11640	0.003
11700	0.003
11760	0.003
11820	0.003
11880	0.003
11940	0.003
12000	0.004
12060	0.003
12120	0.003
12180	0.003
12240	0.002
12300	0.002
12360	0.002
12420	0.002
12480	0.002
12540	0.003
12600	0.003
12660	0.003
12720	0.003
12780	0.003
12840	0.003
12900	0.003
12960	0.003
13020	0.003
13080	0.003
13140	0.003
13200	0.004
13260	0.003
13320	0.004
13380	0.004
13440	0.004
13500	0.004
13560	0.004
13620	0.006
13680	0.004
13740	0.004
13800	0.004
13860	0.004
13920	0.004
13980	0.004

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

===

	14040	0.004

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

Instrument Name	DustTrak II
Model Number	8530
Serial Number	8530172403
Firmware Version	3.7
Calibration Date	6/12/2017
Test Name	MANUAL_003
Test Start Time	11:52:28 AM
Test Start Date	12/4/2020
Test Length [D:H:M]	0:04:08
Test Interval [M:S]	1:00
Mass Average [mg/m3]	0.01
Mass Minimum [mg/m3]	0.006
Mass Maximum [mg/m3]	0.031
Mass TWA [mg/m3]	0.005
Photometric User Cal	0.76
Flow User Cal	0
Errors	
Number of Samples	248

Elapsed Time [s]	Mass [mg/m3]	Alarms	Errors
60	0.031		
120	0.01		
180	0.01		
240	0.013		
300	0.01		
360	0.01		
420	0.008		
480	0.009		
540	0.009		
600	0.008		
660	0.008		
720	0.007		
780	0.007		
840	0.008		
900	0.007		
960	0.008		
1020	0.008		
1080	0.011		
1140	0.011		
1200	0.008		
1260	0.009		
1320	0.007		
1380	0.008		
1440	0.008		
1500	0.008		
1560	0.008		
1620	0.011		
1680	0.008		

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

1740	0.009
1800	0.007
1860	0.01
1920	0.008
1980	0.007
2040	0.011
2100	0.008
2160	0.008
2220	0.007
2280	0.009
2340	0.01
2400	0.008
2460	0.008
2520	0.015
2580	0.012
2640	0.01
2700	0.01
2760	0.007
2820	0.008
2880	0.011
2940	0.008
3000	0.008
3060	0.009
3120	0.011
3180	0.007
3240	0.006
3300	0.007
3360	0.006
3420	0.008
3480	0.016
3540	0.008
3600	0.007
3660	0.009
3720	0.008
3780	0.011
3840	0.01
3900	0.007
3960	0.007
4020	0.009
4080	0.008
4140	0.009
4200	0.008
4260	0.008
4320	0.007
4380	0.008
4440	0.009
4500	0.007
4560	0.008

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

4620	0.009
4680	0.006
4740	0.008
4800	0.008
4860	0.009
4920	0.01
4980	0.008
5040	0.008
5100	0.009
5160	0.009
5220	0.009
5280	0.008
5340	0.009
5400	0.007
5460	0.007
5520	0.007
5580	0.012
5640	0.012
5700	0.008
5760	0.009
5820	0.008
5880	0.009
5940	0.007
6000	0.011
6060	0.008
6120	0.009
6180	0.008
6240	0.008
6300	0.008
6360	0.013
6420	0.008
6480	0.008
6540	0.01
6600	0.009
6660	0.012
6720	0.009
6780	0.01
6840	0.007
6900	0.009
6960	0.009
7020	0.009
7080	0.008
7140	0.013
7200	0.008
7260	0.011
7320	0.009
7380	0.012
7440	0.01

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

7500	0.009
7560	0.009
7620	0.011
7680	0.01
7740	0.014
7800	0.011
7860	0.016
7920	0.011
7980	0.017
8040	0.013
8100	0.018
8160	0.017
8220	0.01
8280	0.012
8340	0.012
8400	0.008
8460	0.011
8520	0.01
8580	0.011
8640	0.013
8700	0.009
8760	0.014
8820	0.012
8880	0.02
8940	0.017
9000	0.015
9060	0.012
9120	0.013
9180	0.012
9240	0.011
9300	0.008
9360	0.015
9420	0.007
9480	0.01
9540	0.011
9600	0.008
9660	0.009
9720	0.009
9780	0.01
9840	0.008
9900	0.008
9960	0.007
10020	0.007
10080	0.007
10140	0.008
10200	0.007
10260	0.007
10320	0.007

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

10380	0.008
10440	0.008
10500	0.008
10560	0.008
10620	0.012
10680	0.008
10740	0.01
10800	0.009
10860	0.009
10920	0.021
10980	0.015
11040	0.031
11100	0.018
11160	0.018
11220	0.01
11280	0.011
11340	0.01
11400	0.009
11460	0.007
11520	0.01
11580	0.008
11640	0.01
11700	0.009
11760	0.01
11820	0.011
11880	0.009
11940	0.009
12000	0.01
12060	0.009
12120	0.009
12180	0.01
12240	0.011
12300	0.009
12360	0.011
12420	0.009
12480	0.011
12540	0.011
12600	0.008
12660	0.01
12720	0.01
12780	0.01
12840	0.01
12900	0.008
12960	0.01
13020	0.009
13080	0.012
13140	0.01
13200	0.014

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

13260	0.011
13320	0.012
13380	0.013
13440	0.009
13500	0.01
13560	0.008
13620	0.011
13680	0.008
13740	0.009
13800	0.01
13860	0.009
13920	0.011
13980	0.009
14040	0.009
14100	0.008
14160	0.011
14220	0.009
14280	0.01
14340	0.009
14400	0.009
14460	0.009
14520	0.01
14580	0.009
14640	0.011
14700	0.01
14760	0.009
14820	0.01
14880	0.009

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

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Instrument Name	DustTrak II
Model Number	8530
Serial Number	8530172403
Firmware Version	3.7
Calibration Date	6/12/2017
Test Name	MANUAL_004
Test Start Time	9:52:21 AM
Test Start Date	12/6/2020
Test Length [D:H:M]	0:04:14
Test Interval [M:S]	1:00
Mass Average [mg/m3]	0.001
Mass Minimum [mg/m3]	0
Mass Maximum [mg/m3]	0.015
Mass TWA [mg/m3]	0.001
Photometric User Cal	0.76
Flow User Cal	0
Errors	Flow Error
Number of Samples	138

Elapsed Time [s]	Mass [mg/m3]	Alarms	Errors
60	0.005		
120	0.015		
180	0.001		
240	0.002		
300	0.001		
360	0.002		
420	0.009		
480	0.001		
540	0.001		
600	0.001		
660	0.001		
720	0.001		
780	0.001		
840	0.002		
900	0.001		
960	0.001		
1020	0.001		
1080	0.001		
1140	0.001		
1200	0.001		
1260	0.001		
1320	0		
1380	0.001		
1440	0		
1500	0		
1560	0		
1620	0.001		
1680	0.002		

Community Air Monitoring Data

Phase IV Remedial Investigation

Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations

Geologist: M. Glinski, AECOM

Instrument: DustTrak II

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1740	0	
1800	0	
1860	0	
1920	0	
1980	0.001	
2040	0.004	
2100	0.003	
2160	0.001	
2220	0	
2280	0	
2340	0	
2400	0	
2460	0.001	
2520	0.001	
2580	0	
2908	0	
2940	0.001	
3000	0	
3060	0	
3120	0.001	
3180	0	
3240	0	
3741	0	
3780	0.003	
3840	0.001	
3900	0	
3960	0.002	
4020	0.001	
4080	0.002	
4140	0.001	
4200	0.002	
4260	0.001	
4320	0.013	Flow Error
4380	0	
4440	0.001	
4500	0.002	
4560	0.001	
4620	0.002	
7634	0	
7680	0.003	
7740	0.002	
7800	0.004	
7860	0.001	
7920	0.002	
7980	0.003	
8040	0.003	
8100	0.001	
8160	0.002	

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

8220	0.001	
8280	0.001	
8340	0.001	Flow Error
8400	0.007	
8460	0.001	
8520	0	
8580	0.001	
8640	0.001	
10701	0	
10740	0.003	
10800	0.001	
10860	0.003	
10920	0.003	
10980	0.002	
11040	0.003	
11100	0.001	
11160	0	
11220	0.004	
11280	0.001	
11340	0.002	
11400	0	
11460	0.001	Flow Error
11520	0	Flow Error
11580	0	Flow Error
11640	0	Flow Error
11700	0.007	Flow Error
12975	0	
13020	0.009	
13080	0.003	
13140	0.002	
13200	0.001	
13260	0.002	
13320	0.001	
13380	0.001	
13440	0	
13500	0.001	
13560	0.002	
13620	0	
13680	0.002	
13740	0	
13800	0	
13860	0.001	
13920	0	
13980	0	
14040	0	
14100	0.001	
14160	0	
14220	0	

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: DustTrak II

14280	0	
14340	0.002	
14400	0.001	
14460	0.001	
14520	0.001	
14580	0.001	
14640	0	
14700	0	Flow Error
14760	0.001	Flow Error
14820	0.001	Flow Error
14880	0	Flow Error
14940	0.001	Flow Error
15000	0.001	Flow Error
15248	0	

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
==
20/12/01 11:32
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Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-900989
Unit Firmware Ver	V2.16
Running Mode	Hygiene Mode
Datalog Mode	Auto
Diagnostic Mode	No
Stop Reason	Pause in Menu Mode
Site ID	QES00018
User ID	PES00000
Begin	12/1/2020 11:32
End	12/1/2020 11:33
Sample Period(s)	900
Number of Records	0
Sensor	PID(ppm)
Sensor SN	S023030194J8
Measure Type	Min; Avg; Max; Real
Span	100
Span 2	1000
Low Alarm	50
High Alarm	100
Over Alarm	15000
STEL Alarm	25
TWA Alarm	10
Measurement Gas	Isobutylene
Calibration Time	11/18/2020 6:53

****
Datalog

0 record.

==
20/12/02 08:33
****
Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-900989
Unit Firmware Ver	V2.16
Running Mode	Hygiene Mode
Datalog Mode	Manual
Diagnostic Mode	No
Stop Reason	Pause in Menu Mode
Site ID	QES00018

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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User ID	PES00000
Begin	12/2/2020 8:33
End	12/2/2020 8:34
Sample Period(s)	900
Number of Records	0
Sensor	PID(ppm)
Sensor SN	S023030194J8
Measure Type	Min; Avg; Max; Real
Span	100
Span 2	1000
Low Alarm	50
High Alarm	100
Over Alarm	15000
STEL Alarm	25
TWA Alarm	10
Measurement Gas	Isobutylene
Calibration Time	12/2/2020 8:32

****
Datalog

0 record.

==
20/12/02 08:36
****
Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-900989
Unit Firmware Ver	V2.16
Running Mode	Hygiene Mode
Datalog Mode	Manual
Diagnostic Mode	No
Stop Reason	Stop by User
Site ID	QES00018
User ID	PES00000
Begin	12/2/2020 8:36
End	12/2/2020 8:36
Sample Period(s)	60
Number of Records	0
Sensor	PID(ppm)
Sensor SN	S023030194J8
Measure Type	Min; Avg; Max; Real
Span	100
Span 2	1000
Low Alarm	50
High Alarm	100

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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Over Alarm		15000
STEL Alarm		25
TWA Alarm		10
Measurement Gas	Isobutylene	
Calibration Time		12/2/2020 8:32

****
Datalog

0 record.

==
20/12/02 08:36
****
Summary

Unit Name	MiniRAE 3000(PGM-7320)	
Unit SN	592-900989	
Unit Firmware Ver	V2.16	
Running Mode	Hygiene Mode	
Datalog Mode	Manual	
Diagnostic Mode	No	
Stop Reason	Power Down	
Site ID	QES00018	
User ID	PES00000	
Begin		12/2/2020 8:36
End		12/2/2020 8:36
Sample Period(s)		60
Number of Records		0
Sensor	PID(ppm)	
Sensor SN	S023030194J8	
Measure Type	Min; Avg; Max; Real	
Span		100
Span 2		1000
Low Alarm		50
High Alarm		100
Over Alarm		15000
STEL Alarm		25
TWA Alarm		10
Measurement Gas	Isobutylene	
Calibration Time		12/2/2020 8:32

****
Datalog

0 record.

==
20/12/02 12:51
****

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-900989
Unit Firmware Ver	V2.16
Running Mode	Hygiene Mode
Datalog Mode	Manual
Diagnostic Mode	No
Stop Reason	Stop by User
Site ID	QES00018
User ID	PES00000
Begin	12/2/2020 12:51
End	12/2/2020 16:04
Sample Period(s)	60
Number of Records	192
Sensor	PID(ppm)
Sensor SN	S023030194J8
Measure Type	Min; Avg; Max; Real
Span	100
Span 2	1000
Low Alarm	50
High Alarm	100
Over Alarm	15000
STEL Alarm	25
TWA Alarm	10
Measurement Gas	Isobutylene
Calibration Time	12/2/2020 8:32
Peak	0.5
Min	0.1
Average	0.1

****
Datalog

Index	Date/Time	PID(ppm) (Min)	PID(ppm) (Avg)	PID(ppm) (Max)	PID(ppm) (Real)
1	12/2/2020 12:52	0	0.1	0.1	0.1
2	12/2/2020 12:53	0.1	0.1	0.1	0.1
3	12/2/2020 12:54	0.1	0.1	0.1	0.1
4	12/2/2020 12:55	0.1	0.1	0.1	0.1
5	12/2/2020 12:56	0.1	0.1	0.1	0.1
6	12/2/2020 12:57	0.1	0.1	0.1	0.1
7	12/2/2020 12:58	0.1	0.1	0.1	0.1
8	12/2/2020 12:59	0.1	0.1	0.1	0.1
9	12/2/2020 13:00	0.1	0.1	0.1	0.1
10	12/2/2020 13:01	0.1	0.1	0.1	0.1
11	12/2/2020 13:02	0.1	0.1	0.1	0.1
12	12/2/2020 13:03	0.1	0.1	0.1	0.1
13	12/2/2020 13:04	0.1	0.1	0.1	0.1
14	12/2/2020 13:05	0.1	0.1	0.1	0.1
15	12/2/2020 13:06	0.1	0.1	0.1	0.1

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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16	12/2/2020 13:07	0.1	0.1	0.1	0.1
17	12/2/2020 13:08	0.1	0.1	0.1	0.1
18	12/2/2020 13:09	0.1	0.1	0.1	0.1
19	12/2/2020 13:10	0.1	0.1	0.5	0.5
20	12/2/2020 13:11	0.1	0.2	1.2	0.1
21	12/2/2020 13:12	0.1	0.1	0.1	0.1
22	12/2/2020 13:13	0.1	0.1	0.1	0.1
23	12/2/2020 13:14	0.1	0.1	0.1	0.1
24	12/2/2020 13:15	0.1	0.1	0.1	0.1
25	12/2/2020 13:16	0.1	0.1	0.1	0.1
26	12/2/2020 13:17	0.1	0.1	0.1	0.1
27	12/2/2020 13:18	0.1	0.1	0.1	0.1
28	12/2/2020 13:19	0.1	0.1	0.1	0.1
29	12/2/2020 13:20	0.1	0.1	0.1	0.1
30	12/2/2020 13:21	0.1	0.1	0.1	0.1
31	12/2/2020 13:22	0.1	0.1	0.1	0.1
32	12/2/2020 13:23	0.1	0.1	0.1	0.1
33	12/2/2020 13:24	0.1	0.1	0.1	0.1
34	12/2/2020 13:25	0.1	0.1	0.1	0.1
35	12/2/2020 13:26	0.1	0.1	0.1	0.1
36	12/2/2020 13:27	0.1	0.1	0.1	0.1
37	12/2/2020 13:28	0.1	0.1	0.1	0.1
38	12/2/2020 13:29	0.1	0.1	0.1	0.1
39	12/2/2020 13:30	0.1	0.1	0.1	0.1
40	12/2/2020 13:31	0.1	0.1	0.1	0.1
41	12/2/2020 13:32	0.1	0.1	0.1	0.1
42	12/2/2020 13:33	0.1	0.1	0.1	0.1
43	12/2/2020 13:34	0.1	0.1	0.1	0.1
44	12/2/2020 13:35	0.1	0.1	0.1	0.1
45	12/2/2020 13:36	0.1	0.1	0.1	0.1
46	12/2/2020 13:37	0.1	0.1	0.2	0.1
47	12/2/2020 13:38	0.1	0.1	0.1	0.1
48	12/2/2020 13:39	0.1	0.1	0.1	0.1
49	12/2/2020 13:40	0.1	0.1	0.1	0.1
50	12/2/2020 13:41	0.1	0.1	0.1	0.1
51	12/2/2020 13:42	0.1	0.1	0.1	0.1
52	12/2/2020 13:43	0.1	0.1	0.1	0.1
53	12/2/2020 13:44	0.1	0.1	0.1	0.1
54	12/2/2020 13:45	0.1	0.1	0.1	0.1
55	12/2/2020 13:46	0.1	0.1	0.1	0.1
56	12/2/2020 13:47	0.1	0.1	0.1	0.1
57	12/2/2020 13:48	0.1	0.1	0.1	0.1
58	12/2/2020 13:49	0.1	0.1	0.1	0.1
59	12/2/2020 13:50	0.1	0.1	0.1	0.1
60	12/2/2020 13:51	0.1	0.1	0.1	0.1
61	12/2/2020 13:52	0.1	0.1	0.1	0.1
62	12/2/2020 13:53	0.1	0.1	0.1	0.1
63	12/2/2020 13:54	0.1	0.1	0.1	0.1
64	12/2/2020 13:55	0.1	0.1	0.1	0.1
65	12/2/2020 13:56	0.1	0.1	0.1	0.1
66	12/2/2020 13:57	0.1	0.1	0.1	0.1
67	12/2/2020 13:58	0.1	0.1	0.1	0.1
68	12/2/2020 13:59	0.1	0.1	0.1	0.1
69	12/2/2020 14:00	0.1	0.1	0.1	0.1

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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70	12/2/2020 14:01	0.1	0.1	0.1	0.1
71	12/2/2020 14:02	0.1	0.1	0.1	0.1
72	12/2/2020 14:03	0.1	0.1	0.1	0.1
73	12/2/2020 14:04	0.1	0.1	0.1	0.1
74	12/2/2020 14:05	0.1	0.1	0.1	0.1
75	12/2/2020 14:06	0.1	0.1	0.1	0.1
76	12/2/2020 14:07	0.1	0.1	0.1	0.1
77	12/2/2020 14:08	0.1	0.1	0.1	0.1
78	12/2/2020 14:09	0.1	0.1	0.1	0.1
79	12/2/2020 14:10	0.1	0.1	0.1	0.1
80	12/2/2020 14:11	0.1	0.1	0.1	0.1
81	12/2/2020 14:12	0.1	0.1	0.1	0.1
82	12/2/2020 14:13	0.1	0.1	0.1	0.1
83	12/2/2020 14:14	0.1	0.1	0.1	0.1
84	12/2/2020 14:15	0.1	0.1	0.1	0.1
85	12/2/2020 14:16	0.1	0.1	0.1	0.1
86	12/2/2020 14:17	0.1	0.1	0.1	0.1
87	12/2/2020 14:18	0.1	0.1	0.1	0.1
88	12/2/2020 14:19	0.1	0.1	0.1	0.1
89	12/2/2020 14:20	0.1	0.1	0.1	0.1
90	12/2/2020 14:21	0.1	0.1	0.1	0.1
91	12/2/2020 14:22	0.1	0.1	0.1	0.1
92	12/2/2020 14:23	0.1	0.1	0.1	0.1
93	12/2/2020 14:24	0.1	0.1	0.1	0.1
94	12/2/2020 14:25	0.1	0.1	0.1	0.1
95	12/2/2020 14:26	0.1	0.1	0.1	0.1
96	12/2/2020 14:27	0.1	0.1	0.1	0.1
97	12/2/2020 14:28	0.1	0.1	0.1	0.1
98	12/2/2020 14:29	0.1	0.1	0.1	0.1
99	12/2/2020 14:30	0.1	0.1	0.1	0.1
100	12/2/2020 14:31	0.1	0.1	0.1	0.1
101	12/2/2020 14:32	0.1	0.1	0.1	0.1
102	12/2/2020 14:33	0.1	0.1	0.1	0.1
103	12/2/2020 14:34	0.1	0.1	0.1	0.1
104	12/2/2020 14:35	0.1	0.1	0.1	0.1
105	12/2/2020 14:36	0.1	0.1	0.1	0.1
106	12/2/2020 14:37	0.1	0.1	0.1	0.1
107	12/2/2020 14:38	0.1	0.1	0.1	0.1
108	12/2/2020 14:39	0.1	0.1	0.1	0.1
109	12/2/2020 14:40	0.1	0.1	0.1	0.1
110	12/2/2020 14:41	0.1	0.1	0.1	0.1
111	12/2/2020 14:42	0.1	0.1	0.1	0.1
112	12/2/2020 14:43	0.1	0.1	0.1	0.1
113	12/2/2020 14:44	0.1	0.1	0.1	0.1
114	12/2/2020 14:45	0.1	0.1	0.1	0.1
115	12/2/2020 14:46	0.1	0.1	0.1	0.1
116	12/2/2020 14:47	0.1	0.1	0.1	0.1
117	12/2/2020 14:48	0.1	0.1	0.1	0.1
118	12/2/2020 14:49	0.1	0.1	0.1	0.1
119	12/2/2020 14:50	0.1	0.1	0.1	0.1
120	12/2/2020 14:51	0.1	0.1	0.1	0.1
121	12/2/2020 14:52	0.1	0.1	0.1	0.1
122	12/2/2020 14:53	0.1	0.1	0.1	0.1
123	12/2/2020 14:54	0.1	0.1	0.1	0.1

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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124	12/2/2020 14:55	0.1	0.1	0.1	0.1
125	12/2/2020 14:56	0.1	0.1	0.1	0.1
126	12/2/2020 14:57	0.1	0.1	0.1	0.1
127	12/2/2020 14:58	0.1	0.1	0.1	0.1
128	12/2/2020 14:59	0.1	0.1	0.1	0.1
129	12/2/2020 15:00	0.1	0.1	0.1	0.1
130	12/2/2020 15:01	0.1	0.1	0.1	0.1
131	12/2/2020 15:02	0.1	0.1	0.1	0.1
132	12/2/2020 15:03	0.1	0.1	0.1	0.1
133	12/2/2020 15:04	0.1	0.1	0.1	0.1
134	12/2/2020 15:05	0.1	0.1	0.1	0.1
135	12/2/2020 15:06	0.1	0.1	0.1	0.1
136	12/2/2020 15:07	0.1	0.1	0.1	0.1
137	12/2/2020 15:08	0.1	0.1	0.1	0.1
138	12/2/2020 15:09	0.1	0.1	0.1	0.1
139	12/2/2020 15:10	0.1	0.1	0.1	0.1
140	12/2/2020 15:11	0.1	0.1	0.1	0.1
141	12/2/2020 15:12	0.1	0.1	0.1	0.1
142	12/2/2020 15:13	0.1	0.1	0.1	0.1
143	12/2/2020 15:14	0.1	0.1	0.1	0.1
144	12/2/2020 15:15	0.1	0.1	0.1	0.1
145	12/2/2020 15:16	0.1	0.1	0.1	0.1
146	12/2/2020 15:17	0.1	0.1	0.1	0.1
147	12/2/2020 15:18	0.1	0.1	0.1	0.1
148	12/2/2020 15:19	0.1	0.1	0.1	0.1
149	12/2/2020 15:20	0.1	0.1	0.1	0.1
150	12/2/2020 15:21	0.1	0.1	0.1	0.1
151	12/2/2020 15:22	0.1	0.1	0.1	0.1
152	12/2/2020 15:23	0.1	0.1	0.1	0.1
153	12/2/2020 15:24	0.1	0.1	0.1	0.1
154	12/2/2020 15:25	0.1	0.1	0.1	0.1
155	12/2/2020 15:26	0.1	0.1	0.1	0.1
156	12/2/2020 15:27	0.1	0.1	0.1	0.1
157	12/2/2020 15:28	0.1	0.1	0.1	0.1
158	12/2/2020 15:29	0.1	0.1	0.1	0.1
159	12/2/2020 15:30	0.1	0.1	0.1	0.1
160	12/2/2020 15:31	0.1	0.1	0.1	0.1
161	12/2/2020 15:32	0.1	0.1	0.1	0.1
162	12/2/2020 15:33	0.1	0.1	0.1	0.1
163	12/2/2020 15:34	0.1	0.1	0.1	0.1
164	12/2/2020 15:35	0.1	0.1	0.1	0.1
165	12/2/2020 15:36	0.1	0.1	0.1	0.1
166	12/2/2020 15:37	0.1	0.1	0.1	0.1
167	12/2/2020 15:38	0.1	0.1	0.1	0.1
168	12/2/2020 15:39	0.1	0.1	0.1	0.1
169	12/2/2020 15:40	0.1	0.1	0.1	0.1
170	12/2/2020 15:41	0.1	0.1	0.1	0.1
171	12/2/2020 15:42	0.1	0.1	0.1	0.1
172	12/2/2020 15:43	0.1	0.1	0.1	0.1
173	12/2/2020 15:44	0.1	0.1	0.1	0.1
174	12/2/2020 15:45	0.1	0.1	0.1	0.1
175	12/2/2020 15:46	0.1	0.1	0.1	0.1
176	12/2/2020 15:47	0.1	0.1	0.1	0.1
177	12/2/2020 15:48	0.1	0.1	0.1	0.1

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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	178	12/2/2020 15:49	0.1	0.1	0.1	0.1
	179	12/2/2020 15:50	0.1	0.1	0.1	0.1
	180	12/2/2020 15:51	0.1	0.1	0.1	0.1
	181	12/2/2020 15:52	0.1	0.1	0.1	0.1
	182	12/2/2020 15:53	0.1	0.1	0.1	0.1
	183	12/2/2020 15:54	0.1	0.1	0.1	0.1
	184	12/2/2020 15:55	0.1	0.1	0.1	0.1
	185	12/2/2020 15:56	0.1	0.1	0.1	0.1
	186	12/2/2020 15:57	0.1	0.1	0.1	0.1
	187	12/2/2020 15:58	0.1	0.1	0.1	0.1
	188	12/2/2020 15:59	0.1	0.1	0.1	0.1
	189	12/2/2020 16:00	0.1	0.1	0.1	0.1
	190	12/2/2020 16:01	0.1	0.1	0.1	0.1
	191	12/2/2020 16:02	0.1	0.1	0.1	0.1
	192	12/2/2020 16:03	0.1	0.1	0.1	0.1
Peak			0.1	0.2	1.2	0.5
Min			0	0.1	0.1	0.1
Average			0.1	0.1	0.1	0.1

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TWA/STEL

Index		Date/Time	PID(ppm) (TWA)	PID(ppm) (STEL)
	1	12/2/2020 12:52	0	---
	2	12/2/2020 12:53	0	---
	3	12/2/2020 12:54	0	---
	4	12/2/2020 12:55	0	---
	5	12/2/2020 12:56	0	---
	6	12/2/2020 12:57	0	---
	7	12/2/2020 12:58	0	---
	8	12/2/2020 12:59	0	---
	9	12/2/2020 13:00	0	---
	10	12/2/2020 13:01	0	---
	11	12/2/2020 13:02	0	---
	12	12/2/2020 13:03	0	---
	13	12/2/2020 13:04	0	---
	14	12/2/2020 13:05	0	---
	15	12/2/2020 13:06	0	0.1
	16	12/2/2020 13:07	0	0.1
	17	12/2/2020 13:08	0	0.1
	18	12/2/2020 13:09	0	0.1
	19	12/2/2020 13:10	0	0.1
	20	12/2/2020 13:11	0	0.1
	21	12/2/2020 13:12	0	0.1
	22	12/2/2020 13:13	0	0.1
	23	12/2/2020 13:14	0	0.1
	24	12/2/2020 13:15	0	0.1
	25	12/2/2020 13:16	0	0.1
	26	12/2/2020 13:17	0	0.1
	27	12/2/2020 13:18	0	0.1
	28	12/2/2020 13:19	0	0.1
	29	12/2/2020 13:20	0	0.1
	30	12/2/2020 13:21	0	0.1
	31	12/2/2020 13:22	0	0.1

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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32	12/2/2020 13:23	0	0.1
33	12/2/2020 13:24	0	0.1
34	12/2/2020 13:25	0	0.1
35	12/2/2020 13:26	0	0.1
36	12/2/2020 13:27	0	0.1
37	12/2/2020 13:28	0	0.1
38	12/2/2020 13:29	0	0.1
39	12/2/2020 13:30	0	0.1
40	12/2/2020 13:31	0	0.1
41	12/2/2020 13:32	0	0.1
42	12/2/2020 13:33	0	0.1
43	12/2/2020 13:34	0	0.1
44	12/2/2020 13:35	0	0.1
45	12/2/2020 13:36	0	0.1
46	12/2/2020 13:37	0	0.1
47	12/2/2020 13:38	0	0.1
48	12/2/2020 13:39	0	0.1
49	12/2/2020 13:40	0	0.1
50	12/2/2020 13:41	0	0.1
51	12/2/2020 13:42	0	0.1
52	12/2/2020 13:43	0	0.1
53	12/2/2020 13:44	0	0.1
54	12/2/2020 13:45	0	0.1
55	12/2/2020 13:46	0	0.1
56	12/2/2020 13:47	0	0.1
57	12/2/2020 13:48	0	0.1
58	12/2/2020 13:49	0	0.1
59	12/2/2020 13:50	0	0.1
60	12/2/2020 13:51	0	0.1
61	12/2/2020 13:52	0	0.1
62	12/2/2020 13:53	0	0.1
63	12/2/2020 13:54	0	0.1
64	12/2/2020 13:55	0	0.1
65	12/2/2020 13:56	0	0.1
66	12/2/2020 13:57	0	0.1
67	12/2/2020 13:58	0	0.1
68	12/2/2020 13:59	0	0.1
69	12/2/2020 14:00	0	0.1
70	12/2/2020 14:01	0	0.1
71	12/2/2020 14:02	0	0.1
72	12/2/2020 14:03	0	0.1
73	12/2/2020 14:04	0	0.1
74	12/2/2020 14:05	0	0.1
75	12/2/2020 14:06	0	0.1
76	12/2/2020 14:07	0	0.1
77	12/2/2020 14:08	0	0.1
78	12/2/2020 14:09	0	0.1
79	12/2/2020 14:10	0	0.1
80	12/2/2020 14:11	0	0.1
81	12/2/2020 14:12	0	0.1
82	12/2/2020 14:13	0	0.1
83	12/2/2020 14:14	0	0.1
84	12/2/2020 14:15	0	0.1
85	12/2/2020 14:16	0	0.1

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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86	12/2/2020 14:17	0	0.1
87	12/2/2020 14:18	0	0.1
88	12/2/2020 14:19	0	0.1
89	12/2/2020 14:20	0	0.1
90	12/2/2020 14:21	0	0.1
91	12/2/2020 14:22	0	0.1
92	12/2/2020 14:23	0	0.1
93	12/2/2020 14:24	0	0.1
94	12/2/2020 14:25	0	0.1
95	12/2/2020 14:26	0	0.1
96	12/2/2020 14:27	0	0.1
97	12/2/2020 14:28	0	0.1
98	12/2/2020 14:29	0	0.1
99	12/2/2020 14:30	0	0.1
100	12/2/2020 14:31	0	0.1
101	12/2/2020 14:32	0	0.1
102	12/2/2020 14:33	0	0.1
103	12/2/2020 14:34	0	0.1
104	12/2/2020 14:35	0	0.1
105	12/2/2020 14:36	0	0.1
106	12/2/2020 14:37	0	0.1
107	12/2/2020 14:38	0	0.1
108	12/2/2020 14:39	0	0.1
109	12/2/2020 14:40	0	0.1
110	12/2/2020 14:41	0	0.1
111	12/2/2020 14:42	0	0.1
112	12/2/2020 14:43	0	0.1
113	12/2/2020 14:44	0	0.1
114	12/2/2020 14:45	0	0.1
115	12/2/2020 14:46	0	0.1
116	12/2/2020 14:47	0	0.1
117	12/2/2020 14:48	0	0.1
118	12/2/2020 14:49	0	0.1
119	12/2/2020 14:50	0	0.1
120	12/2/2020 14:51	0	0.1
121	12/2/2020 14:52	0	0.1
122	12/2/2020 14:53	0	0.1
123	12/2/2020 14:54	0	0.1
124	12/2/2020 14:55	0	0.1
125	12/2/2020 14:56	0	0.1
126	12/2/2020 14:57	0	0.1
127	12/2/2020 14:58	0	0.1
128	12/2/2020 14:59	0	0.1
129	12/2/2020 15:00	0	0.1
130	12/2/2020 15:01	0	0.1
131	12/2/2020 15:02	0	0.1
132	12/2/2020 15:03	0	0.1
133	12/2/2020 15:04	0	0.1
134	12/2/2020 15:05	0	0.1
135	12/2/2020 15:06	0	0.1
136	12/2/2020 15:07	0	0.1
137	12/2/2020 15:08	0	0.1
138	12/2/2020 15:09	0	0.1
139	12/2/2020 15:10	0	0.1

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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140	12/2/2020 15:11	0	0.1
141	12/2/2020 15:12	0	0.1
142	12/2/2020 15:13	0	0.1
143	12/2/2020 15:14	0	0.1
144	12/2/2020 15:15	0	0.1
145	12/2/2020 15:16	0	0.1
146	12/2/2020 15:17	0	0.1
147	12/2/2020 15:18	0	0.1
148	12/2/2020 15:19	0	0.1
149	12/2/2020 15:20	0	0.1
150	12/2/2020 15:21	0	0.1
151	12/2/2020 15:22	0	0.1
152	12/2/2020 15:23	0	0.1
153	12/2/2020 15:24	0	0.1
154	12/2/2020 15:25	0	0.1
155	12/2/2020 15:26	0	0.1
156	12/2/2020 15:27	0	0.1
157	12/2/2020 15:28	0	0.1
158	12/2/2020 15:29	0	0.1
159	12/2/2020 15:30	0	0.1
160	12/2/2020 15:31	0	0.1
161	12/2/2020 15:32	0	0.1
162	12/2/2020 15:33	0	0.1
163	12/2/2020 15:34	0	0.1
164	12/2/2020 15:35	0	0.1
165	12/2/2020 15:36	0	0.1
166	12/2/2020 15:37	0	0.1
167	12/2/2020 15:38	0	0.1
168	12/2/2020 15:39	0	0.1
169	12/2/2020 15:40	0	0.1
170	12/2/2020 15:41	0	0.1
171	12/2/2020 15:42	0	0.1
172	12/2/2020 15:43	0	0.1
173	12/2/2020 15:44	0	0.1
174	12/2/2020 15:45	0	0.1
175	12/2/2020 15:46	0	0.1
176	12/2/2020 15:47	0	0.1
177	12/2/2020 15:48	0	0.1
178	12/2/2020 15:49	0	0.1
179	12/2/2020 15:50	0	0.1
180	12/2/2020 15:51	0	0.1
181	12/2/2020 15:52	0	0.1
182	12/2/2020 15:53	0	0.1
183	12/2/2020 15:54	0	0.1
184	12/2/2020 15:55	0	0.1
185	12/2/2020 15:56	0	0.1
186	12/2/2020 15:57	0	0.1
187	12/2/2020 15:58	0	0.1
188	12/2/2020 15:59	0	0.1
189	12/2/2020 16:00	0	0.1
190	12/2/2020 16:01	0	0.1
191	12/2/2020 16:02	0	0.1
192	12/2/2020 16:03	0	0.1

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Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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20/12/03 08:44
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Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-900989
Unit Firmware Ver	V2.16
Running Mode	Hygiene Mode
Datalog Mode	Manual
Diagnostic Mode	No
Stop Reason	Stop by User
Site ID	QES00018
User ID	PES00000
Begin	12/3/2020 8:44
End	12/3/2020 12:37
Sample Period(s)	60
Number of Records	233
Sensor	PID(ppm)
Sensor SN	S023030194J8
Measure Type	Min; Avg; Max; Real
Span	100
Span 2	1000
Low Alarm	50
High Alarm	100
Over Alarm	15000
STEL Alarm	25
TWA Alarm	10
Measurement Gas	Isobutylene
Calibration Time	12/3/2020 7:37
Peak	0.6
Min	0.2
Average	0.2

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Datalog

Index	Date/Time	PID(ppm) (Min)	PID(ppm) (Avg)	PID(ppm) (Max)	PID(ppm) (Real)
1	12/3/2020 8:45	0.2	0.2	0.2	0.2
2	12/3/2020 8:46	0.2	0.2	0.2	0.2
3	12/3/2020 8:47	0.2	0.2	0.2	0.2
4	12/3/2020 8:48	0.2	0.2	0.2	0.2
5	12/3/2020 8:49	0.2	0.2	0.2	0.2
6	12/3/2020 8:50	0.2	0.2	0.2	0.2
7	12/3/2020 8:51	0.2	0.2	0.2	0.2
8	12/3/2020 8:52	0.2	0.2	0.2	0.2
9	12/3/2020 8:53	0.2	0.2	0.2	0.2
10	12/3/2020 8:54	0.2	0.2	0.2	0.2
11	12/3/2020 8:55	0.2	0.2	0.2	0.2
12	12/3/2020 8:56	0.2	0.2	0.2	0.2
13	12/3/2020 8:57	0.2	0.3	0.9	0.4

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

14	12/3/2020 8:58	0.2	0.2	0.4	0.2
15	12/3/2020 8:59	0.2	0.2	0.2	0.2
16	12/3/2020 9:00	0.2	0.2	0.2	0.2
17	12/3/2020 9:01	0.2	0.2	0.2	0.2
18	12/3/2020 9:02	0.2	0.2	0.3	0.2
19	12/3/2020 9:03	0.2	0.2	0.3	0.2
20	12/3/2020 9:04	0.2	0.2	0.2	0.2
21	12/3/2020 9:05	0.2	0.2	0.3	0.2
22	12/3/2020 9:06	0.2	0.2	0.3	0.2
23	12/3/2020 9:07	0.2	0.2	0.2	0.2
24	12/3/2020 9:08	0.2	0.2	0.2	0.2
25	12/3/2020 9:09	0.2	0.2	0.2	0.2
26	12/3/2020 9:10	0.2	0.2	0.2	0.2
27	12/3/2020 9:11	0.2	0.2	0.2	0.2
28	12/3/2020 9:12	0.2	0.2	0.2	0.2
29	12/3/2020 9:13	0.2	0.2	0.2	0.2
30	12/3/2020 9:14	0.2	0.2	0.2	0.2
31	12/3/2020 9:15	0.2	0.2	0.2	0.2
32	12/3/2020 9:16	0.2	0.2	0.2	0.2
33	12/3/2020 9:17	0.2	0.4	1	0.6
34	12/3/2020 9:18	0.3	0.4	0.5	0.4
35	12/3/2020 9:19	0.3	0.4	0.4	0.3
36	12/3/2020 9:20	0.3	0.3	0.3	0.3
37	12/3/2020 9:21	0.3	0.3	0.3	0.3
38	12/3/2020 9:22	0.2	0.3	0.3	0.2
39	12/3/2020 9:23	0.2	0.2	0.2	0.2
40	12/3/2020 9:24	0.2	0.2	0.2	0.2
41	12/3/2020 9:25	0.2	0.2	0.2	0.2
42	12/3/2020 9:26	0.2	0.2	0.2	0.2
43	12/3/2020 9:27	0.2	0.2	0.2	0.2
44	12/3/2020 9:28	0.2	0.2	0.2	0.2
45	12/3/2020 9:29	0.2	0.3	0.6	0.3
46	12/3/2020 9:30	0.3	0.3	0.3	0.3
47	12/3/2020 9:31	0.3	0.3	0.3	0.3
48	12/3/2020 9:32	0.3	0.3	0.3	0.3
49	12/3/2020 9:33	0.2	0.2	0.3	0.2
50	12/3/2020 9:34	0.2	0.2	0.2	0.2
51	12/3/2020 9:35	0.2	0.2	0.2	0.2
52	12/3/2020 9:36	0.2	0.2	0.2	0.2
53	12/3/2020 9:37	0.2	0.2	0.2	0.2
54	12/3/2020 9:38	0.2	0.2	0.2	0.2
55	12/3/2020 9:39	0.2	0.2	0.2	0.2
56	12/3/2020 9:40	0.2	0.2	0.2	0.2
57	12/3/2020 9:41	0.2	0.2	0.2	0.2
58	12/3/2020 9:42	0.2	0.2	0.2	0.2
59	12/3/2020 9:43	0.2	0.2	0.2	0.2
60	12/3/2020 9:44	0.2	0.2	0.2	0.2
61	12/3/2020 9:45	0.2	0.2	0.2	0.2
62	12/3/2020 9:46	0.2	0.2	0.2	0.2
63	12/3/2020 9:47	0.2	0.2	0.2	0.2
64	12/3/2020 9:48	0.2	0.2	0.2	0.2
65	12/3/2020 9:49	0.2	0.2	0.2	0.2
66	12/3/2020 9:50	0.2	0.2	0.2	0.2
67	12/3/2020 9:51	0.2	0.2	0.2	0.2

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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68	12/3/2020 9:52	0.2	0.2	0.2	0.2
69	12/3/2020 9:53	0.2	0.2	0.2	0.2
70	12/3/2020 9:54	0.2	0.2	0.2	0.2
71	12/3/2020 9:55	0.2	0.2	0.2	0.2
72	12/3/2020 9:56	0.2	0.2	0.2	0.2
73	12/3/2020 9:57	0.2	0.2	0.2	0.2
74	12/3/2020 9:58	0.2	0.2	0.2	0.2
75	12/3/2020 9:59	0.2	0.2	0.2	0.2
76	12/3/2020 10:00	0.2	0.2	0.2	0.2
77	12/3/2020 10:01	0.2	0.2	0.2	0.2
78	12/3/2020 10:02	0.2	0.2	0.2	0.2
79	12/3/2020 10:03	0.2	0.2	0.2	0.2
80	12/3/2020 10:04	0.2	0.2	0.2	0.2
81	12/3/2020 10:05	0.2	0.2	0.2	0.2
82	12/3/2020 10:06	0.2	0.2	0.2	0.2
83	12/3/2020 10:07	0.2	0.2	0.2	0.2
84	12/3/2020 10:08	0.2	0.2	0.2	0.2
85	12/3/2020 10:09	0.2	0.2	0.2	0.2
86	12/3/2020 10:10	0.2	0.2	0.2	0.2
87	12/3/2020 10:11	0.2	0.2	0.2	0.2
88	12/3/2020 10:12	0.2	0.2	0.2	0.2
89	12/3/2020 10:13	0.2	0.2	0.2	0.2
90	12/3/2020 10:14	0.2	0.2	0.2	0.2
91	12/3/2020 10:15	0.2	0.2	0.2	0.2
92	12/3/2020 10:16	0.2	0.2	0.2	0.2
93	12/3/2020 10:17	0.2	0.2	0.2	0.2
94	12/3/2020 10:18	0.2	0.2	0.2	0.2
95	12/3/2020 10:19	0.2	0.2	0.2	0.2
96	12/3/2020 10:20	0.2	0.2	0.2	0.2
97	12/3/2020 10:21	0.2	0.2	0.2	0.2
98	12/3/2020 10:22	0.2	0.2	0.5	0.4
99	12/3/2020 10:23	0.2	0.2	0.4	0.2
100	12/3/2020 10:24	0.2	0.2	0.2	0.2
101	12/3/2020 10:25	0.2	0.2	0.2	0.2
102	12/3/2020 10:26	0.2	0.2	0.3	0.2
103	12/3/2020 10:27	0.2	0.2	0.2	0.2
104	12/3/2020 10:28	0.2	0.2	0.2	0.2
105	12/3/2020 10:29	0.2	0.2	0.3	0.2
106	12/3/2020 10:30	0.2	0.2	0.2	0.2
107	12/3/2020 10:31	0.2	0.2	0.2	0.2
108	12/3/2020 10:32	0.2	0.2	0.2	0.2
109	12/3/2020 10:33	0.2	0.2	0.2	0.2
110	12/3/2020 10:34	0.2	0.2	0.2	0.2
111	12/3/2020 10:35	0.2	0.2	0.2	0.2
112	12/3/2020 10:36	0.2	0.2	0.2	0.2
113	12/3/2020 10:37	0.2	0.2	0.2	0.2
114	12/3/2020 10:38	0.2	0.2	0.2	0.2
115	12/3/2020 10:39	0.2	0.2	0.2	0.2
116	12/3/2020 10:40	0.2	0.2	0.4	0.2
117	12/3/2020 10:41	0.2	0.2	0.2	0.2
118	12/3/2020 10:42	0.2	0.2	0.2	0.2
119	12/3/2020 10:43	0.2	0.2	0.2	0.2
120	12/3/2020 10:44	0.2	0.2	0.2	0.2
121	12/3/2020 10:45	0.2	0.2	0.2	0.2

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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122	12/3/2020 10:46	0.2	0.2	0.2	0.2
123	12/3/2020 10:47	0.2	0.2	0.2	0.2
124	12/3/2020 10:48	0.2	0.2	0.2	0.2
125	12/3/2020 10:49	0.2	0.2	0.2	0.2
126	12/3/2020 10:50	0.2	0.2	0.2	0.2
127	12/3/2020 10:51	0.2	0.2	0.2	0.2
128	12/3/2020 10:52	0.2	0.2	0.2	0.2
129	12/3/2020 10:53	0.2	0.2	0.2	0.2
130	12/3/2020 10:54	0.2	0.2	0.2	0.2
131	12/3/2020 10:55	0.2	0.2	0.2	0.2
132	12/3/2020 10:56	0.2	0.2	0.2	0.2
133	12/3/2020 10:57	0.2	0.2	0.2	0.2
134	12/3/2020 10:58	0.2	0.2	0.2	0.2
135	12/3/2020 10:59	0.2	0.2	0.2	0.2
136	12/3/2020 11:00	0.2	0.2	0.2	0.2
137	12/3/2020 11:01	0.2	0.2	0.2	0.2
138	12/3/2020 11:02	0.2	0.2	0.4	0.2
139	12/3/2020 11:03	0.2	0.2	0.3	0.2
140	12/3/2020 11:04	0.2	0.2	0.2	0.2
141	12/3/2020 11:05	0.2	0.2	0.2	0.2
142	12/3/2020 11:06	0.2	0.2	0.2	0.2
143	12/3/2020 11:07	0.2	0.2	0.2	0.2
144	12/3/2020 11:08	0.2	0.2	0.2	0.2
145	12/3/2020 11:09	0.2	0.2	0.3	0.2
146	12/3/2020 11:10	0.2	0.2	0.2	0.2
147	12/3/2020 11:11	0.2	0.2	0.3	0.2
148	12/3/2020 11:12	0.2	0.2	0.2	0.2
149	12/3/2020 11:13	0.2	0.2	0.2	0.2
150	12/3/2020 11:14	0.2	0.2	0.2	0.2
151	12/3/2020 11:15	0.2	0.2	0.3	0.2
152	12/3/2020 11:16	0.2	0.2	0.2	0.2
153	12/3/2020 11:17	0.2	0.2	0.2	0.2
154	12/3/2020 11:18	0.2	0.2	0.2	0.2
155	12/3/2020 11:19	0.2	0.2	0.2	0.2
156	12/3/2020 11:20	0.2	0.2	0.2	0.2
157	12/3/2020 11:21	0.2	0.2	0.2	0.2
158	12/3/2020 11:22	0.2	0.2	0.2	0.2
159	12/3/2020 11:23	0.2	0.2	0.2	0.2
160	12/3/2020 11:24	0.2	0.2	0.2	0.2
161	12/3/2020 11:25	0.2	0.2	0.2	0.2
162	12/3/2020 11:26	0.2	0.2	0.2	0.2
163	12/3/2020 11:27	0.2	0.2	0.2	0.2
164	12/3/2020 11:28	0.2	0.2	0.2	0.2
165	12/3/2020 11:29	0.2	0.2	0.2	0.2
166	12/3/2020 11:30	0.2	0.2	0.2	0.2
167	12/3/2020 11:31	0.2	0.2	0.2	0.2
168	12/3/2020 11:32	0.2	0.2	0.2	0.2
169	12/3/2020 11:33	0.2	0.2	0.2	0.2
170	12/3/2020 11:34	0.2	0.2	0.2	0.2
171	12/3/2020 11:35	0.2	0.2	0.2	0.2
172	12/3/2020 11:36	0.2	0.2	0.2	0.2
173	12/3/2020 11:37	0.2	0.2	0.2	0.2
174	12/3/2020 11:38	0.2	0.2	0.2	0.2
175	12/3/2020 11:39	0.2	0.2	0.2	0.2

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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176	12/3/2020 11:40	0.2	0.2	0.2	0.2
177	12/3/2020 11:41	0.2	0.2	0.2	0.2
178	12/3/2020 11:42	0.2	0.2	0.2	0.2
179	12/3/2020 11:43	0.2	0.2	0.2	0.2
180	12/3/2020 11:44	0.2	0.2	0.2	0.2
181	12/3/2020 11:45	0.2	0.2	0.2	0.2
182	12/3/2020 11:46	0.2	0.2	0.2	0.2
183	12/3/2020 11:47	0.2	0.2	0.2	0.2
184	12/3/2020 11:48	0.2	0.2	0.2	0.2
185	12/3/2020 11:49	0.2	0.2	0.2	0.2
186	12/3/2020 11:50	0.2	0.2	0.2	0.2
187	12/3/2020 11:51	0.2	0.2	0.2	0.2
188	12/3/2020 11:52	0.2	0.2	0.2	0.2
189	12/3/2020 11:53	0.2	0.2	0.2	0.2
190	12/3/2020 11:54	0.2	0.2	0.2	0.2
191	12/3/2020 11:55	0.2	0.2	0.2	0.2
192	12/3/2020 11:56	0.2	0.2	0.2	0.2
193	12/3/2020 11:57	0.2	0.2	0.2	0.2
194	12/3/2020 11:58	0.2	0.2	0.2	0.2
195	12/3/2020 11:59	0.2	0.2	0.2	0.2
196	12/3/2020 12:00	0.2	0.2	0.2	0.2
197	12/3/2020 12:01	0.2	0.2	0.2	0.2
198	12/3/2020 12:02	0.2	0.2	0.2	0.2
199	12/3/2020 12:03	0.2	0.2	0.2	0.2
200	12/3/2020 12:04	0.2	0.2	0.2	0.2
201	12/3/2020 12:05	0.2	0.2	0.2	0.2
202	12/3/2020 12:06	0.2	0.2	0.2	0.2
203	12/3/2020 12:07	0.2	0.2	0.2	0.2
204	12/3/2020 12:08	0.2	0.2	0.2	0.2
205	12/3/2020 12:09	0.2	0.2	0.2	0.2
206	12/3/2020 12:10	0.2	0.2	0.2	0.2
207	12/3/2020 12:11	0.2	0.2	0.2	0.2
208	12/3/2020 12:12	0.2	0.2	0.2	0.2
209	12/3/2020 12:13	0.2	0.2	0.2	0.2
210	12/3/2020 12:14	0.2	0.2	0.2	0.2
211	12/3/2020 12:15	0.2	0.2	0.2	0.2
212	12/3/2020 12:16	0.2	0.2	0.2	0.2
213	12/3/2020 12:17	0.2	0.2	0.2	0.2
214	12/3/2020 12:18	0.2	0.2	0.2	0.2
215	12/3/2020 12:19	0.2	0.2	0.2	0.2
216	12/3/2020 12:20	0.2	0.2	0.2	0.2
217	12/3/2020 12:21	0.2	0.2	0.2	0.2
218	12/3/2020 12:22	0.2	0.2	0.2	0.2
219	12/3/2020 12:23	0.2	0.2	0.3	0.2
220	12/3/2020 12:24	0.2	0.2	0.2	0.2
221	12/3/2020 12:25	0.2	0.2	0.2	0.2
222	12/3/2020 12:26	0.2	0.2	0.2	0.2
223	12/3/2020 12:27	0.2	0.2	0.2	0.2
224	12/3/2020 12:28	0.2	0.2	0.2	0.2
225	12/3/2020 12:29	0.2	0.2	0.2	0.2
226	12/3/2020 12:30	0.2	0.2	0.2	0.2
227	12/3/2020 12:31	0.2	0.2	0.2	0.2
228	12/3/2020 12:32	0.2	0.2	0.2	0.2
229	12/3/2020 12:33	0.2	0.2	0.2	0.2

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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	230	12/3/2020 12:34	0.2	0.2	0.2	0.2
	231	12/3/2020 12:35	0.2	0.2	0.2	0.2
	232	12/3/2020 12:36	0.2	0.2	0.2	0.2
	233	12/3/2020 12:37	0.2	0.2	0.2	0.2
Peak			0.3	0.4	1	0.6
Min			0.2	0.2	0.2	0.2
Average			0.2	0.2	0.2	0.2

****

TWA/STEL

Index	Date/Time	PID(ppm) (TWA)	PID(ppm) (STEL)
1	12/3/2020 8:45	0	---
2	12/3/2020 8:46	0	---
3	12/3/2020 8:47	0	---
4	12/3/2020 8:48	0	---
5	12/3/2020 8:49	0	---
6	12/3/2020 8:50	0	---
7	12/3/2020 8:51	0	---
8	12/3/2020 8:52	0	---
9	12/3/2020 8:53	0	---
10	12/3/2020 8:54	0	---
11	12/3/2020 8:55	0	---
12	12/3/2020 8:56	0	---
13	12/3/2020 8:57	0	---
14	12/3/2020 8:58	0	---
15	12/3/2020 8:59	0	0.2
16	12/3/2020 9:00	0	0.2
17	12/3/2020 9:01	0	0.2
18	12/3/2020 9:02	0	0.2
19	12/3/2020 9:03	0	0.2
20	12/3/2020 9:04	0	0.2
21	12/3/2020 9:05	0	0.2
22	12/3/2020 9:06	0	0.2
23	12/3/2020 9:07	0	0.2
24	12/3/2020 9:08	0	0.2
25	12/3/2020 9:09	0	0.2
26	12/3/2020 9:10	0	0.2
27	12/3/2020 9:11	0	0.2
28	12/3/2020 9:12	0	0.2
29	12/3/2020 9:13	0	0.2
30	12/3/2020 9:14	0	0.2
31	12/3/2020 9:15	0	0.2
32	12/3/2020 9:16	0	0.2
33	12/3/2020 9:17	0	0.2
34	12/3/2020 9:18	0	0.3
35	12/3/2020 9:19	0	0.3
36	12/3/2020 9:20	0	0.3
37	12/3/2020 9:21	0	0.3
38	12/3/2020 9:22	0	0.3
39	12/3/2020 9:23	0	0.3
40	12/3/2020 9:24	0	0.3
41	12/3/2020 9:25	0	0.3
42	12/3/2020 9:26	0	0.3

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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43	12/3/2020 9:27	0	0.3
44	12/3/2020 9:28	0	0.3
45	12/3/2020 9:29	0	0.3
46	12/3/2020 9:30	0	0.3
47	12/3/2020 9:31	0	0.3
48	12/3/2020 9:32	0	0.3
49	12/3/2020 9:33	0	0.3
50	12/3/2020 9:34	0	0.3
51	12/3/2020 9:35	0	0.3
52	12/3/2020 9:36	0	0.2
53	12/3/2020 9:37	0	0.2
54	12/3/2020 9:38	0	0.2
55	12/3/2020 9:39	0	0.2
56	12/3/2020 9:40	0	0.2
57	12/3/2020 9:41	0	0.2
58	12/3/2020 9:42	0	0.2
59	12/3/2020 9:43	0	0.2
60	12/3/2020 9:44	0	0.2
61	12/3/2020 9:45	0	0.2
62	12/3/2020 9:46	0	0.2
63	12/3/2020 9:47	0	0.2
64	12/3/2020 9:48	0	0.2
65	12/3/2020 9:49	0	0.2
66	12/3/2020 9:50	0	0.2
67	12/3/2020 9:51	0	0.2
68	12/3/2020 9:52	0	0.2
69	12/3/2020 9:53	0	0.2
70	12/3/2020 9:54	0	0.2
71	12/3/2020 9:55	0	0.2
72	12/3/2020 9:56	0	0.2
73	12/3/2020 9:57	0	0.2
74	12/3/2020 9:58	0	0.2
75	12/3/2020 9:59	0	0.2
76	12/3/2020 10:00	0	0.2
77	12/3/2020 10:01	0	0.2
78	12/3/2020 10:02	0	0.2
79	12/3/2020 10:03	0	0.2
80	12/3/2020 10:04	0	0.2
81	12/3/2020 10:05	0	0.2
82	12/3/2020 10:06	0	0.2
83	12/3/2020 10:07	0	0.2
84	12/3/2020 10:08	0	0.2
85	12/3/2020 10:09	0	0.2
86	12/3/2020 10:10	0	0.2
87	12/3/2020 10:11	0	0.2
88	12/3/2020 10:12	0	0.2
89	12/3/2020 10:13	0	0.2
90	12/3/2020 10:14	0	0.2
91	12/3/2020 10:15	0	0.2
92	12/3/2020 10:16	0	0.2
93	12/3/2020 10:17	0	0.2
94	12/3/2020 10:18	0	0.2
95	12/3/2020 10:19	0	0.2
96	12/3/2020 10:20	0	0.2

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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97	12/3/2020 10:21	0	0.2
98	12/3/2020 10:22	0	0.2
99	12/3/2020 10:23	0	0.2
100	12/3/2020 10:24	0	0.2
101	12/3/2020 10:25	0	0.2
102	12/3/2020 10:26	0	0.2
103	12/3/2020 10:27	0	0.2
104	12/3/2020 10:28	0	0.2
105	12/3/2020 10:29	0	0.2
106	12/3/2020 10:30	0	0.2
107	12/3/2020 10:31	0	0.2
108	12/3/2020 10:32	0	0.2
109	12/3/2020 10:33	0	0.2
110	12/3/2020 10:34	0	0.2
111	12/3/2020 10:35	0	0.2
112	12/3/2020 10:36	0.1	0.2
113	12/3/2020 10:37	0.1	0.2
114	12/3/2020 10:38	0.1	0.2
115	12/3/2020 10:39	0.1	0.2
116	12/3/2020 10:40	0.1	0.2
117	12/3/2020 10:41	0.1	0.2
118	12/3/2020 10:42	0.1	0.2
119	12/3/2020 10:43	0.1	0.2
120	12/3/2020 10:44	0.1	0.2
121	12/3/2020 10:45	0.1	0.2
122	12/3/2020 10:46	0.1	0.2
123	12/3/2020 10:47	0.1	0.2
124	12/3/2020 10:48	0.1	0.2
125	12/3/2020 10:49	0.1	0.2
126	12/3/2020 10:50	0.1	0.2
127	12/3/2020 10:51	0.1	0.2
128	12/3/2020 10:52	0.1	0.2
129	12/3/2020 10:53	0.1	0.2
130	12/3/2020 10:54	0.1	0.2
131	12/3/2020 10:55	0.1	0.2
132	12/3/2020 10:56	0.1	0.2
133	12/3/2020 10:57	0.1	0.2
134	12/3/2020 10:58	0.1	0.2
135	12/3/2020 10:59	0.1	0.2
136	12/3/2020 11:00	0.1	0.2
137	12/3/2020 11:01	0.1	0.2
138	12/3/2020 11:02	0.1	0.2
139	12/3/2020 11:03	0.1	0.2
140	12/3/2020 11:04	0.1	0.2
141	12/3/2020 11:05	0.1	0.2
142	12/3/2020 11:06	0.1	0.2
143	12/3/2020 11:07	0.1	0.2
144	12/3/2020 11:08	0.1	0.2
145	12/3/2020 11:09	0.1	0.2
146	12/3/2020 11:10	0.1	0.2
147	12/3/2020 11:11	0.1	0.2
148	12/3/2020 11:12	0.1	0.2
149	12/3/2020 11:13	0.1	0.2
150	12/3/2020 11:14	0.1	0.2

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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151	12/3/2020 11:15	0.1	0.2
152	12/3/2020 11:16	0.1	0.2
153	12/3/2020 11:17	0.1	0.2
154	12/3/2020 11:18	0.1	0.2
155	12/3/2020 11:19	0.1	0.2
156	12/3/2020 11:20	0.1	0.2
157	12/3/2020 11:21	0.1	0.2
158	12/3/2020 11:22	0.1	0.2
159	12/3/2020 11:23	0.1	0.2
160	12/3/2020 11:24	0.1	0.2
161	12/3/2020 11:25	0.1	0.2
162	12/3/2020 11:26	0.1	0.2
163	12/3/2020 11:27	0.1	0.2
164	12/3/2020 11:28	0.1	0.2
165	12/3/2020 11:29	0.1	0.2
166	12/3/2020 11:30	0.1	0.2
167	12/3/2020 11:31	0.1	0.2
168	12/3/2020 11:32	0.1	0.2
169	12/3/2020 11:33	0.1	0.2
170	12/3/2020 11:34	0.1	0.2
171	12/3/2020 11:35	0.1	0.2
172	12/3/2020 11:36	0.1	0.2
173	12/3/2020 11:37	0.1	0.2
174	12/3/2020 11:38	0.1	0.2
175	12/3/2020 11:39	0.1	0.2
176	12/3/2020 11:40	0.1	0.2
177	12/3/2020 11:41	0.1	0.2
178	12/3/2020 11:42	0.1	0.2
179	12/3/2020 11:43	0.1	0.2
180	12/3/2020 11:44	0.1	0.2
181	12/3/2020 11:45	0.1	0.2
182	12/3/2020 11:46	0.1	0.2
183	12/3/2020 11:47	0.1	0.2
184	12/3/2020 11:48	0.1	0.2
185	12/3/2020 11:49	0.1	0.2
186	12/3/2020 11:50	0.1	0.2
187	12/3/2020 11:51	0.1	0.2
188	12/3/2020 11:52	0.1	0.2
189	12/3/2020 11:53	0.1	0.2
190	12/3/2020 11:54	0.1	0.2
191	12/3/2020 11:55	0.1	0.2
192	12/3/2020 11:56	0.1	0.2
193	12/3/2020 11:57	0.1	0.2
194	12/3/2020 11:58	0.1	0.2
195	12/3/2020 11:59	0.1	0.2
196	12/3/2020 12:00	0.1	0.2
197	12/3/2020 12:01	0.1	0.2
198	12/3/2020 12:02	0.1	0.2
199	12/3/2020 12:03	0.1	0.2
200	12/3/2020 12:04	0.1	0.2
201	12/3/2020 12:05	0.1	0.2
202	12/3/2020 12:06	0.1	0.2
203	12/3/2020 12:07	0.1	0.2
204	12/3/2020 12:08	0.1	0.2

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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205	12/3/2020 12:09	0.1	0.2
206	12/3/2020 12:10	0.1	0.2
207	12/3/2020 12:11	0.1	0.2
208	12/3/2020 12:12	0.1	0.2
209	12/3/2020 12:13	0.1	0.2
210	12/3/2020 12:14	0.1	0.2
211	12/3/2020 12:15	0.1	0.2
212	12/3/2020 12:16	0.1	0.2
213	12/3/2020 12:17	0.1	0.2
214	12/3/2020 12:18	0.1	0.2
215	12/3/2020 12:19	0.1	0.2
216	12/3/2020 12:20	0.1	0.2
217	12/3/2020 12:21	0.1	0.2
218	12/3/2020 12:22	0.1	0.2
219	12/3/2020 12:23	0.1	0.2
220	12/3/2020 12:24	0.1	0.2
221	12/3/2020 12:25	0.1	0.2
222	12/3/2020 12:26	0.1	0.2
223	12/3/2020 12:27	0.1	0.2
224	12/3/2020 12:28	0.1	0.2
225	12/3/2020 12:29	0.1	0.2
226	12/3/2020 12:30	0.1	0.2
227	12/3/2020 12:31	0.1	0.2
228	12/3/2020 12:32	0.1	0.2
229	12/3/2020 12:33	0.1	0.2
230	12/3/2020 12:34	0.1	0.2
231	12/3/2020 12:35	0.1	0.2
232	12/3/2020 12:36	0.1	0.2
233	12/3/2020 12:37	0.1	0.2

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20/12/04 12:42

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Summary

Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-900989
Unit Firmware Ver	V2.16
Running Mode	Hygiene Mode
Datalog Mode	Manual
Diagnostic Mode	No
Stop Reason	Stop by User
Site ID	QES00018
User ID	PES00000
Begin	12/4/2020 12:42
End	12/4/2020 16:04
Sample Period(s)	60
Number of Records	201
Sensor	PID(ppm)
Sensor SN	S023030194J8
Measure Type	Min; Avg; Max; Real

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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Span	100
Span 2	1000
Low Alarm	50
High Alarm	100
Over Alarm	15000
STEL Alarm	25
TWA Alarm	10
Measurement Gas	Isobutylene
Calibration Time	12/4/2020 11:46
Peak	2
Min	0
Average	0.5

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Datalog

Index	Date/Time	PID(ppm) (Min)	PID(ppm) (Avg)	PID(ppm) (Max)	PID(ppm) (Real)
1	12/4/2020 12:43	0.2	0.5	1.1	0.2
2	12/4/2020 12:44	0.1	0.3	0.5	0.3
3	12/4/2020 12:45	0.2	0.4	1.2	0.7
4	12/4/2020 12:46	0.2	0.7	2	0.2
5	12/4/2020 12:47	0.2	0.5	0.9	0.2
6	12/4/2020 12:48	0.2	0.3	0.5	0.2
7	12/4/2020 12:49	0.2	0.3	0.3	0.3
8	12/4/2020 12:50	0.2	0.3	0.4	0.3
9	12/4/2020 12:51	0.2	0.3	0.4	0.3
10	12/4/2020 12:52	0.3	0.5	1.2	0.5
11	12/4/2020 12:53	0.3	0.5	1.4	0.3
12	12/4/2020 12:54	0.3	0.4	0.8	0.4
13	12/4/2020 12:55	0.3	0.5	0.9	0.6
14	12/4/2020 12:56	0.3	0.9	2.6	0.7
15	12/4/2020 12:57	0.4	0.5	1.1	0.4
16	12/4/2020 12:58	0.3	0.6	1.5	0.4
17	12/4/2020 12:59	0.4	0.7	2	0.5
18	12/4/2020 13:00	0.4	0.4	0.7	0.7
19	12/4/2020 13:01	0.4	0.5	0.7	0.5
20	12/4/2020 13:02	0.4	0.7	1.3	0.6
21	12/4/2020 13:03	0.4	0.6	0.8	0.7
22	12/4/2020 13:04	0.5	0.9	1.6	0.8
23	12/4/2020 13:05	0.5	0.6	0.8	0.5
24	12/4/2020 13:06	0.5	0.7	1.3	0.7
25	12/4/2020 13:07	0.5	0.5	0.7	0.7
26	12/4/2020 13:08	0.5	0.7	1.1	0.5
27	12/4/2020 13:09	0.5	0.7	1.6	0.5
28	12/4/2020 13:10	0.5	0.6	0.8	0.6
29	12/4/2020 13:11	0.5	0.7	1.3	0.5
30	12/4/2020 13:12	0.5	0.8	1.8	0.5
31	12/4/2020 13:13	0.5	0.5	0.8	0.8
32	12/4/2020 13:14	0.5	0.8	1.2	0.7
33	12/4/2020 13:15	0.5	0.6	1	0.5
34	12/4/2020 13:16	0.5	0.7	1.4	0.6
35	12/4/2020 13:17	0.5	0.7	1.3	0.5
36	12/4/2020 13:18	0.5	0.7	1.4	0.6
37	12/4/2020 13:19	0.5	0.6	1.2	1.2

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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38	12/4/2020 13:20	0.5	0.8	1.3	0.6
39	12/4/2020 13:21	0.5	0.7	0.9	0.7
40	12/4/2020 13:22	0.5	0.7	1.1	0.7
41	12/4/2020 13:23	0.5	0.7	1.3	0.7
42	12/4/2020 13:24	0.5	0.7	1.1	0.9
43	12/4/2020 13:25	0.5	0.6	1	0.6
44	12/4/2020 13:26	0.5	0.7	1.4	1.1
45	12/4/2020 13:27	0.5	0.7	1.6	0.6
46	12/4/2020 13:28	0.6	0.8	1.5	0.7
47	12/4/2020 13:29	0.5	0.8	1.4	0.6
48	12/4/2020 13:30	0.5	0.7	1.3	1.3
49	12/4/2020 13:31	0.5	0.7	1.3	0.5
50	12/4/2020 13:32	0.5	0.6	1.1	0.6
51	12/4/2020 13:33	0.5	0.7	1	1
52	12/4/2020 13:34	0.5	0.6	1	0.5
53	12/4/2020 13:35	0.5	0.7	1.2	0.8
54	12/4/2020 13:36	0.5	0.6	1.3	0.5
55	12/4/2020 13:37	0.5	0.5	0.7	0.7
56	12/4/2020 13:38	0.5	0.6	1.1	0.5
57	12/4/2020 13:39	0.5	0.6	0.8	0.5
58	12/4/2020 13:40	0.5	0.6	1	0.5
59	12/4/2020 13:41	0.5	0.6	1.1	0.7
60	12/4/2020 13:42	0.5	0.6	0.9	0.5
61	12/4/2020 13:43	0.5	0.5	0.8	0.8
62	12/4/2020 13:44	0.5	0.7	1.1	0.8
63	12/4/2020 13:45	0.5	0.6	0.9	0.6
64	12/4/2020 13:46	0.5	0.8	1.5	0.6
65	12/4/2020 13:47	0.5	0.6	0.9	0.6
66	12/4/2020 13:48	0.5	0.7	1	0.5
67	12/4/2020 13:49	0.5	0.5	0.5	0.5
68	12/4/2020 13:50	0.5	0.6	0.8	0.5
69	12/4/2020 13:51	0.5	0.5	0.6	0.5
70	12/4/2020 13:52	0.5	0.5	0.7	0.5
71	12/4/2020 13:53	0.5	0.6	0.9	0.5
72	12/4/2020 13:54	0.5	0.7	1.1	1.1
73	12/4/2020 13:55	0.4	0.7	1.7	0.5
74	12/4/2020 13:56	0.4	0.7	1.2	0.6
75	12/4/2020 13:57	0.4	0.5	1.4	0.4
76	12/4/2020 13:58	0.4	0.6	2	2
77	12/4/2020 13:59	0.4	0.9	2.3	1.4
78	12/4/2020 14:00	0.4	0.6	1.1	0.5
79	12/4/2020 14:01	0.4	0.6	1.7	0.4
80	12/4/2020 14:02	0.4	0.6	1.1	0.4
81	12/4/2020 14:03	0.4	0.5	1.3	1.3
82	12/4/2020 14:04	0.5	0.8	1.9	1.9
83	12/4/2020 14:05	0.4	0.6	1.7	0.6
84	12/4/2020 14:06	0.4	0.7	1.2	0.5
85	12/4/2020 14:07	0.4	0.6	1.1	0.5
86	12/4/2020 14:08	0.4	0.8	1.3	1
87	12/4/2020 14:09	0.5	0.7	1.2	0.8
88	12/4/2020 14:10	0.5	0.8	1.4	0.7
89	12/4/2020 14:11	0.5	0.7	1.2	0.8
90	12/4/2020 14:12	0.5	0.5	0.7	0.7
91	12/4/2020 14:13	0.5	0.6	1	1

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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92	12/4/2020 14:14	0.5	0.7	1.3	0.7
93	12/4/2020 14:15	0.5	0.5	0.7	0.5
94	12/4/2020 14:16	0.4	0.6	1.1	0.5
95	12/4/2020 14:17	0.4	0.5	0.7	0.5
96	12/4/2020 14:18	0.5	0.6	0.9	0.6
97	12/4/2020 14:19	0.4	0.6	1.5	0.5
98	12/4/2020 14:20	0.4	0.5	1.1	0.4
99	12/4/2020 14:21	0.4	0.7	1.4	0.5
100	12/4/2020 14:22	0.4	0.6	1.3	0.5
101	12/4/2020 14:23	0.4	0.7	1.2	0.5
102	12/4/2020 14:24	0.4	0.6	1.1	0.6
103	12/4/2020 14:25	0.4	0.7	1.7	0.5
104	12/4/2020 14:26	0.4	0.6	0.9	0.4
105	12/4/2020 14:27	0.4	0.6	1.3	0.5
106	12/4/2020 14:28	0.4	0.7	1.5	0.4
107	12/4/2020 14:29	0.4	0.6	1.1	0.4
108	12/4/2020 14:30	0.4	0.4	0.5	0.5
109	12/4/2020 14:31	0.4	0.7	1.6	0.6
110	12/4/2020 14:32	0.4	0.4	0.6	0.4
111	12/4/2020 14:33	0.4	0.5	0.9	0.9
112	12/4/2020 14:34	0.4	0.6	1.3	0.4
113	12/4/2020 14:35	0.4	0.4	0.6	0.4
114	12/4/2020 14:36	0.4	0.4	0.7	0.5
115	12/4/2020 14:37	0.4	0.5	0.9	0.4
116	12/4/2020 14:38	0.3	0.5	1	0.5
117	12/4/2020 14:39	0.4	0.5	0.8	0.4
118	12/4/2020 14:40	0.4	0.5	0.8	0.4
119	12/4/2020 14:41	0.4	0.5	0.7	0.4
120	12/4/2020 14:42	0.4	0.5	0.7	0.4
121	12/4/2020 14:43	0.4	0.5	0.7	0.4
122	12/4/2020 14:44	0.4	0.5	0.8	0.4
123	12/4/2020 14:45	0.4	0.5	0.7	0.5
124	12/4/2020 14:46	0.4	0.5	0.6	0.4
125	12/4/2020 14:47	0.4	0.4	0.7	0.4
126	12/4/2020 14:48	0.4	0.5	0.6	0.5
127	12/4/2020 14:49	0.4	0.4	0.7	0.6
128	12/4/2020 14:50	0.3	0.5	0.7	0.5
129	12/4/2020 14:51	0.3	0.4	0.7	0.3
130	12/4/2020 14:52	0.3	0.4	0.6	0.4
131	12/4/2020 14:53	0.3	0.4	0.6	0.4
132	12/4/2020 14:54	0.3	0.5	0.7	0.4
133	12/4/2020 14:55	0.3	0.4	0.7	0.3
134	12/4/2020 14:56	0.3	0.4	0.6	0.3
135	12/4/2020 14:57	0.3	0.4	0.6	0.3
136	12/4/2020 14:58	0.3	0.4	0.8	0.6
137	12/4/2020 14:59	0.3	0.5	0.8	0.7
138	12/4/2020 15:00	0.3	0.6	1	0.4
139	12/4/2020 15:01	0.3	0.8	2.9	1.7
140	12/4/2020 15:02	0.3	0.5	1.8	0.3
141	12/4/2020 15:03	0.3	0.9	2.1	0.4
142	12/4/2020 15:04	0.3	0.5	1.3	0.3
143	12/4/2020 15:05	0.3	0.4	0.9	0.5
144	12/4/2020 15:06	0.3	0.3	0.5	0.3
145	12/4/2020 15:07	0.3	0.5	1	0.8

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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146	12/4/2020 15:08	0.3	0.4	0.8	0.3
147	12/4/2020 15:09	0.3	0.8	2.9	1.3
148	12/4/2020 15:10	0.3	0.8	1.9	0.4
149	12/4/2020 15:11	0.3	0.5	1	0.3
150	12/4/2020 15:12	0.3	0.5	1.1	0.4
151	12/4/2020 15:13	0.3	0.5	1.3	0.9
152	12/4/2020 15:14	0.3	0.5	1.6	1.4
153	12/4/2020 15:15	0.3	0.6	1.4	0.9
154	12/4/2020 15:16	0.2	0.6	1.4	0.3
155	12/4/2020 15:17	0.2	0.4	1.3	0.3
156	12/4/2020 15:18	0.3	0.4	1.2	0.5
157	12/4/2020 15:19	0.2	0.6	1.4	0.2
158	12/4/2020 15:20	0.2	0.4	0.8	0.4
159	12/4/2020 15:21	0.2	0.6	1.5	0.6
160	12/4/2020 15:22	0.2	0.4	0.7	0.2
161	12/4/2020 15:23	0.2	0.8	2.7	0.5
162	12/4/2020 15:24	0.2	0.7	1.5	0.4
163	12/4/2020 15:25	0.2	0.3	0.5	0.2
164	12/4/2020 15:26	0.2	0.4	0.9	0.2
165	12/4/2020 15:27	0.2	0.3	0.6	0.4
166	12/4/2020 15:28	0.2	0.6	2.2	0.7
167	12/4/2020 15:29	0.2	0.5	1.6	0.2
168	12/4/2020 15:30	0.2	0.2	0.4	0.3
169	12/4/2020 15:31	0.2	0.4	1.4	0.2
170	12/4/2020 15:32	0.2	0.3	1.1	0.2
171	12/4/2020 15:33	0.2	0.2	0.5	0.2
172	12/4/2020 15:34	0.2	0.4	1.5	0.5
173	12/4/2020 15:35	0.1	0.4	1.5	0.4
174	12/4/2020 15:36	0.1	0.4	0.7	0.2
175	12/4/2020 15:37	0.1	0.3	1.6	0.5
176	12/4/2020 15:38	0.1	0.5	1.3	0.4
177	12/4/2020 15:39	0.1	0.3	1.3	0.1
178	12/4/2020 15:40	0.1	0.3	1.1	0.2
179	12/4/2020 15:41	0.1	0.2	0.6	0.1
180	12/4/2020 15:42	0.1	0.4	0.9	0.4
181	12/4/2020 15:43	0.1	0.1	0.3	0.1
182	12/4/2020 15:44	0.1	0.3	1.7	0.1
183	12/4/2020 15:45	0.1	0.3	1	0.4
184	12/4/2020 15:46	0.1	0.1	0.5	0.3
185	12/4/2020 15:47	0.1	0.4	0.8	0.2
186	12/4/2020 15:48	0	0.3	1.4	0.1
187	12/4/2020 15:49	0	0.2	1.2	0.3
188	12/4/2020 15:50	0	0.1	0.7	0.1
189	12/4/2020 15:51	0	0.4	2	0
190	12/4/2020 15:52	0	0.1	0.5	0.1
191	12/4/2020 15:53	0	0.1	0.4	0
192	12/4/2020 15:54	0	0.1	0.3	0
193	12/4/2020 15:55	0	0.1	0.8	0
194	12/4/2020 15:56	0	0.1	0.6	0
195	12/4/2020 15:57	0	0.2	0.8	0
196	12/4/2020 15:58	0	0.1	0.3	0.1
197	12/4/2020 15:59	0	0.2	0.8	0.1
198	12/4/2020 16:00	0	0.2	1.7	0.3
199	12/4/2020 16:01	0	0.1	0.4	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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	200	12/4/2020 16:02	0	0.3	0.9	0
	201	12/4/2020 16:03	0	0.1	0.2	0.2
Peak			0.6	0.9	2.9	2
Min			0	0.1	0.2	0
Average			0.3	0.5	1.1	0.5

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TWA/STEL

Index		Date/Time	PID(ppm) (TWA)	PID(ppm) (STEL)
	1	12/4/2020 12:43	0	---
	2	12/4/2020 12:44	0	---
	3	12/4/2020 12:45	0	---
	4	12/4/2020 12:46	0	---
	5	12/4/2020 12:47	0	---
	6	12/4/2020 12:48	0	---
	7	12/4/2020 12:49	0	---
	8	12/4/2020 12:50	0	---
	9	12/4/2020 12:51	0	---
	10	12/4/2020 12:52	0	---
	11	12/4/2020 12:53	0	---
	12	12/4/2020 12:54	0	---
	13	12/4/2020 12:55	0	---
	14	12/4/2020 12:56	0	---
	15	12/4/2020 12:57	0	0.4
	16	12/4/2020 12:58	0	0.4
	17	12/4/2020 12:59	0	0.4
	18	12/4/2020 13:00	0	0.4
	19	12/4/2020 13:01	0	0.4
	20	12/4/2020 13:02	0	0.5
	21	12/4/2020 13:03	0	0.5
	22	12/4/2020 13:04	0	0.5
	23	12/4/2020 13:05	0	0.5
	24	12/4/2020 13:06	0	0.6
	25	12/4/2020 13:07	0	0.6
	26	12/4/2020 13:08	0	0.6
	27	12/4/2020 13:09	0	0.6
	28	12/4/2020 13:10	0	0.6
	29	12/4/2020 13:11	0	0.6
	30	12/4/2020 13:12	0	0.6
	31	12/4/2020 13:13	0	0.6
	32	12/4/2020 13:14	0	0.7
	33	12/4/2020 13:15	0	0.7
	34	12/4/2020 13:16	0	0.6
	35	12/4/2020 13:17	0	0.6
	36	12/4/2020 13:18	0	0.6
	37	12/4/2020 13:19	0	0.7
	38	12/4/2020 13:20	0	0.7
	39	12/4/2020 13:21	0	0.7
	40	12/4/2020 13:22	0	0.7
	41	12/4/2020 13:23	0	0.7
	42	12/4/2020 13:24	0	0.7
	43	12/4/2020 13:25	0	0.7
	44	12/4/2020 13:26	0.1	0.7

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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45	12/4/2020 13:27	0.1	0.8
46	12/4/2020 13:28	0.1	0.8
47	12/4/2020 13:29	0.1	0.8
48	12/4/2020 13:30	0.1	0.8
49	12/4/2020 13:31	0.1	0.8
50	12/4/2020 13:32	0.1	0.8
51	12/4/2020 13:33	0.1	0.8
52	12/4/2020 13:34	0.1	0.8
53	12/4/2020 13:35	0.1	0.8
54	12/4/2020 13:36	0.1	0.8
55	12/4/2020 13:37	0.1	0.8
56	12/4/2020 13:38	0.1	0.8
57	12/4/2020 13:39	0.1	0.8
58	12/4/2020 13:40	0.1	0.7
59	12/4/2020 13:41	0.1	0.7
60	12/4/2020 13:42	0.1	0.7
61	12/4/2020 13:43	0.1	0.7
62	12/4/2020 13:44	0.1	0.7
63	12/4/2020 13:45	0.1	0.7
64	12/4/2020 13:46	0.1	0.7
65	12/4/2020 13:47	0.1	0.7
66	12/4/2020 13:48	0.1	0.7
67	12/4/2020 13:49	0.1	0.6
68	12/4/2020 13:50	0.1	0.6
69	12/4/2020 13:51	0.1	0.6
70	12/4/2020 13:52	0.1	0.6
71	12/4/2020 13:53	0.1	0.6
72	12/4/2020 13:54	0.1	0.6
73	12/4/2020 13:55	0.1	0.6
74	12/4/2020 13:56	0.1	0.7
75	12/4/2020 13:57	0.1	0.6
76	12/4/2020 13:58	0.1	0.7
77	12/4/2020 13:59	0.1	0.8
78	12/4/2020 14:00	0.1	0.8
79	12/4/2020 14:01	0.1	0.7
80	12/4/2020 14:02	0.1	0.7
81	12/4/2020 14:03	0.1	0.8
82	12/4/2020 14:04	0.1	0.9
83	12/4/2020 14:05	0.1	0.9
84	12/4/2020 14:06	0.1	0.9
85	12/4/2020 14:07	0.1	0.9
86	12/4/2020 14:08	0.1	0.9
87	12/4/2020 14:09	0.1	0.9
88	12/4/2020 14:10	0.1	0.9
89	12/4/2020 14:11	0.1	0.9
90	12/4/2020 14:12	0.1	0.9
91	12/4/2020 14:13	0.1	1
92	12/4/2020 14:14	0.1	0.9
93	12/4/2020 14:15	0.1	0.8
94	12/4/2020 14:16	0.1	0.8
95	12/4/2020 14:17	0.1	0.8
96	12/4/2020 14:18	0.1	0.8
97	12/4/2020 14:19	0.1	0.8
98	12/4/2020 14:20	0.1	0.7

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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99	12/4/2020 14:21	0.1	0.7
100	12/4/2020 14:22	0.1	0.7
101	12/4/2020 14:23	0.1	0.7
102	12/4/2020 14:24	0.1	0.7
103	12/4/2020 14:25	0.1	0.6
104	12/4/2020 14:26	0.1	0.6
105	12/4/2020 14:27	0.1	0.6
106	12/4/2020 14:28	0.1	0.6
107	12/4/2020 14:29	0.1	0.5
108	12/4/2020 14:30	0.1	0.5
109	12/4/2020 14:31	0.1	0.5
110	12/4/2020 14:32	0.1	0.5
111	12/4/2020 14:33	0.1	0.5
112	12/4/2020 14:34	0.1	0.5
113	12/4/2020 14:35	0.1	0.5
114	12/4/2020 14:36	0.1	0.5
115	12/4/2020 14:37	0.1	0.5
116	12/4/2020 14:38	0.1	0.5
117	12/4/2020 14:39	0.1	0.5
118	12/4/2020 14:40	0.1	0.5
119	12/4/2020 14:41	0.2	0.5
120	12/4/2020 14:42	0.2	0.5
121	12/4/2020 14:43	0.2	0.5
122	12/4/2020 14:44	0.2	0.5
123	12/4/2020 14:45	0.2	0.5
124	12/4/2020 14:46	0.2	0.5
125	12/4/2020 14:47	0.2	0.5
126	12/4/2020 14:48	0.2	0.5
127	12/4/2020 14:49	0.2	0.5
128	12/4/2020 14:50	0.2	0.5
129	12/4/2020 14:51	0.2	0.5
130	12/4/2020 14:52	0.2	0.5
131	12/4/2020 14:53	0.2	0.5
132	12/4/2020 14:54	0.2	0.5
133	12/4/2020 14:55	0.2	0.4
134	12/4/2020 14:56	0.2	0.4
135	12/4/2020 14:57	0.2	0.4
136	12/4/2020 14:58	0.2	0.4
137	12/4/2020 14:59	0.2	0.5
138	12/4/2020 15:00	0.2	0.5
139	12/4/2020 15:01	0.2	0.5
140	12/4/2020 15:02	0.2	0.5
141	12/4/2020 15:03	0.2	0.5
142	12/4/2020 15:04	0.2	0.5
143	12/4/2020 15:05	0.2	0.5
144	12/4/2020 15:06	0.2	0.5
145	12/4/2020 15:07	0.2	0.5
146	12/4/2020 15:08	0.2	0.5
147	12/4/2020 15:09	0.2	0.6
148	12/4/2020 15:10	0.2	0.6
149	12/4/2020 15:11	0.2	0.6
150	12/4/2020 15:12	0.2	0.6
151	12/4/2020 15:13	0.2	0.6
152	12/4/2020 15:14	0.2	0.7

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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153	12/4/2020 15:15	0.2	0.7
154	12/4/2020 15:16	0.2	0.7
155	12/4/2020 15:17	0.2	0.6
156	12/4/2020 15:18	0.2	0.6
157	12/4/2020 15:19	0.2	0.6
158	12/4/2020 15:20	0.2	0.6
159	12/4/2020 15:21	0.2	0.6
160	12/4/2020 15:22	0.2	0.6
161	12/4/2020 15:23	0.2	0.6
162	12/4/2020 15:24	0.2	0.6
163	12/4/2020 15:25	0.2	0.5
164	12/4/2020 15:26	0.2	0.5
165	12/4/2020 15:27	0.2	0.5
166	12/4/2020 15:28	0.2	0.5
167	12/4/2020 15:29	0.2	0.5
168	12/4/2020 15:30	0.2	0.4
169	12/4/2020 15:31	0.2	0.4
170	12/4/2020 15:32	0.2	0.4
171	12/4/2020 15:33	0.2	0.4
172	12/4/2020 15:34	0.2	0.4
173	12/4/2020 15:35	0.2	0.4
174	12/4/2020 15:36	0.2	0.4
175	12/4/2020 15:37	0.2	0.4
176	12/4/2020 15:38	0.2	0.4
177	12/4/2020 15:39	0.2	0.3
178	12/4/2020 15:40	0.2	0.3
179	12/4/2020 15:41	0.2	0.3
180	12/4/2020 15:42	0.2	0.3
181	12/4/2020 15:43	0.2	0.3
182	12/4/2020 15:44	0.2	0.3
183	12/4/2020 15:45	0.2	0.3
184	12/4/2020 15:46	0.2	0.3
185	12/4/2020 15:47	0.2	0.3
186	12/4/2020 15:48	0.2	0.3
187	12/4/2020 15:49	0.2	0.3
188	12/4/2020 15:50	0.2	0.3
189	12/4/2020 15:51	0.2	0.2
190	12/4/2020 15:52	0.2	0.2
191	12/4/2020 15:53	0.2	0.2
192	12/4/2020 15:54	0.2	0.2
193	12/4/2020 15:55	0.2	0.2
194	12/4/2020 15:56	0.2	0.1
195	12/4/2020 15:57	0.2	0.1
196	12/4/2020 15:58	0.2	0.1
197	12/4/2020 15:59	0.2	0.1
198	12/4/2020 16:00	0.2	0.1
199	12/4/2020 16:01	0.2	0.1
200	12/4/2020 16:02	0.2	0.1
201	12/4/2020 16:03	0.2	0.1

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20/12/06 09:56

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Summary

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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Unit Name	MiniRAE 3000(PGM-7320)
Unit SN	592-900989
Unit Firmware Ver	V2.16
--	
Running Mode	Search Mode
Datalog Mode	Manual
Diagnostic Mode	No
Stop Reason	Power Down
--	
Site ID	QES00019
User ID	PES00000
--	
Begin	12/6/2020 9:56
End	12/6/2020 14:10
Sample Period(s)	60
Number of Records	254
--	
Sensor	PID(ppm)
Sensor SN	S023030194J8
Measure Type	Min; Avg; Max; Real
Span	100
Span 2	1000
Low Alarm	50
High Alarm	100
Over Alarm	15000
STEL Alarm	25
TWA Alarm	10
Measurement Gas	Isobutylene
Calibration Time	12/6/2020 7:42
Peak	0.1
Min	0
Average	0

****
Datalog

Index	Date/Time	PID(ppm) (Min)	PID(ppm) (Avg)	PID(ppm) (Max)	PID(ppm) (Real)
1	12/6/2020 9:57	0	0	0	0
2	12/6/2020 9:58	0	0	0	0
3	12/6/2020 9:59	0	0	0	0
4	12/6/2020 10:00	0	0	0	0
5	12/6/2020 10:01	0	0	0	0
6	12/6/2020 10:02	0	0	0	0
7	12/6/2020 10:03	0	0	0	0
8	12/6/2020 10:04	0	0	0	0
9	12/6/2020 10:05	0	0	0	0
10	12/6/2020 10:06	0	0	0	0
11	12/6/2020 10:07	0	0	0	0
12	12/6/2020 10:08	0	0	0	0
13	12/6/2020 10:09	0	0	0	0
14	12/6/2020 10:10	0	0	0	0
15	12/6/2020 10:11	0	0	0	0
16	12/6/2020 10:12	0	0	0	0
17	12/6/2020 10:13	0	0	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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18	12/6/2020 10:14	0	0	0	0
19	12/6/2020 10:15	0	0	0	0
20	12/6/2020 10:16	0	0	0	0
21	12/6/2020 10:17	0	0	0	0
22	12/6/2020 10:18	0	0	0	0
23	12/6/2020 10:19	0	0	0	0
24	12/6/2020 10:20	0	0	0	0
25	12/6/2020 10:21	0	0	0	0
26	12/6/2020 10:22	0	0	0	0
27	12/6/2020 10:23	0	0	0	0
28	12/6/2020 10:24	0	0	0.1	0
29	12/6/2020 10:25	0	0	0	0
30	12/6/2020 10:26	0	0	0	0
31	12/6/2020 10:27	0	0	0	0
32	12/6/2020 10:28	0	0	0	0
33	12/6/2020 10:29	0	0	0	0
34	12/6/2020 10:30	0	0	0	0
35	12/6/2020 10:31	0	0	0	0
36	12/6/2020 10:32	0	0	0.1	0
37	12/6/2020 10:33	0	0	0	0
38	12/6/2020 10:34	0	0	0	0
39	12/6/2020 10:35	0	0	0	0
40	12/6/2020 10:36	0	0	0	0
41	12/6/2020 10:37	0	0	0	0
42	12/6/2020 10:38	0	0	0	0
43	12/6/2020 10:39	0	0	0	0
44	12/6/2020 10:40	0	0	0	0
45	12/6/2020 10:41	0	0	0	0
46	12/6/2020 10:42	0	0	0	0
47	12/6/2020 10:43	0	0	0	0
48	12/6/2020 10:44	0	0	0	0
49	12/6/2020 10:45	0	0	0	0
50	12/6/2020 10:46	0	0	0	0
51	12/6/2020 10:47	0	0	0	0
52	12/6/2020 10:48	0	0	0	0
53	12/6/2020 10:49	0	0	0	0
54	12/6/2020 10:50	0	0	0	0
55	12/6/2020 10:51	0	0	0	0
56	12/6/2020 10:52	0	0	0	0
57	12/6/2020 10:53	0	0	0	0
58	12/6/2020 10:54	0	0	0	0
59	12/6/2020 10:55	0	0	0	0
60	12/6/2020 10:56	0	0	0	0
61	12/6/2020 10:57	0	0	0	0
62	12/6/2020 10:58	0	0	0	0
63	12/6/2020 10:59	0	0	0	0
64	12/6/2020 11:00	0	0	0	0
65	12/6/2020 11:01	0	0	0	0
66	12/6/2020 11:02	0	0	0	0
67	12/6/2020 11:03	0	0	0	0
68	12/6/2020 11:04	0	0	0.1	0
69	12/6/2020 11:05	0	0	0	0
70	12/6/2020 11:06	0	0	0	0
71	12/6/2020 11:07	0	0	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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72	12/6/2020 11:08	0	0	0	0
73	12/6/2020 11:09	0	0	0	0
74	12/6/2020 11:10	0	0	0	0
75	12/6/2020 11:11	0	0	0	0
76	12/6/2020 11:12	0	0	0	0
77	12/6/2020 11:13	0	0	0	0
78	12/6/2020 11:14	0	0	0	0
79	12/6/2020 11:15	0	0	0	0
80	12/6/2020 11:16	0	0	0	0
81	12/6/2020 11:17	0	0	0	0
82	12/6/2020 11:18	0	0	0	0
83	12/6/2020 11:19	0	0	0	0
84	12/6/2020 11:20	0	0	0	0
85	12/6/2020 11:21	0	0	0	0
86	12/6/2020 11:22	0	0	0	0
87	12/6/2020 11:23	0	0	0	0
88	12/6/2020 11:24	0	0	0	0
89	12/6/2020 11:25	0	0	0	0
90	12/6/2020 11:26	0	0	0	0
91	12/6/2020 11:27	0	0	0	0
92	12/6/2020 11:28	0	0	0	0
93	12/6/2020 11:29	0	0	0	0
94	12/6/2020 11:30	0	0	0	0
95	12/6/2020 11:31	0	0	0	0
96	12/6/2020 11:32	0	0	0	0
97	12/6/2020 11:33	0	0	0	0
98	12/6/2020 11:34	0	0	0	0
99	12/6/2020 11:35	0	0	0	0
100	12/6/2020 11:36	0	0	0	0
101	12/6/2020 11:37	0	0	0	0
102	12/6/2020 11:38	0	0	0	0
103	12/6/2020 11:39	0	0	0	0
104	12/6/2020 11:40	0	0	0	0
105	12/6/2020 11:41	0	0	0	0
106	12/6/2020 11:42	0	0.2	3.3	0
107	12/6/2020 11:43	0	0	0	0
108	12/6/2020 11:44	0	0	0	0
109	12/6/2020 11:45	0	0	0	0
110	12/6/2020 11:46	0	0	0	0
111	12/6/2020 11:47	0	0	0	0
112	12/6/2020 11:48	0	0	0	0
113	12/6/2020 11:49	0	0	0	0
114	12/6/2020 11:50	0	0	0	0
115	12/6/2020 11:51	0	0	0	0
116	12/6/2020 11:52	0	0	0	0
117	12/6/2020 11:53	0	0	0	0
118	12/6/2020 11:54	0	0	0.2	0
119	12/6/2020 11:55	0	0	0	0
120	12/6/2020 11:56	0	0	0	0
121	12/6/2020 11:57	0	0	0	0
122	12/6/2020 11:58	0	0	0	0
123	12/6/2020 11:59	0	0	0	0
124	12/6/2020 12:00	0	0	0	0
125	12/6/2020 12:01	0	0	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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126	12/6/2020 12:02	0	0	0	0
127	12/6/2020 12:03	0	0	0	0
128	12/6/2020 12:04	0	0	0	0
129	12/6/2020 12:05	0	0	0	0
130	12/6/2020 12:06	0	0	0	0
131	12/6/2020 12:07	0	0	0	0
132	12/6/2020 12:08	0	0	0	0
133	12/6/2020 12:09	0	0	0	0
134	12/6/2020 12:10	0	0	0	0
135	12/6/2020 12:11	0	0	0	0
136	12/6/2020 12:12	0	0	0	0
137	12/6/2020 12:13	0	0	0	0
138	12/6/2020 12:14	0	0	0	0
139	12/6/2020 12:15	0	0	0	0
140	12/6/2020 12:16	0	0	0	0
141	12/6/2020 12:17	0	0	0	0
142	12/6/2020 12:18	0	0	0	0
143	12/6/2020 12:19	0	0	0.1	0
144	12/6/2020 12:20	0	0	0	0
145	12/6/2020 12:21	0	0	0	0
146	12/6/2020 12:22	0	0	0	0
147	12/6/2020 12:23	0	0	0	0
148	12/6/2020 12:24	0	0	0	0
149	12/6/2020 12:25	0	0	0	0
150	12/6/2020 12:26	0	0	0	0
151	12/6/2020 12:27	0	0	0	0
152	12/6/2020 12:28	0	0	0	0
153	12/6/2020 12:29	0	0	0	0
154	12/6/2020 12:30	0	0	0	0
155	12/6/2020 12:31	0	0	0	0
156	12/6/2020 12:32	0	0	0	0
157	12/6/2020 12:33	0	0	0	0
158	12/6/2020 12:34	0	0	0	0
159	12/6/2020 12:35	0	0	0	0
160	12/6/2020 12:36	0	0	0	0
161	12/6/2020 12:37	0	0	0	0
162	12/6/2020 12:38	0	0	0	0
163	12/6/2020 12:39	0	0	0	0
164	12/6/2020 12:40	0	0	0	0
165	12/6/2020 12:41	0	0	0	0
166	12/6/2020 12:42	0	0	0	0
167	12/6/2020 12:43	0	0	0	0
168	12/6/2020 12:44	0	0	0	0
169	12/6/2020 12:45	0	0	0	0
170	12/6/2020 12:46	0	0	0	0
171	12/6/2020 12:47	0	0	0	0
172	12/6/2020 12:48	0	0	0	0
173	12/6/2020 12:49	0	0	0	0
174	12/6/2020 12:50	0	0	0	0
175	12/6/2020 12:51	0	0	0	0
176	12/6/2020 12:52	0	0	0	0
177	12/6/2020 12:53	0	0	0	0
178	12/6/2020 12:54	0	0	0	0
179	12/6/2020 12:55	0	0	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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180	12/6/2020 12:56	0	0	0	0
181	12/6/2020 12:57	0	0	0	0
182	12/6/2020 12:58	0	0	0	0
183	12/6/2020 12:59	0	0	0	0
184	12/6/2020 13:00	0	0	0	0
185	12/6/2020 13:01	0	0	0	0
186	12/6/2020 13:02	0	0	0	0
187	12/6/2020 13:03	0	0	0	0
188	12/6/2020 13:04	0	0	0	0
189	12/6/2020 13:05	0	0	0	0
190	12/6/2020 13:06	0	0	0	0
191	12/6/2020 13:07	0	0	0	0
192	12/6/2020 13:08	0	0	0	0
193	12/6/2020 13:09	0	0	0	0
194	12/6/2020 13:10	0	0	0	0
195	12/6/2020 13:11	0	0	0	0
196	12/6/2020 13:12	0	0	0	0
197	12/6/2020 13:13	0	0	0	0
198	12/6/2020 13:14	0	0	0	0
199	12/6/2020 13:15	0	0	0	0
200	12/6/2020 13:16	0	0	0	0
201	12/6/2020 13:17	0	0	0	0
202	12/6/2020 13:18	0	0	0	0
203	12/6/2020 13:19	0	0	0	0
204	12/6/2020 13:20	0	0	0	0
205	12/6/2020 13:21	0	0	0	0
206	12/6/2020 13:22	0	0	0	0
207	12/6/2020 13:23	0	0	0	0
208	12/6/2020 13:24	0	0	0	0
209	12/6/2020 13:25	0	0	0	0
210	12/6/2020 13:26	0	0	0	0
211	12/6/2020 13:27	0	0	0	0
212	12/6/2020 13:28	0	0	0	0
213	12/6/2020 13:29	0	0	0	0
214	12/6/2020 13:30	0	0	0	0
215	12/6/2020 13:31	0	0	0	0
216	12/6/2020 13:32	0	0	0	0
217	12/6/2020 13:33	0	0	0	0
218	12/6/2020 13:34	0	0	0	0
219	12/6/2020 13:35	0	0	0	0
220	12/6/2020 13:36	0	0	0	0
221	12/6/2020 13:37	0	0	0	0
222	12/6/2020 13:38	0	0	0	0
223	12/6/2020 13:39	0	0	0	0
224	12/6/2020 13:40	0	0	0	0
225	12/6/2020 13:41	0	0	0	0
226	12/6/2020 13:42	0	0	0	0
227	12/6/2020 13:43	0	0	0	0
228	12/6/2020 13:44	0	0	0	0
229	12/6/2020 13:45	0	0	0	0
230	12/6/2020 13:46	0	0	0	0
231	12/6/2020 13:47	0	0	0	0
232	12/6/2020 13:48	0	0	0	0
233	12/6/2020 13:49	0	0	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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	234	12/6/2020 13:50	0	0	0	0
	235	12/6/2020 13:51	0	0	0	0
	236	12/6/2020 13:52	0	0	0	0
	237	12/6/2020 13:53	0	0	0	0
	238	12/6/2020 13:54	0	0	0	0
	239	12/6/2020 13:55	0	0	0	0
	240	12/6/2020 13:56	0	0	0	0
	241	12/6/2020 13:57	0	0	0	0
	242	12/6/2020 13:58	0	0	0	0
	243	12/6/2020 13:59	0	0	0	0
	244	12/6/2020 14:00	0	0	0	0
	245	12/6/2020 14:01	0	0	0	0
	246	12/6/2020 14:02	0	0	0	0
	247	12/6/2020 14:03	0	0	0	0
	248	12/6/2020 14:04	0	0	0	0
	249	12/6/2020 14:05	0	0	0	0
	250	12/6/2020 14:06	0	0	0	0
	251	12/6/2020 14:07	0	0	0	0
	252	12/6/2020 14:08	0	0	0	0
	253	12/6/2020 14:09	0	0	0.1	0.1
	254	12/6/2020 14:10	0	0	0.2	0
Peak			0	0.2	3.3	0.1
Min			0	0	0	0
Average			0	0	0	0

****

TWA/STEL

Index		Date/Time	PID(ppm) (TWA)	PID(ppm) (STEL)
	1	12/6/2020 9:57	0	---
	2	12/6/2020 9:58	0	---
	3	12/6/2020 9:59	0	---
	4	12/6/2020 10:00	0	---
	5	12/6/2020 10:01	0	---
	6	12/6/2020 10:02	0	---
	7	12/6/2020 10:03	0	---
	8	12/6/2020 10:04	0	---
	9	12/6/2020 10:05	0	---
	10	12/6/2020 10:06	0	---
	11	12/6/2020 10:07	0	---
	12	12/6/2020 10:08	0	---
	13	12/6/2020 10:09	0	---
	14	12/6/2020 10:10	0	---
	15	12/6/2020 10:11	0	0
	16	12/6/2020 10:12	0	0
	17	12/6/2020 10:13	0	0
	18	12/6/2020 10:14	0	0
	19	12/6/2020 10:15	0	0
	20	12/6/2020 10:16	0	0
	21	12/6/2020 10:17	0	0
	22	12/6/2020 10:18	0	0
	23	12/6/2020 10:19	0	0
	24	12/6/2020 10:20	0	0
	25	12/6/2020 10:21	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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26	12/6/2020 10:22	0	0
27	12/6/2020 10:23	0	0
28	12/6/2020 10:24	0	0
29	12/6/2020 10:25	0	0
30	12/6/2020 10:26	0	0
31	12/6/2020 10:27	0	0
32	12/6/2020 10:28	0	0
33	12/6/2020 10:29	0	0
34	12/6/2020 10:30	0	0
35	12/6/2020 10:31	0	0
36	12/6/2020 10:32	0	0
37	12/6/2020 10:33	0	0
38	12/6/2020 10:34	0	0
39	12/6/2020 10:35	0	0
40	12/6/2020 10:36	0	0
41	12/6/2020 10:37	0	0
42	12/6/2020 10:38	0	0
43	12/6/2020 10:39	0	0
44	12/6/2020 10:40	0	0
45	12/6/2020 10:41	0	0
46	12/6/2020 10:42	0	0
47	12/6/2020 10:43	0	0
48	12/6/2020 10:44	0	0
49	12/6/2020 10:45	0	0
50	12/6/2020 10:46	0	0
51	12/6/2020 10:47	0	0
52	12/6/2020 10:48	0	0
53	12/6/2020 10:49	0	0
54	12/6/2020 10:50	0	0
55	12/6/2020 10:51	0	0
56	12/6/2020 10:52	0	0
57	12/6/2020 10:53	0	0
58	12/6/2020 10:54	0	0
59	12/6/2020 10:55	0	0
60	12/6/2020 10:56	0	0
61	12/6/2020 10:57	0	0
62	12/6/2020 10:58	0	0
63	12/6/2020 10:59	0	0
64	12/6/2020 11:00	0	0
65	12/6/2020 11:01	0	0
66	12/6/2020 11:02	0	0
67	12/6/2020 11:03	0	0
68	12/6/2020 11:04	0	0
69	12/6/2020 11:05	0	0
70	12/6/2020 11:06	0	0
71	12/6/2020 11:07	0	0
72	12/6/2020 11:08	0	0
73	12/6/2020 11:09	0	0
74	12/6/2020 11:10	0	0
75	12/6/2020 11:11	0	0
76	12/6/2020 11:12	0	0
77	12/6/2020 11:13	0	0
78	12/6/2020 11:14	0	0
79	12/6/2020 11:15	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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80	12/6/2020 11:16	0	0
81	12/6/2020 11:17	0	0
82	12/6/2020 11:18	0	0
83	12/6/2020 11:19	0	0
84	12/6/2020 11:20	0	0
85	12/6/2020 11:21	0	0
86	12/6/2020 11:22	0	0
87	12/6/2020 11:23	0	0
88	12/6/2020 11:24	0	0
89	12/6/2020 11:25	0	0
90	12/6/2020 11:26	0	0
91	12/6/2020 11:27	0	0
92	12/6/2020 11:28	0	0
93	12/6/2020 11:29	0	0
94	12/6/2020 11:30	0	0
95	12/6/2020 11:31	0	0
96	12/6/2020 11:32	0	0
97	12/6/2020 11:33	0	0
98	12/6/2020 11:34	0	0
99	12/6/2020 11:35	0	0
100	12/6/2020 11:36	0	0
101	12/6/2020 11:37	0	0
102	12/6/2020 11:38	0	0
103	12/6/2020 11:39	0	0
104	12/6/2020 11:40	0	0
105	12/6/2020 11:41	0	0
106	12/6/2020 11:42	0	0
107	12/6/2020 11:43	0	0
108	12/6/2020 11:44	0	0
109	12/6/2020 11:45	0	0
110	12/6/2020 11:46	0	0
111	12/6/2020 11:47	0	0
112	12/6/2020 11:48	0	0
113	12/6/2020 11:49	0	0
114	12/6/2020 11:50	0	0
115	12/6/2020 11:51	0	0
116	12/6/2020 11:52	0	0
117	12/6/2020 11:53	0	0
118	12/6/2020 11:54	0	0
119	12/6/2020 11:55	0	0
120	12/6/2020 11:56	0	0
121	12/6/2020 11:57	0	0
122	12/6/2020 11:58	0	0
123	12/6/2020 11:59	0	0
124	12/6/2020 12:00	0	0
125	12/6/2020 12:01	0	0
126	12/6/2020 12:02	0	0
127	12/6/2020 12:03	0	0
128	12/6/2020 12:04	0	0
129	12/6/2020 12:05	0	0
130	12/6/2020 12:06	0	0
131	12/6/2020 12:07	0	0
132	12/6/2020 12:08	0	0
133	12/6/2020 12:09	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)
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134	12/6/2020 12:10	0	0
135	12/6/2020 12:11	0	0
136	12/6/2020 12:12	0	0
137	12/6/2020 12:13	0	0
138	12/6/2020 12:14	0	0
139	12/6/2020 12:15	0	0
140	12/6/2020 12:16	0	0
141	12/6/2020 12:17	0	0
142	12/6/2020 12:18	0	0
143	12/6/2020 12:19	0	0
144	12/6/2020 12:20	0	0
145	12/6/2020 12:21	0	0
146	12/6/2020 12:22	0	0
147	12/6/2020 12:23	0	0
148	12/6/2020 12:24	0	0
149	12/6/2020 12:25	0	0
150	12/6/2020 12:26	0	0
151	12/6/2020 12:27	0	0
152	12/6/2020 12:28	0	0
153	12/6/2020 12:29	0	0
154	12/6/2020 12:30	0	0
155	12/6/2020 12:31	0	0
156	12/6/2020 12:32	0	0
157	12/6/2020 12:33	0	0
158	12/6/2020 12:34	0	0
159	12/6/2020 12:35	0	0
160	12/6/2020 12:36	0	0
161	12/6/2020 12:37	0	0
162	12/6/2020 12:38	0	0
163	12/6/2020 12:39	0	0
164	12/6/2020 12:40	0	0
165	12/6/2020 12:41	0	0
166	12/6/2020 12:42	0	0
167	12/6/2020 12:43	0	0
168	12/6/2020 12:44	0	0
169	12/6/2020 12:45	0	0
170	12/6/2020 12:46	0	0
171	12/6/2020 12:47	0	0
172	12/6/2020 12:48	0	0
173	12/6/2020 12:49	0	0
174	12/6/2020 12:50	0	0
175	12/6/2020 12:51	0	0
176	12/6/2020 12:52	0	0
177	12/6/2020 12:53	0	0
178	12/6/2020 12:54	0	0
179	12/6/2020 12:55	0	0
180	12/6/2020 12:56	0	0
181	12/6/2020 12:57	0	0
182	12/6/2020 12:58	0	0
183	12/6/2020 12:59	0	0
184	12/6/2020 13:00	0	0
185	12/6/2020 13:01	0	0
186	12/6/2020 13:02	0	0
187	12/6/2020 13:03	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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188	12/6/2020 13:04	0	0
189	12/6/2020 13:05	0	0
190	12/6/2020 13:06	0	0
191	12/6/2020 13:07	0	0
192	12/6/2020 13:08	0	0
193	12/6/2020 13:09	0	0
194	12/6/2020 13:10	0	0
195	12/6/2020 13:11	0	0
196	12/6/2020 13:12	0	0
197	12/6/2020 13:13	0	0
198	12/6/2020 13:14	0	0
199	12/6/2020 13:15	0	0
200	12/6/2020 13:16	0	0
201	12/6/2020 13:17	0	0
202	12/6/2020 13:18	0	0
203	12/6/2020 13:19	0	0
204	12/6/2020 13:20	0	0
205	12/6/2020 13:21	0	0
206	12/6/2020 13:22	0	0
207	12/6/2020 13:23	0	0
208	12/6/2020 13:24	0	0
209	12/6/2020 13:25	0	0
210	12/6/2020 13:26	0	0
211	12/6/2020 13:27	0	0
212	12/6/2020 13:28	0	0
213	12/6/2020 13:29	0	0
214	12/6/2020 13:30	0	0
215	12/6/2020 13:31	0	0
216	12/6/2020 13:32	0	0
217	12/6/2020 13:33	0	0
218	12/6/2020 13:34	0	0
219	12/6/2020 13:35	0	0
220	12/6/2020 13:36	0	0
221	12/6/2020 13:37	0	0
222	12/6/2020 13:38	0	0
223	12/6/2020 13:39	0	0
224	12/6/2020 13:40	0	0
225	12/6/2020 13:41	0	0
226	12/6/2020 13:42	0	0
227	12/6/2020 13:43	0	0
228	12/6/2020 13:44	0	0
229	12/6/2020 13:45	0	0
230	12/6/2020 13:46	0	0
231	12/6/2020 13:47	0	0
232	12/6/2020 13:48	0	0
233	12/6/2020 13:49	0	0
234	12/6/2020 13:50	0	0
235	12/6/2020 13:51	0	0
236	12/6/2020 13:52	0	0
237	12/6/2020 13:53	0	0
238	12/6/2020 13:54	0	0
239	12/6/2020 13:55	0	0
240	12/6/2020 13:56	0	0
241	12/6/2020 13:57	0	0

Community Air Monitoring Data
Phase IV Remedial Investigation
Camp Hero, Montauk, New York

Activity: Down-wind air monitoring during drilling operations
Geologist: M. Glinski, AECOM
Instrument: MiniRAE 3000(PGM-7320)

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242	12/6/2020 13:58	0	0
243	12/6/2020 13:59	0	0
244	12/6/2020 14:00	0	0
245	12/6/2020 14:01	0	0
246	12/6/2020 14:02	0	0
247	12/6/2020 14:03	0	0
248	12/6/2020 14:04	0	0
249	12/6/2020 14:05	0	0
250	12/6/2020 14:06	0	0
251	12/6/2020 14:07	0	0
252	12/6/2020 14:08	0	0
253	12/6/2020 14:09	0	0
254	12/6/2020 14:10	0	0

AECOM
AECOM
250 Apollo Drive
Chelmsford, MA 01824
978.905.2100 (tel)
978.905.2101 (fax)

Routine Operations Check List
Portable Air Monitoring Stations

Week of (Monday Date): 11/30/20 **Station:** ~~CH-MCC045~~ CH-1 JH **Site:** Camp Hero

Activity	**Technician's Results**					
Daily Start-Up	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat/Sun**
1. Time of Calibration			0900	0732	1140	0745
2. Technician's Initials			JH	JH	JH	JH
3. Perform zero check of RAE. Record results.	/	/	0.0/0.1	0.0/0.1	0/0	0/0
4. Perform span check of RAE. Record results. (Re-span if > 5.0 +/- 0.1 ppm)	/	/	100 /96.6	100 /106.5	100 /Exceed	100 /Exceed
5. Perform zero check of DustTrak. Record initial results. (Re-zero if > +/- 1.0 ug/m³)	/	/	~~00~~ 0 /0.0	0 /0	0 /0	0 /
6. Perform flow check of DustTrak. Record initial results. (Acceptable flow 1.5 – 1.9 lpm)			1.5	1.5	1.5	1.5
Weekly						
1. Check DustTrak filter following rain events for moisture. If filter is wet, then replace with new filter.						
2. Perform an upscale response check of DustTrak particulate monitor, using a smoke generator. Record upscale response and time of check.						
Monthly						
1. Replace sample line filters on RAE PID.						

Comments:	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat/Sun**
					*PID reading >15,000 ppm on evening calibration. Could be due to almost dead batteries	*See Fri

Reviewed By:__________ Date:__________

AECOM

Community Air Monitoring Program Log Sheet			
Project:	Camp Hero	Date: 12/2/20	
Project: No.:	60443903	CAMP Station#: ~~CH-MW045~~ JH CH-1	
Weather:	AM	Cloudy	PM
Temp. (°F):	High:	45°F	Low: 41°F
Wind Direction(WD):		North	@ CH-MW045 ~120 ft from rig
Upwind (background) Readings (**Initail Reading Required**)			
Time:	PID(PPM)	PM10(µg/m³)	Notes (WD; location)
Hourly Downwind (of rig) Manual Readings			On @ 1248
Time:	PID(PPM)	PM10(mg/m³)	Notes (WD; location)
JH ~~1249~~ 1250	0.1	0.004	N; Run ID: MANUAL_001
1305	0.1	0.003	
1320	0.1	0.003	
1335	0.1	0.003	
1350	0.1	0.003	N
1405	0.1	0.002	
1422	0.1	0.002	
1435	0.1	0.002	
1450	0.1	0.001	N
1507	0.1	0.001	
1520	0.1	0.001	
1535	0.1	0.001	
1550	0.1	0.001	
1559	0.1	0.001	Off @ 1600
1600 —	— OFF		

AECOM

Community Air Monitoring Program Log Sheet			
Project:	Camp Hero	Date: 12/3/20	
Project: No.:	60443903	CAMP Station#: CH-1	
Weather:	AM	Sunny	PM
Temp. (°F):	High:	55	Low: 45
Wind Direction(WD):		N	@ CH-MW045 ~120 ft from rig
Upwind (background) Readings (**Initail Reading Required**)			
Time:	PID(PPM)	PM10(μg/m3)	Notes (WD; location)
Hourly Downwind (of rig) Manual Readings			Manual-002
Time:	PID(PPM)	PM10(mg/m3)	Notes (WD; location)
0855	0.2	0.004	N, on @ 0840
0910	0.2	0.003	wind very gentle
0925	0.2	0.003	Attached moisture filter
0940	0.2	0.002	
0955	0.2	0.002	Light wind, N
1010	0.2	0.002	Truck on ~10 ft from CAMP ~1020-1025
1025	0.2	0.001	
1040	0.2	0.001	Light wind N
1055	0.2	0.001	battery dead, turned on prior to replacing battery to get reading
———	off 1100 -	1110 ———	———
1110	0.2	0.002	N; charging @ Mikes car
1125	0.2	0.002	
1140	0.2	0.003	
1155	0.2	0.003	N
1210	0.2	0.003	
1225	0.2	0.004	N

— OFF @ 1232 ——————

AECOM

Community Air Monitoring Program Log Sheet			
Project:	Camp Hero	Date: 12/4/20	
Project: No.:	60443903	CAMP Station#: CH-1	
Weather:	AM	Sunny	PM Cloudy, rain
Temp. (°F):	High:		Low:
Wind Direction(WD):		N, Gentle	CH-MW044, ~50 ft from rig
Upwind (background) Readings (**Initail Reading Required**)			
Time:	PID(PPM)	PM10(μg/m³)	Notes (WD; location)
Hourly Downwind (of rig) Manual Readings			Manual-003
Time:	PID(PPM)	PM10(mg/m³)	Notes (WD; location)
1208	2.6	0.010	On@ 1153
1223	2.7	0.007	N
1238	0.0	0.007	PID turned off to replace batteries. zeroed w/ fresh air
1253	0.5	0.012	N
1308	0.5	0.006	
1323	0.6	0.010	N
1338	0.8	0.010	N/NE
1353	0.4	0.012	NE, wind picking up w/ sprinkling of rain
1408	0.5	0.007	
1423	0.5	0.015	NE
1438	0.4	0.007	
1453	0.4	0.008	Replaced Dust Trak intake - See NOTES
1508	0.5	0.007	
1523	0.4	0.010	
1538	0.1	0.007	
1553	0.0	0.008	

——— END ——— RAIN

AECOM

Community Air Monitoring Program Log Sheet			
Project:	Camp Hero	Date: 12/6/20	
Project: No.:	60443903	CAMP Station#: CH-1	
Weather:	AM windy		PM
Temp. (°F):	High: 39°		Low: 34
Wind Direction(WD): B N/NE			@ CH-MW044, ~ 50 ft from rig
Upwind (background) Readings (**Initail Reading Required**)			
Time:	PID(PPM)	PM10(μg/m³)	Notes (WD; location)
Hourly Downwind (of rig) Manual Readings			MANUAL_004
Time:	PID(PPM)	PM10(mg/m³)	Notes (WD; location)
1007	0.0	0.001	On @ 0952, N/NE
1022	0.0	0.001	NE
1040	0.0	0.001	DustTrak dead, going to plug in
1055	0.0	0.002	On @ 1055
1107	0.0	0.000	Drilling STOPPED. DustTrak unplugged for trucks to move.
	OFF		
1200	0.0	0.004	On @ 1200
	OFF		OFF while trucks getting water
1251	0.0	0.000	On @ 1250
1304	0.0	0.000	off for trucks to get by
	OFF		
1328	0.0	0.000	On
1345	0.0	0.000	N/NE
1356	0.0	0.001	
	OFF		

Appendix C3

Well Boring and Construction Logs

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WELL NUMBER CH-MW044D

AECOM AECOM

TOTAL DEPTH 160 FT BGS

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero
DATE STARTED 12/4/20 **COMPLETED** 12/6/20
EASTING 1570419.5106 **NORTHING** 332250.2837
DRILLING CONTRACTOR ADT
GROUND ELEVATION 65.82 ft **HOLE SIZE** 7 inches
DRILLING EQUIPMENT Fraste XL MAX
GROUND WATER LEVELS:
DRILLING METHOD Rotary Sonic
AT TIME OF DRILLING ---
LOGGED BY M. Glinski **CHECKED BY** J. Hollingsworth
AT TIME OF SAMPLING 63.72 ft / Elev 2.10 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
0		100	ML		0.0 SILT WITH SAND, dry, dark reddish brown (5YR 3/3), soft with 15% fine-grained sand and trace rounded gravel up to 7 cm in diameter. Roots present throughout top 6 inches.	65.8		**Annular Seal** Top: 0 ft bgs Bottom: 104 ft bgs
5		72			5.0 SANDY SILT, dry, dark yellowish brown (10YR 4/4), medium stiffness with 30% fine-grained sand.	60.8		
					7.0 Changes to brown (7.5YR 4/3) and grading into fine- to medium-grained sand.	58.8		
10		60	SM		11.0 SILTY SAND, dry, brown (10YR 4/3), fine-grained with 30% stiff silt and 5% rounded to subrounded gravel ranging in size up to 3 cm in diameter.	54.8		**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 147 ft bgs
					14.0 *Sample results: 59.3% sand, 36.1% fines, and 4.6% gravel.*	51.8	CH-MW044D-SB-14-15	
15								
20								
25								

(Continued Next Page)

AECOM AECOM

CLIENT USACE New England District **PROJECT NAME** Camp Hero Phase IV
PROJECT NUMBER 60443903 **SITE NAME** Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
25		34	SM		11.0	SILTY SAND, dry, brown (10YR 4/3), fine-grained with 30% stiff silt and 5% rounded to subrounded gravel ranging in size up to 3 cm in diameter. *(continued)*	54.8		
					27.0	Changes to dark greenish gray (5GY 4/1). *Sample results: 64.2% sand, 35.8% fines, and 0% gravel.*	38.8	CH-MW044D-SB-27-29	
					28.0	Changes to brown (10YR 4/3).	37.8		
30					30.0	Changes to dark olive gray (5Y 3/2) with trace rounded gravel ranging in size up to 6 cm in diameter.	35.8		
35		65							
					37.0	*Sample results: 60.5% sand, 35.4% fines, 4.1% gravel.*	28.8	CH-MW044D-SB-37-39	**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 147 ft bgs
40									
45		74							
					46.0	*Sample results: 62.3% sand, 36.6% fines, and 1.1% gravel.*	19.8	CH-MW044D-SB-46-47	
50					50.0	Changes to olive gray (5Y 4/2). Coarsening to contain less fines. Trace amounts of rounded to subangular gravel ranging in size up to 3 cm.	15.8		

(Continued Next Page)

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
55		80			50.0	Changes to olive gray (5Y 4/2). Coarsening to contain less fines. Trace amounts of rounded to subangular gravel ranging in size up to 3 cm. *(continued)*	15.8	
					58.0	*Sample results: 67.7% sand, 25.3% fines, and 7.0% gravel.*	7.8 CH-MW044D-SB-58-59	
60					60.0	Changes to wet, dark gray (5Y 4/1), soft with decreasing gravel.	5.8	
65		45			63.0	*Sample results: 66.7% sand, 20.1% fines, and 13.2% gravel.*	2.8 CH-MW044D-SB-63-64	**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 147 ft bgs
70			SW-SM		70.0	WELL-GRADED SAND WITH SILT, dry, olive (5Y 5/3), fine- to medium-grained, moderately loose with <15% slightly cohesive fines. *Sample results: 83.1% sand, 14.5% fines, and 2.4% gravel.*	-4.2 CH-MW044D-SB-70-72	
75		52			75.0	Fractured/pulverized gneiss boulder.	-9.2	
			ML		77.0	SILT WITH SAND, dry, olive gray (5Y 3/2) and yellowish brown (10YR 5/4), stiff with 15-25% sand.	-11.2	
80			SP-SM		80.0	POORLY GRADED SAND WITH SILT, moist, olive gray (5Y 5/2), loose with 10% fines.	-14.2	

(Continued Next Page)

AECOM

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	DEPTH	MATERIAL DESCRIPTION	ELEV.	ENVIRONMENTAL DATA
				80.0		-14.2	
		60	ML	83.0	SILT WITH SAND, dry, olive gray (5Y 5/2), very stiff, low plasticity with white laminations and >15% sand.	-17.2	
85				85.0	*Sample results: 71.1% fines, 28.9% sand, and 0% gravel.*	-19.2	CH-MW044D-SB-85-86
90		82	SC	90.0	CLAYEY SAND, moist, dark grayish brown (10YR 4/2), loose with >15% clay.	-24.2	
			CL	93.0	LEAN CLAY, dry, dark grayish brown (10YR 4/3), very stiff, medium plasticity.	-27.2	
95				96.0	*Sample results: 95.0% fines, 5.0% sand, and 0% gravel.*	-30.2	CH-MW044D-SB-96-97
100							
105		65					
				108.0	LEAN CLAY WITH SAND, dry, gray (2.5Y 5/1), slightly cohesive with >15% fine-grained sand and 5% gravel. *Sample results: 69.5% fines, 21.6% sand, and 8.9% gravel.*	-42.2	CH-MW044D-SB-108-109
110			SP	109.0	POORLY GRADED SAND, dry, gray (2.5Y 5/1), loose, fine-grained.	-43.2	

WELL DIAGRAM

Well Casing
Type: Schedule 40 PVC
Diameter: 2 in
Top: 0 ft bgs
Bottom: 147 ft bgs

Annular Seal
Top: 104 ft bgs
Bottom: 107 ft bgs

Annular Seal
Top: 107 ft bgs
Bottom: 108 ft bgs

Filter Pack
Type: #2 Filter Sand
Top: 108 ft bgs
Bottom: 120 ft bgs

(Continued Next Page)

CLIENT USACE New England District **PROJECT NAME** Camp Hero Phase IV
PROJECT NUMBER 60443903 **SITE NAME** Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
			SP		109.0 POORLY GRADED SAND, dry, gray (2.5Y 5/1), loose, fine-grained. *(continued)* -43.2		
115		40			115.0 *Sample results: 88.1% sand, 9.8% fines, and 2.1% gravel.* -49.2	CH-MW044D-SB-115-116	
120							**Annular Seal** Top: 120 ft bgs Bottom: 138 ft bgs
					123.0 *Sample results: 88.8% sand, 8.3% gravel, and 2.9% fines.* -57.2	CH-MW044D-SB-123-125	**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 147 ft bgs
125		48					
130					131.0 Coarsening to fine-to medium-grained with 5% subrounded gravel ranging up to 4 cm in diameter. -65.2		
135		41					
			SW		136.0 WELL-GRADED SAND WITH GRAVEL, dry, gray, fine- to coarse-grained with 15% gravel and 5% fines. *Sample results: 77.8% sand, 15.8% gravel, and 6.4% fines.* -70.2	CH-MW044D-SB-136-138	**Annular Seal** Top: 138 ft bgs Bottom: 142 ft bgs

(Continued Next Page)

WELL NUMBER CH-MW044D

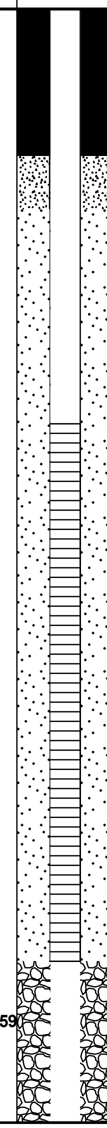
AECOM

TOTAL DEPTH 160 FT BGS

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA
140			SW		136.0	-70.2	
		0			140.0 NO RECOVERY.	-74.2	
145							
150			SP		150.0 POORLY GRADED SAND, dry, gray, loose, fine-grained, slightly cohesive.	-84.2	CH-MW044D-1220
155		60			155.5 Coarsening to fine- to medium-grained.	-89.7	
			SP-SM		157.0 POORLY GRADED SAND WITH SILT, dry, gray, fine-grained with 10% silt. *Sample results: 88.0% sand, 10.4% fines, and 1.6% gravel.*	-91.2	CH-MW044D-SB-157-159
160							

WELL DIAGRAM



Annular Seal
Top: 142 ft bgs
Bottom: 143 ft bgs

Filter Pack
Type: #2 Filter Sand
Top: 143 ft bgs
Bottom: 157 ft bgs

Well Casing
Type: Schedule 40 PVC
Diameter: 2 in
Top: 0 ft bgs
Bottom: 147 ft bgs

Well Screen
Type: Schedule 40 PVC
Slot Size: 0.01 in
Top: 147 ft bgs
Bottom: 157 ft bgs

Backfill
Top: 157 ft bgs
Bottom: 160 ft bgs

Bottom of borehole at 160.0 feet.

Notes:
1. Headspace screening values represent total volatile organic vapors (referenced to an isobutylene standard) measured with a Photoionization Detector (PID) with 10.6 eV lamp.
2. Coordinates and elevation data in NAVD88 for vertical datum and NAD83 NY Long Island State Plane for horizontal datum.
3. First five feet dug using a hand auger.
4. Annular seal sand on diagram is #00 choker sand.
5. Riser sunk approximately two feet in borehole prior to well construction completion.

WELL NUMBER CH-MW044S

AECOM

TOTAL DEPTH 120 FT BGS

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero
DATE STARTED 12/4/20 **COMPLETED** 12/6/20
EASTING 1570419.0395 **NORTHING** 332250.4144
DRILLING CONTRACTOR ADT
GROUND ELEVATION 65.82 ft **HOLE SIZE** 7 inches
DRILLING EQUIPMENT Fraste XL MAX
GROUND WATER LEVELS:
DRILLING METHOD Rotary Sonic
AT TIME OF DRILLING ---
LOGGED BY M. Glinski **CHECKED BY** J. Hollingsworth
AT TIME OF SAMPLING 64.18 ft / Elev 1.64 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ELEV.	ENVIRONMENTAL DATA	WELL DIAGRAM
0		100	ML		0.0	SILT WITH SAND, dry, dark reddish brown (5YR 3/3), soft with 15% fine-grained sand and trace rounded gravel up to 7 cm in diameter. Roots present throughout top 6 inches.	65.8		**Annular Seal** Top: 0 ft bgs Bottom: 104 ft bgs
5		72			5.0	SANDY SILT, dry, dark yellowish brown (10YR 4/4), medium stiffness with 30% fine-grained sand.	60.8		
					7.0	Changes to brown (7.5YR 4/3) and grading into fine- to medium-grained sand.	58.8		
10		60	SM		11.0	SILTY SAND, dry, brown (10YR 4/3), fine-grained with 30% stiff silt and 5% rounded to subrounded gravel ranging in size up to 3 cm in diameter.	54.8		**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 110 ft bgs
15					14.0	*Sample results: 59.3% sand, 36.1% fines, and 4.6% gravel.*	51.8	CH-MW044D-SB-14-15	
20									
25									

(Continued Next Page)

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
25		34	SM		11.0	SILTY SAND, dry, brown (10YR 4/3), fine-grained with 30% stiff silt and 5% rounded to subrounded gravel ranging in size up to 3 cm in diameter. *(continued)*	54.8		
					27.0	Changes to dark greenish gray (5GY 4/1). *Sample results: 64.2% sand, 35.8% fines, and 0% gravel.*	38.8	CH-MW044D-SB-27-29	
					28.0	Changes to brown (10YR 4/3).	37.8		
30					30.0	Changes to dark olive gray (5Y 3/2) with trace rounded gravel ranging in size up to 6 cm in diameter.	35.8		
35		65							
					37.0	*Sample results: 60.5% sand, 35.4% fines, 4.1% gravel.*	28.8	CH-MW044D-SB-37-39	**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 110 ft bgs
40									
45		74							
					46.0	*Sample results: 62.3% sand, 36.6% fines, and 1.1% gravel.*	19.8	CH-MW044D-SB-46-47	
50					50.0	Changes to olive gray (5Y 4/2). Coarsening to contain less fines. Trace amounts of rounded to subangular gravel ranging in size up to 3 cm.	15.8		

(Continued Next Page)

AECOM

CLIENT USACE New England District **PROJECT NAME** Camp Hero Phase IV
PROJECT NUMBER 60443903 **SITE NAME** Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
55		80			50.0 Changes to olive gray (5Y 4/2). Coarsening to contain less fines. Trace amounts of rounded to subangular gravel ranging in size up to 3 cm. *(continued)*	15.8		
					58.0 *Sample results: 67.7% sand, 25.3% fines, and 7.0% gravel.*	7.8	CH-MW044D-SB-58-59	
60					60.0 Changes to wet, dark gray (5Y 4/1), soft with decreasing gravel.	5.8		
					63.0 *Sample results: 66.7% sand, 20.1% fines, and 13.2% gravel.*	2.8	CH-MW044D-SB-63-64	
65		45						**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 110 ft bgs
70			SW		70.0 WELL-GRADED SAND WITH SILT, dry, olive (5Y 5/3), fine- to medium-grained, moderately loose with <15% slightly cohesive fines. *Sample results: 83.1% sand, 14.5% fines, and 2.4% gravel.*	-4.2	CH-MW044D-SB-70-72	
75		52			75.0 Fractured/pulverized gneiss boulder.	-9.2		
			ML		77.0 SILT WITH SAND, dry, olive gray (5Y 3/2) and yellowish brown (10YR 5/4), stiff with 15-25% sand.	-11.2		
80			SP-SM		80.0 POORLY GRADED SAND WITH SILT, moist, olive gray (5Y 5/2), loose with 10% fines.	-14.2		

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AECOM AECOM

CLIENT USACE New England District **PROJECT NAME** Camp Hero Phase IV
PROJECT NUMBER 60443903 **SITE NAME** Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
					80.0	-14.2		
			ML		83.0 SILT WITH SAND, dry, olive gray (5Y 5/2), very stiff, low plasticity with white laminations and >15% sand.	-17.2		
85		60			85.0 Sample results: 71.1% fines, 28.9% sand, and 0% gravel.	-19.2	CH-MW044D-SB-85-86	
90			SC		90.0 CLAYEY SAND, moist, dark grayish brown (10YR 4/2), loose with >15% clay.	-24.2		
			CL		93.0 LEAN CLAY, dry, dark grayish brown (10YR 4/3), very stiff, medium plasticity.	-27.2		
95		82			96.0 *Sample results: 95.0% fines, 5.0% sand, and 0% gravel.*	-30.2	CH-MW044D-SB-96-97	**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 110 ft bgs
100								
105		65						**Annular Seal** Top: 104 ft bgs Bottom: 107 ft bgs
								Annular Seal Top: 107 ft bgs Bottom: 108 ft bgs
					108.0 LEAN CLAY WITH SAND, dry, gray (2.5Y 5/1), slightly cohesive with >15% fine-grained sand and 5% gravel. *Sample results: 69.5% fines, 21.6% sand, and 8.9% gravel.*	-42.2	CH-MW044D-SB-108-109	**Filter Pack** Type: #2 Filter Sand Top: 108 ft bgs Bottom: 120 ft bgs
110			SP		109.0 POORLY GRADED SAND, dry, gray (2.5Y 5/1), loose, fine-grained.	-43.2	CH-MW044S-1220	

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ARNG SMART LOG 8.5X11_V2 - - 3/22/21 17:20 - C:\USERS\JACK.HOLLINGSWORTH\DOCUMENTS\GINT\CAMP HERO\CAMP HERO_PHASE IV.GPJ

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
			SP		109.0 POORLY GRADED SAND, dry, gray (2.5Y 5/1), loose, fine-grained. *(continued)*	-43.2		
115		40			115.0 *Sample results: 88.1% sand, 9.8% fines, and 2.1% gravel.*	-49.2	CH-MW044D-SB-115-116	**Well Screen** Type: Schedule 40 PVC Slot Size: 0.01 in Top: 110 ft bgs Bottom: 120 ft bgs
120								

Bottom of borehole at 120.0 feet.

Notes:
1. Headspace screening values represent total volatile organic vapors (referenced to an isobutylene standard) measured with a Photoionization Detector (PID) with 10.6 eV lamp.
2. Coordinates and elevation data in NAVD88 for vertical datum and NAD83 NY Long Island State Plane for horizontal datum.
3. First five feet dug using a hand auger.
4. Annular seal sand on diagram is #00 choker sand.
5. Nested stickup well with CH-MW044D installed in the same borehole. See CH-MW044D boring log for complete lithology.

AECOM

CLIENT USACE New England District		**PROJECT NAME** Camp Hero Phase IV	
PROJECT NUMBER 60443903		**SITE NAME** Camp Hero	
DATE STARTED 12/2/20	**COMPLETED** 12/3/20	**EASTING** 1570351.2595	**NORTHING** 331674.7725
DRILLING CONTRACTOR ADT		**GROUND ELEVATION** 45.18 ft	**HOLE SIZE** 7 inches
DRILLING EQUIPMENT Fraste XL MAX		**GROUND WATER LEVELS:**	
DRILLING METHOD Rotary Sonic		**AT TIME OF DRILLING** ---	
LOGGED BY M. Glinski	**CHECKED BY** J. Hollingsworth	**AT TIME OF SAMPLING** 44.00 ft / Elev 1.18 ft	

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
0		100	ML		0.0 SANDY SILT, dry, brown (7.5YR 5/4), soft, cohesive, non-plastic with 30% fine-grained sand.	45.2		**Annular Seal** Top: 0 ft bgs Bottom: 81 ft bgs
5		90			6.0 5% rounded to subrounded gravel ranging in size up to 3 cm.	39.2		
10		100			10.0 SILT WITH SAND, dry, dark yellowish brown (10YR 4/4), stiff, cohesive, non-plastic with 15% fine-grained sand and trace amounts of gravel ranging in size up to 2 cm.	35.2		**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 126 ft bgs
15								
20					20.0 Changes to dark gray.	25.2		
25								

(Continued Next Page)

CLIENT USACE New England District **PROJECT NAME** Camp Hero Phase IV

PROJECT NUMBER 60443903 **SITE NAME** Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION			ENVIRONMENTAL DATA	WELL DIAGRAM
25		100			20.0	Changes to dark gray. *(continued)*	25.2		
30									
35		100							
40									**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 126 ft bgs
45		55			45.0	Wet from 45 to 46 feet bgs.	0.2		
			SW		46.0	WELL-GRADED SAND lens.	-0.8		
			SM		47.0	SILTY SAND, dry, olive brown (2.5Y 4/3), soft with 30% fines, cohesive, non-plastic.	-1.8		
50									

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CLIENT USACE New England District **PROJECT NAME** Camp Hero Phase IV
PROJECT NUMBER 60443903 **SITE NAME** Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
55		55	SM		47.0 SILTY SAND, dry, olive brown (2.5Y 4/3), soft with 30% fines, cohesive, non-plastic. *(continued)*	-1.8		
			ML		56.0 SILT, dry, greenish gray (10Y 5/1) with 5% fine-grained, olive gray (5Y 5/2) sand.	-10.8		
60								
65		55						
					67.0 Changes to olive (5Y 4/3) with dark yellowish brown (10YR 4/4) laminations.	-21.8		**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 126 ft bgs
70			SP		70.0 POORLY GRADED SAND, moist, olive gray (5Y 5/2), fine-grained, loose.	-24.8		
			CL		73.0 LEAN CLAY, dry, olive gray (5Y 4/2), stiff, low to medium plasticity.	-27.8		
75		60						
80								**Annular Seal** Top: 80 ft bgs Bottom: 81 ft bgs
								Annular Seal Top: 81 ft bgs

(Continued Next Page)

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION			ENVIRONMENTAL DATA	WELL DIAGRAM
			CL		73.0	LEAN CLAY, dry, olive gray (5Y 4/2), stiff, low to medium plasticity. *(continued)*	-27.8		Bottom: 83 ft bgs **Filter Pack** Type: #2 Filter Sand Top: 83 ft bgs Bottom: 95 ft bgs
85		48	SP		85.0	POORLY GRADED SAND, dry, gray (10YR 5/1), loose, fine-grained.	-39.8		
90									
95		40							**Annular Seal** Top: 95 ft bgs Bottom: 121 ft bgs **Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 126 ft bgs
100									
105		43							
					108.0	Changes to fine- to medium-grained.	-62.8		
110									

(Continued Next Page)

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION			ENVIRONMENTAL DATA	WELL DIAGRAM
			SP		85.0	POORLY GRADED SAND, dry, gray (10YR 5/1), loose, fine-grained. *(continued)*	-39.8		
115		40							
120									**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 126 ft bgs
									Annular Seal Top: 121 ft bgs Bottom: 123 ft bgs
									Filter Pack Type: #2 Filter Sand Top: 123 ft bgs Bottom: 136 ft bgs
125		40							
130					130.0	Changes to fine-grained.	-84.8	CH-MW045D-1220	**Well Screen** Type: Schedule 40 PVC Slot Size: 0.01 in Top: 126 ft bgs Bottom: 136 ft bgs
		100							
135									

Bottom of borehole at 136.0 feet.

Notes:
1. Headspace screening values represent total volatile organic vapors (referenced to an isobutylene standard) measured with a Photoionization Detector (PID) with 10.6 eV lamp.
2. Coordinates and elevation data in NAVD88 for vertical datum and NAD83 NY Long Island State Plane for horizontal datum.
3. First five feet dug using a hand auger.
4. Annular seal sand on diagram is #00 choker sand.

(Continued Next Page)

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM

5. Riser sunk approximately one foot in borehole prior to well construction completion.

WELL NUMBER CH-MW045S

AECOM

TOTAL DEPTH 100 FT BGS

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero
DATE STARTED 12/2/20 **COMPLETED** 12/3/20
EASTING 1570351.0745 **NORTHING** 331674.6989
DRILLING CONTRACTOR ADT
GROUND ELEVATION 45.18 ft **HOLE SIZE** 7 inches
DRILLING EQUIPMENT Fraste XL MAX
GROUND WATER LEVELS:
DRILLING METHOD Rotary Sonic
AT TIME OF DRILLING ---
LOGGED BY M. Glinski **CHECKED BY** J. Hollingsworth
AT TIME OF SAMPLING 43.12 ft / Elev 2.06 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
0		100	ML		0.0 SANDY SILT, dry, brown (7.5YR 5/4), soft, cohesive, non-plastic with 30% fine-grained sand.	45.2		**Annular Seal** Top: 0 ft bgs Bottom: 81 ft bgs
5		90			6.0 5% rounded to subrounded gravel ranging in size up to 3 cm.	39.2		
10		100			10.0 SILT WITH SAND, dry, dark yellowish brown (10YR 4/4), stiff, cohesive, non-plastic with 15% fine-grained sand and trace amounts of gravel ranging in size up to 2 cm.	35.2		**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 85 ft bgs
15								
20					20.0 Changes to dark gray.	25.2		
25								

(Continued Next Page)

CLIENT USACE New England District
PROJECT NAME Camp Hero Phase IV
PROJECT NUMBER 60443903
SITE NAME Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
25		100			20.0 Changes to dark gray. *(continued)*	25.2		
30								
35		100						
40								**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 85 ft bgs
45		55			45.0 Wet from 45 to 46 feet bgs.	0.2		
			SW		46.0 WELL-GRADED SAND lens.	-0.8		
			SM		47.0 SILTY SAND, dry, olive brown (2.5Y 4/3), soft with 30% fines, cohesive, non-plastic.	-1.8		
50								

(Continued Next Page)

CLIENT USACE New England District **PROJECT NAME** Camp Hero Phase IV
PROJECT NUMBER 60443903 **SITE NAME** Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
55		55	SM		47.0 SILTY SAND, dry, olive brown (2.5Y 4/3), soft with 30% fines, cohesive, non-plastic. *(continued)*	-1.8		
			ML		56.0 SILT, dry, greenish gray (10Y 5/1) with 5% fine-grained, olive gray (5Y 5/2) sand.	-10.8		
60								
65		55						
					67.0 Changes to olive (5Y 4/3) with dark yellowish brown (10YR 4/4) laminations.	-21.8		**Well Casing** Type: Schedule 40 PVC Diameter: 2 in Top: 0 ft bgs Bottom: 85 ft bgs
70			SP		70.0 POORLY GRADED SAND, moist, olive gray (5Y 5/2), fine-grained, loose.	-24.8		
			CL		73.0 LEAN CLAY, dry, olive gray (5Y 4/2), stiff, low to medium plasticity.	-27.8		
75		60						
80								**Annular Seal** Top: 80 ft bgs Bottom: 81 ft bgs
								Annular Seal Top: 81 ft bgs

(Continued Next Page)

WELL NUMBER CH-MW045S

TOTAL DEPTH 100 FT BGS

AECOM AECOM

CLIENT USACE New England District **PROJECT NAME** Camp Hero Phase IV
PROJECT NUMBER 60443903 **SITE NAME** Camp Hero

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
			CL		73.0 LEAN CLAY, dry, olive gray (5Y 4/2), stiff, low to medium plasticity. *(continued)* -27.8		Bottom: 83 ft bgs **Filter Pack** Type: #2 Filter Sand Top: 83 ft bgs Bottom: 95 ft bgs
85		48	SP		85.0 POORLY GRADED SAND, dry, gray (10YR 5/1), loose, fine-grained. -39.8		
90						CH-MW045S-1220	**Well Screen** Type: Schedule 40 PVC Slot Size: 0.01 in Top: 85 ft bgs Bottom: 95 ft bgs
95		40					**Annular Seal** Top: 95 ft bgs Bottom: 100 ft bgs
100							

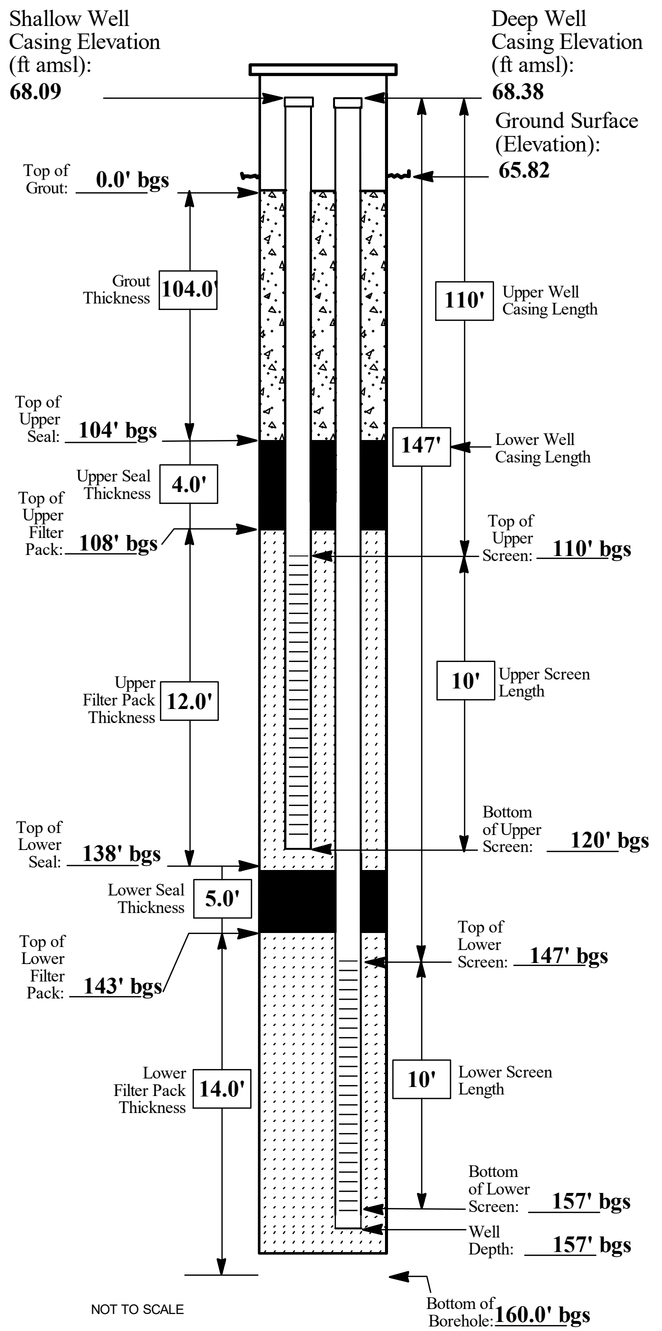
Bottom of borehole at 100.0 feet.

Notes:
1. Headspace screening values represent total volatile organic vapors (referenced to an isobutylene standard) measured with a Photoionization Detector (PID) with 10.6 eV lamp.
2. Coordinates and elevation data in NAVD88 for vertical datum and NAD83 NY Long Island State Plane for horizontal datum.
3. First five feet dug using a hand auger.
4. Annular seal sand on diagram is #00 choker sand.
5. Nested stickup well with CH-MW045D installed in the same borehole. See CH-MW045D boring log for complete lithology.

AECOM

Monitoring Well Construction Diagram

Project Name: Camp Hero		Site: Camp Hero	**LocID: CH-MW044S/D**
Project Number: 60443903	*Northing:* 332250.2837	*Easting:* 1570419.5106	
Drilling Agency: ADT/TWS	Elevation (feet MSL): *Ground:* 65.82	*Top of Casing:* varies, shown below	
Driller: T. Palomeque	Date / Time Started: 12-06-2020 / 1102		Well Depths (feet): 120.0 and 157.0
Drilling Equipment: Fraste XL MAX	Date / Time Finished: 12-06-2020 / 1500		Borehole Diameter (in): 7
Drilling Method: Sonic	Recorded By: M. Glinski		Checked By: J. Hollingsworth



Cap or Plug

Manufacturer: **Koby**

Type: **Compression** Vented (Y/N): **No**

Locked (Y/N): **No** Key No.: **NA**

Well Casing

Type: **PVC**

Manufacturer:

Length per Section: **10** Casing I.D.: **2.06**

Casing O.D.: **2.36** Length of Casing: **Varies**

Joint Type: Flush Threaded ☑ Taped ☐ Welded ☐ O-Ring ☑

Grout

Cement Type: **Portland Type I-II**

Manufacturer: **Lehigh Hanson**

Bentonite Powder Type: **3/8" Hole Plug**

Manufacturer: **Baroid**

Grout is mixed per specifications [4 lbs bentonite powder; and 8 gallons water to each bag (94 lbs) of cement]

Upper and Lower Seal

Type: **Pel Plug 1/4" Pellets**

Manufacturer: **PDS**

Amount (lbs): **50**

Hydration: Volume Water **see note**

Filter Pack

Type: **Filpro #2**

Manufacturer: **US Silica Sands Co**

Amount (lbs): **600**

Screen

Type: **PVC**

Manufacturer:

Length/Sec. **10** No of Sec.

O.D. **2.36** I.D. **2.06**

Slot Size: **.010** No. Slots/ft. **88**

Slotted Length: **9.67**

Bottom Cap or Plug

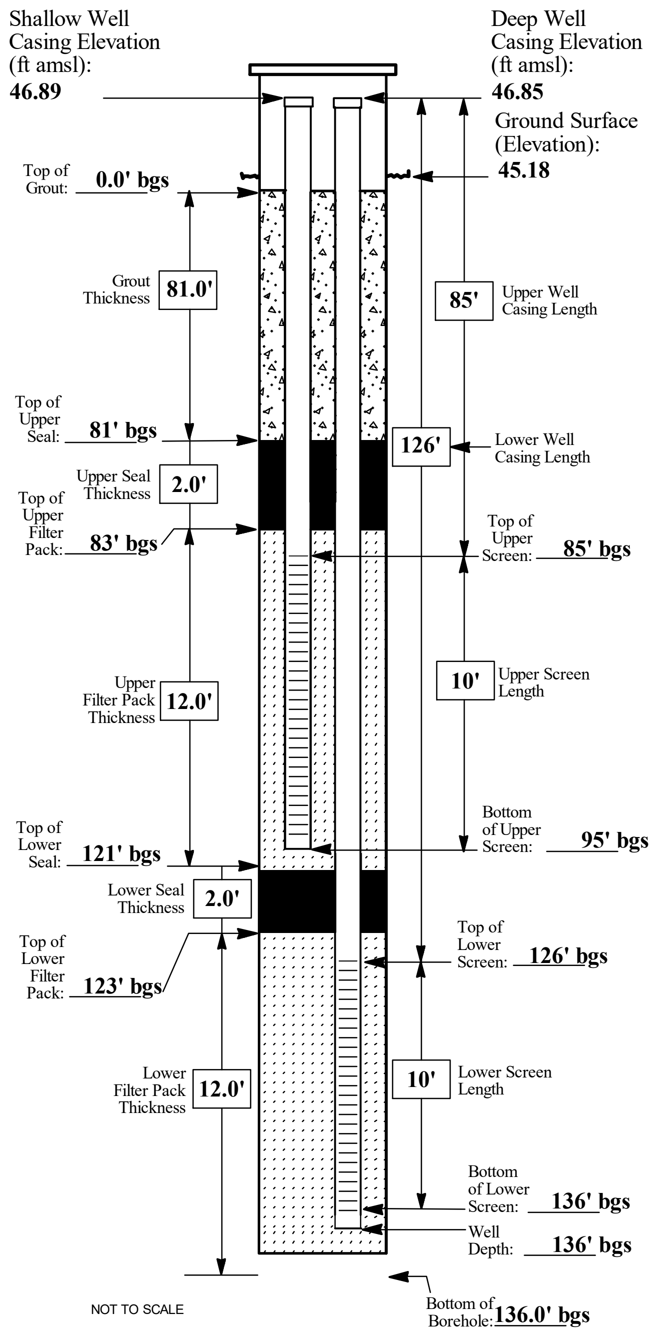
Type: **Flush Threaded w/ O-Ring** Length:

Manufacturer

NOTES: **A total of 200 lbs of #00 Choke Sand was installed from 107 to 108 ft bgs, 120 to 138 ft bgs and 142 to 143 ft bgs; a total of 600 lbs of Filpro #2 Sand was installed from 108 to 120 ft bgs and from 143 to 157 ft bgs, 500 gallons water added during well construction including seal hydration. Well completed as stick-up with a 2x2 ft concrete pad.**

Monitoring Well Construction Diagram

Project Name: Camp Hero	Site: Camp Hero	**LocID: CH-MW045S/D**
Project Number: 60443903	*Northing:* 331674.7725	*Easting:* 1570351.2595
Drilling Agency: ADT/TWS	Elevation (feet MSL): *Ground:* 45.18	*Top of Casing:* varies, shown below
Driller: T. Palomeque	Date / Time Started: 12-03-2020 / 0955	Well Depths (feet): 95.0 and 136.0
Drilling Equipment: Fraste XL MAX	Date / Time Finished: 12-03-2020 / 1300	Borehole Diameter (in): 7
Drilling Method: Sonic	Recorded By: M. Glinski	Checked By: J. Hollingsworth



Cap or Plug

Manufacturer: **Koby**

Type: **Compression** Vented (Y/N): **No**

Locked (Y/N): **No** Key No.: **NA**

Well Casing

Type: **PVC**

Manufacturer:

Length per Section: **10** Casing I.D.: **2.06**

Casing O.D.: **2.36** Length of Casing: **Varies**

Joint Type: Flush Threaded ☑ Taped ☐ Welded ☐ O-Ring ☑

Grout

Cement Type: **Portland Type I-II**

Manufacturer: **Lehigh Hanson**

Bentonite Powder Type: **3/8" Hole Plug**

Manufacturer: **Baroid**

Grout is mixed per specifications [4 lbs bentonite powder; and 8 gallons water to each bag (94 lbs) of cement]

Upper and Lower Seal

Type: **Benseal**

Manufacturer:

Amount (lbs): **50**

Hydration: Volume Water **see note**

Filter Pack

Type: **Filpro #2**

Manufacturer: **US Silica Sands Co**

Amount (lbs): **600**

Screen

Type: **PVC**

Manufacturer:

Length/Sec. **10** No of Sec.

O.D. **2.36** I.D. **2.06**

Slot Size: **.010** No. Slots/ft. **88**

Slotted Length: **9.67**

Bottom Cap or Plug

Type: **Flush Threaded w/ O-Ring** Length:

Manufacturer

NOTES: **A total of 200 lbs of #00 Choke Sand was installed from 80 to 81 ft bgs and 95 to 121 ft bgs; a total of 600 lbs of Filpro #2 Sand was installed from 83 to 95 ft bgs and from 123 to 136 ft bgs, 200 gallons water added during well construction including seal hydration. Well completed as stick-up with a 2x2 ft concrete pad.**

Tracking Codes: C:\USERS\LARSENE1\DOCUMENTS\00_PROJECTS\CAMP HERO GINT WORK\NEW GINT NESTED WELLS\CH_NESTED_PAIRS.GPJ, 6/24/21, 10:42

Form: CH_NESTED WELL PAIR STICKUP

Appendix C4

Well Development Forms

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MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: S19494	Date: 12/03/2020
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: MC Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 600 XLM #16662	Development Equipment: Waterra	
	Water Level Indicator Type/ID #: Solinst 101 / # 018027	Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): S19494 (2")	Water Column Thickness (ft): 33.18	Initial Depth to Water (ft): 42.77
	Total Well Depth (ft): 75.95	Water Volume (gal/lin ft): 0.16	
	Remarks:		

Drum "

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed ~~(Gals)~~	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/03/2020	0855	55.25	4.00"		10.66	0.515	4.34	6.70	-37.6	-	
	0900	55.19	4.25"		11.12	0.513	3.17	6.51	-43.1	-	
	0905	55.1[illegible]	4.75		11.36	0.516	5.57	6.42	-43.0	-	
	0910	55.~~[illegible]~~13	5		11.64	0.516	13.18	6.33	-42.7	-	
	0915	55.15	5.25		11.90	0.515	8.37	6.40	-41.1	633 au	
	0920	55.14	5.25		12.27	0.515	6.70	6.40	-37.5	85	leaking due to O-rings
	0925										changed flow cell - no readings
	0950	55.79	10.5		12.53	0.513	24.99	6.46	-31.2	1283 au	
	1000	55.67	10.75		12.62	0.505	33.19	6.17	-28.3	828 au	
	1005	55.66	11		12.81	0.506	37.16	6.07	-24.3	706 au	
	1010	55.65	11.25		13.28	0.513	42.90	6.30	-35.6	109	
	1015	55.64	11.25		13.44	0.511	40.02	6.32	-41.5	107	
	1020	55.62	11.5		13.70	0.511	37.66	6.34	-45.9	108	
	1025	55.60			13.58	0.512	27.36	6.40	-41.5	-	
	1030	55.59	11.5		13.63	0.502	26.12	6.32	-39.7	93	
	1035	55.59	11.75		13.71	0.511	19.80	6.30	-37.2	126	
	1040	55.58			13.90	0.514	25.64	6.30	-36.3	-	
	1045	55.59	11.75		13.95	0.514	29.37	6.31	-36.2	92.9	

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION			
Site:	Camp Hero	LocID:	519494
Project Name:	Camp Hero Phase IV	Project #:	60443903

519494

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/03/2020	1050	55.61	11.75		13.94	0.514	27.10	6.32	-35.7	81.5	
↓	1055	55.59			13.73	0.513	29.72	6.28	-37.5	61.3	
	1100	55.60	12.25		13.72	0.513	28.64	6.27	-34.2	54.5	

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (=10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero Project Name: Camp Hero Phase IV	LocID: S19495 Project #: 60443903	Date: 12/4/2020 Recorded By: MC Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: 600 XLM #16662 Water Level Indicator Type/ID #: Solinst 101 / #8043	Development Equipment: Waterra Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): S19495 (4") Total Well Depth (ft): 116.68 Remarks:	Water Column Thickness (ft): 62.8 Water Volume (gal/lin ft): 0.65	Initial Depth to Water (ft): 53.8

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate ~~gpm~~ ~~(Lpm)~~	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/4/2020	1020	53.84		300	13.19	0.134	3.51	7.71	-135.8	-	
	1030	53.84			12.97	0.130	2.99	7.71	-146.5	-	
	1040				12.88	0.126	2.23	7.72	-139.6	-	
	1050				12.87	0.123	2.35	7.71	-129.6	31.9	
	~~1000~~ 1100				13.19	0.121	3.12	7.61	-92.2	28.8	
	1110			550	13.03	0.119	2.86	7.58	-94.0	-	increase in purge rate
	1120				12.96	0.119	2.33	7.53	-93.2	23.1	attributed to clearer water
	1130				12.96	0.119	2.34	7.54	-91.2	20.0	
	1140				12.99	0.118	2.47	7.47	-93.6	18.2	
	1150				12.77	0.118	3.47	7.39	-84.0	18.1	
	1200				12.95	0.118	2.29	7.34	-90.1	19.3	black suspended flecks
	1210				13.03	0.117	1.92	7.32	-87.4	17.6	
	1220				13.03	0.118	1.61	7.24	-83.1	18.0	
	1230				13.01	0.118	1.93	7.22	-84.3	20.3	
	1240				13.10	0.118	2.12	7.22	-95.5	23.1	
	1250										fixing leak in flow cell
	1300				13.15	0.118	1.54	7.22	-103.1	28.8	
	1310				13.11	0.118	1.56	7.23	-106.7	27.3	

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: 519495
	Project Name: Camp Hero Phase IV	Project #: 60443903

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/4/2020	1320	53.84		550	13.08	0.118	1.44	7.17	-103.5	24.7	
↓	1330	↓		↓	13.14	0.119	1.40	7.26	-107.9	24.5	
	1340				13.14	0.119	2.13	7.19	-105.7	20.8	

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (=10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: S19445	Date: 12/6/2020
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: MK Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 MPS #27112	Development Equipment: Grundfos #43265	
	Water Level Indicator Type/ID #: Solinst 101 / #8043	Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): S19445 (AT&T) (4")	Water Column Thickness (ft) : 63	Initial Depth to Water (ft): 53.68
	Total Well Depth (ft): 116.68	Water Volume (gal/lin ft) : 0.65	
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed ~~(Gals)~~ Drum"	Pumping Rate gpm ~~(Lpm)~~	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
	804	53.68									
12/6/20	810	~~59.60~~	18	4	–	–	–	–	–	10.37	
	815	55.19	33	3	–	–	–	–	–	9.10	
	820	55.19	49	3+	–	–	–	–	–	5.96	
	823	55.19	55	3+	–	–	–	–	–	8.11	Pump OFF
	836		2"		12.58	0.115	6.89	7.59	87.7	—	YSI ATTACHED.
	839		4"		12.58	0.113	5.67	7.59	40.4	6.20	
	842		6"		12.57	0.113	5.21	7.47	23.8	7.77	
	845		8		12.55	0.112	4.88	7.43	15.1	7.43	
	848		10		12.56	0.112	4.49	7.42	8.4	7.47	
	851		12		12.54	0.112	5.13	7.40	6.4	9.00	
	854		14		12.59	0.111	3.41	7.39	1.8	10.21	
	858		16		12.62	0.111	2.95	7.38	0.2	7.81	
	901		18		12.60	0.111	2.61	7.37	-1.5	5.30	
	904		20		12.64	0.110	2.36	7.37	-2.5	4.52	
	907		22		12.63	0.110	2.15	7.36	-3.9	3.94	
	910		24		12.63	0.109	1.96	7.35	-5.1	3.32	
	914		26		12.68	0.108	1.77	7.35	-6.1	3.36	
	917		28		12.62	0.107	1.64	7.35	-6.8	3.61	
	920		30		12.63	0.107	1.46	7.37	-9.3	2.81	

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: S17231	Date: 12/07/2020
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: MC Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 600 XLM #16662	Development Equipment: Grundfos #43265	
	Water Level Indicator Type/ID #: Solinst 101 #018027	Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): 6" S17231	Water Column Thickness (ft): 43.59	Initial Depth to Water (ft): 63.89
	Total Well Depth (ft): 107.48	Water Volume (gal/lin ft): 1.4684	
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate GPM ~~(Lpm)~~	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/07/2020	1250	64.92	SYS	4	11.00	0.249	7.65	7.73	-134.6		
	1255	67.97	7		11.71	0.297	4.04	8.21	-313.9		
	1300	71.28	15		11.85	0.326	2.91	8.40	-360.2		
	1305	72.40	22		11.98	0.330	2.10	8.61	-375.6		
	1310										
	1315				12.06	0.331	1.70	8.40	-373.4		black color water
	1320		40		12.31	0.296	1.88	8.23	-322.2		sewage odor very opaque
	1325				12.15	0.446	1.37	7.04	-231.4		
	1330				12.09	0.441	1.26	6.94	-213.4		
	1335				12.01	0.431	1.22	6.82	-198.6		
	1340	74.71			12.03	0.429	1.18	6.77	-190.8		light brown/grey coloration
	1345	74.73			11.99	0.429	1.08	6.73	-185.3		less opaque
	1350	74.71	110		11.97	0.427	0.95	6.69	-180.2		
	1355				12.00	0.425	0.81	6.67	-176.7		
	1400	74.67			11.97	0.425	0.71	6.65	-174.5		
	1405	74.66	135		11.93	0.424	0.54	6.64	-171.7		clearing, murky grey
	1410				11.96	0.423	0.42	6.62	-169.4		
	1415	74.55	155		11.97	0.422	0.35	6.61	-168.1		

Drawdown: minimal Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: 558922	Date: 12/8/2020
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: MC Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 600 XLM #16662	Development Equipment: Grundfos #43265	
	Water Level Indicator Type/ID #: Solinst 101 # 018027	Equipment Decon.: Alconox	
WELL INFO	558922 Casing I.D. (in): S Pocahontas (4")	Water Column Thickness (ft): 13.64	Initial Depth to Water (ft): 44.77
	Total Well Depth (ft): 58.41	Water Volume (gal/lin ft): 0.65	
	Remarks: HDPE tube used YSI cup		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/8/2020	1530	45.03			10.01	0.264	5.75	6.81	50.5	0.36	
↓	1532	45.05			11.13	0.262	5.93	6.50	66.4	1.05	
↓	1534	45.05	20		11.75	0.261	5.90	6.37	78.5	0.09	
↓	1536	↓	22		11.92	0.261	5.50	6.27	92.7	0.09	
↓	1538	↓	24		11.95	0.261	4.93	6.23	100.9	0.15	
↓	1540	↓	26		11.97	0.261	4.78	6.20	108.5	0.16	
↓	1542	↓	28		11.90	0.261	5.04	6.17	115.6	1.47	

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Mas	LocID: 548579	Date: 12/09/2020
	Project Name: Camp Mas Phase IV	Project #: 6044 39 03	Recorded By: ~~MC~~ Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 MPS # R8527	Development Equipment: Grundfos #43265 ~~#43265~~	
	Water Level Indicator Type/ID #: Solinst 101 # 018027	Equipment Decon.: Alconox	
	548579		
WELL INFO	Casing I.D. (in): 5 Kanak (6")	Water Column Thickness (ft): 29.86	Initial Depth to Water (ft): 37.39
	Total Well Depth (ft): 63.25	Water Volume (gal/lin ft): 1.469	
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/9/2020	0925	37.79			12.72	0.232	2.64	7.97	-48.7		black turbid water
	0930	38.74	19		13.58	0.215	1.92	7.61	-63.9	149 av	sewage odor grey/brown
	0935	38.86	24		13.91	0.225	1.80	6.92	-19.9	756 av	
	0940	38.74	36		14.11	0.233	1.98	6.53	-0.8	42.4	water improving light grey/brown
	0945	38.65	49		14.03	0.236	2.14	6.34	13.3	32.8	
	0950	38.61	55		14.14	0.239	2.26	6.25	18.3	29.6	
	0955	38.59	60		14.05	0.243	2.27	6.17	19.5	32.3	
	~~0900~~ 1000	38.54	72		14.09	0.244	2.38	6.13	24.3	36.1	
	~~0905~~ 1005	38.05	79		14.28	0.249	2.57	6.09	7.1	21.3	
	1010	37.89	90		14.35	0.253	2.76	6.07	15.3	27.6	
	1015	36.87	100		15.22	0.260	3.25	6.20	6.7	38.1	pump down to 225 Hz
	1020	36.42	110		13.92	0.256	2.47	6.06	20.0	26.8	
	1025	36.39	115		13.56	0.255	2.59	5.91	32.6	12.8	
	1030	36.41	120		13.56	0.257	2.58	5.89	31.6	9.68	
	1035	36.44	125		13.49	0.256	2.60	5.86	27.8	8.01	
	1040	36.40	130		13.49	0.256	2.59	5.88	31.8	11.5	
	1045	36.42	135		13.43	0.256	2.58	5.85	29.6	8.01	

Drawdown: minimal Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

running @ 325 1012 - color to black

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: CH-MW044S	Date: 12/8/20
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: JH Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: 556 MPS / R8527	Development Equipment: Air Lift	
	Water Level Indicator Type/ID #: Heron Dipper T / 27112	Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): 2"	Water Column Thickness (ft): 57.46	Initial Depth to Water (ft): 66.44
	Total Well Depth (ft): 123.9	Water Volume (gal/lin ft): 0.16	27.6 = 3x Volume
	Remarks: 500 gallons added during drilling; MUST remove volume between wells in pair		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/8/20	1349				10.30	0.373	5.92	10.47	-98.9	Out of Range	On @ 1345
				Rigging							
	1415		~125		10.07	0.262	6.18	9.33	-73.8	Out of Range	
	1422				10.49	0.266	6.13	9.27	-80.2		
	1427				10.53	0.257	6.17	8.96	-72.9		
	1432		175		10.47	0.253	6.18	8.80	-70.6		

Drawdown: minimal Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero Project Name: Camp Hero Phase 1C	LocID: 44S Project #: 60448903	Date: 12/10/2020 Recorded By: MR Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 MPS # R8527 Water Level Indicator Type/ID #: Solinst 101 # 018027	Development Equipment: Grundfos # 43265 Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): 44S (2") Total Well Depth (ft): 124.55 Remarks:	Water Column Thickness (ft) : 57.99 Water Volume (gal/lin ft) : 0.1632	Initial Depth to Water (ft): 66.56 28.39 = 3 well V

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/10/2020										~~[illegible]~~	
	0930	66.82			13.07	0.258	5.42	9.76	-221.3	39.0	.225 Hz
	0935	66.84	10		12.85	0.257	2.97	9.89	-270.3	1896 au	fine silt light brown
	0940		14		12.86	0.251	1.41	10.21	-354.2	1806 au	
	0945		18		12.89	0.251	2.29	9.33	-372.1	853 au	
	0950		22		12.60	0.249	1.02	8.84	-385.4	77 ntu	
	0955		26		12.62	0.246	0.89	8.56	-377.9	69.2	
	1000		30		12.62	0.244	0.80	8.27	-361.8	42.7	
	1005		34		12.61	0.242	0.76	8.10	-350.4	25.4	
	1010		38		-	-	-	-	-	-	1007 and 1010 pump fault
	1015		42		13.47	0.244	0.94	8.22	-299.1	35.5	
	1020		46		13.42	0.243	0.68	7.97	-306.5	80.1	fine silt - clearing quickly
	1025		50		13.35	0.239	0.61	7.76	-311.4	31.2	
	1030		54		13.32	0.239	0.54	7.64	-306.6	19.1	
	1035		58		13.29	0.240	0.51	7.65	-303.4	12.2	
	1040		62		13.23	0.240	0.50	7.64	-301.6	9.26	
	1045	✓	66		13.28	0.240	0.50	7.62	-297.8	9.53	

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

1007 pump fault

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: CH-MW044D	Date: 12/8/20
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: JH Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556MPS/R8527	Development Equipment: ~~Gravity~~ Air JH Lift	
	Water Level Indicator Type/ID #: Heron Dipper-T / 27112	Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): 2"	Water Column Thickness (ft): 93.62	Initial Depth to Water (ft): 66.48
	Total Well Depth (ft): 160.1	Water Volume (gal/lin ft): 0.16	44.9 = 3x Volume
	500 gallons of water need to be taken out of borehole; water added during drilling Remarks: Obtained readings via bucket		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/8/20	1123				8.86	0.520	6.04	9.44	-80.4	1743	
↓	RUNNING										No parameters taken
	1228		450		10.58	1.339	5.63	8.90	-115.0	41.9	Reduced flow
	1233				10.92	2.124	5.71	8.22	-108.3	79.3	
	1240				9.71	2.956	6.00	8.022	-108.7	38	
	1245				10.05	3.383	5.90	7.70	-107.5	57	
↓	1250		450		10.12	3.722	6.26	7.58	-102.8	76.1	

Drawdown: minimal Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

124.55
65.82

MONITORING WELL DEVELOPMENT FORM

LOCATION			
Site: Camp Hero	LocID: 44D	Date: 12/9/2020	
Project Name: Camp Hero Phase IV	Project #: 60443803	Recorded By: ~~MK~~	Checked By:

EQUIPMENT	
H2O Quality Meter Type/ID #: YSI 556 MPS # R8527	Development Equipment: Grundfos #43265
Water Level Indicator Type/ID #: Solinst 101 # 018027	Equipment Decon.: Alconox

WELL INFO		
Casing I.D. (in): 44 D (2")	Water Column Thickness (ft): 94.68	Initial Depth to Water (ft): 66.03
Total Well Depth (ft): 160.71	Water Volume (gal/lin ft): 0.1632	
Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/9/2020	1505		2		13.14	2.845	8.75	6.78	28.3	30.3	
	1510	65.96	4		12.01	2.578	20.01	7.01	7.9	31.7	
	1515	64.96	8		11.59	2.749	9.53	6.44	12.9	34.6	
	1520		15		12.78	3.002	7.23	7.07	3.1	38.7	325 hz
	1525		20		15.42	2.184	7.93	7.22	17.6	41.3	
	1530		28		13.39	2.331	5.74	7.12	3.2	27.4	
	1535		34		13.25	2.396	3.21	7.06	-19.8	12.3	
	1540		40		13.02	2.302	2.39	7.10	-29.1	3.08	
	1545		48		12.97	2.190	1.86	7.07	-39.5	1.85	
	1550		58		12.94	2.032	1.66	7.03	-50.5	1.66	
	1555		70		12.91	1.847	1.48	7.04	-56.5	1.42	
	1600		80		12.87	1.780	1.40	7.01	-61.5	0.91	
	1605		90		12.92	1.735	1.34	7.00	-63.5	1.56	
	1610		100		12.95	1.716	1.26	6.98	-64.8	0.06	
	1615		110		12.97	1.718	1.21	6.97	-67.3	0.17	

Drawdown: minimal Measurements:3-5 min Stabilization: +/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: CH-MW045S	Date: 12/7/20
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: JH Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 MPS/R8527	Development Equipment: ~~Gravity~~ Air lift	
	Water Level Indicator Type/ID #: Heron Dipper T/27112	Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): 2"	Water Column Thickness (ft): ~75.	Initial Depth to Water (ft): ~23
	Total Well Depth (ft): 98.4	Water Volume (gal/lin ft): 0.16	36=3x Volume
	Remarks: 200 gallons added during drilling. Will remove between two wells in pair.		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/7/20		~23	100								
12/8/20	0831				9.98	0.238	5.78	8.22	-12.0	94	
↓	0836		150		10.08	0.230	6.06	7.93	-11.7	75	
	0848		175		10.13	0.224	6.06	7.49	-21.6	27.8	Driller had to step away, waiting for next measurement
	0856		200		10.08	0.222	6.07	7.36	-9.4	21.4	
			OFF								Purge Volume met

Drawdown: minimal **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) **All for 3 consecutive readings**

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: CH-MW045D	Date: 12/8/20
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: JH Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 MPS/R8527	Development Equipment: ~~Centrifugal~~ Air JH Lift	
	Water Level Indicator Type/ID #: Heron Dipper/27112	Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): 2"	Water Column Thickness (ft): 93.16	Initial Depth to Water (ft): ~~46.67~~ JH 45.84
	Total Well Depth (ft): 139	Water Volume (gal/lin ft): 0.16	44.7 = 3x volume
	Remarks: 200 gallons added during drilling to be removed during development. Will take out between the two wells in the well pair		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/8/20	0924				10.05	5.981	6.08	6.76	-51.5	603	Pump on @ 0922
	0945	PUMP RUNNING									No readings
	0949		150		9.96	6.539	5.94	7.16	-66.2	67.4	
	0955				10.10	4.309	6.09	7.12	-65.1	23.0	
	1000		175		10.54	4.213	5.95	7.09	-66.7	20.3	
	1005		175		10.09	5.658	5.79	7.01	-60.2	12.7	
		OFF									Volume reached

Drawdown: minimal **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) **All for 3 consecutive readings**

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: 45 D	Date: 12/10/2020
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: M Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 MPS # R8527	Development Equipment: Grundfos #43265	
	Water Level Indicator Type/ID #: Solinst 101 # 018027	Equipment Decon.: Alconox	
WELL INFO	Casing I.D. (in): 45D (2")	Water Column Thickness (ft): 93.59	Initial Depth to Water (ft): 45.26
	Total Well Depth (ft): 138.85	Water Volume (gal/lin ft): 0.1632	45.82 = 3 well V
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/10/2020	1245	45.24	2		13.11	2.501	6.21	7.12	-113.1	103.9	225 Hz
	1250	45.25	4		14.95	2.090	3.81	6.94	-155.3	110	
	1255	45.27	6		14.52	2.105	3.36	6.91	-177.3	50.7	
	1300	45.30	10		14.09	2.941	2.79	6.76	-191.8	22.8	
	1305										dog - missed reading
	1310		20		13.11	3.390	1.07	6.95	-285.3	7.16	
	1315	45.28	27		13.02	3.371	0.89	7.02	-298.3	4.24	
	1320		33		12.95	3.336	0.71	7.06	-297.1	3.93	
	1325		40		12.94	3.306	0.63	7.07	-287.1	1.68	
	1330		46		12.94	3.277	0.57	7.07	-272.8	1.50	
	1335		51		12.94	3.263	0.48	7.07	-258.4	1.49	
	1340		57		12.98	3.242	0.48	7.08	-241.8	1.43	
	1345		63		12.95	3.246	0.48	7.07	-233.2	1.64	
	1350		70		12.90	3.245	0.44	7.07	-223.1	2.99	
	1355		77		12.88	3.246	0.42	7.07	-218.4	2.34	
	1400		83		12.87	3.247	0.42	7.07	-214.9	3.23	
	1405										

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: 576304	Date: 12/11/2020
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: MR Checked By: JC
EQUIPMENT	H2O Quality Meter Type/ID #: 556 MPS #R8527	Development Equipment: Waterra	
	Water Level Indicator Type/ID #: Solinst 101 #018027	Equipment Decon.:	
WELL INFO	Casing I.D. (in): 576304	Water Column Thickness (ft) : –	Initial Depth to Water (ft): 80.80
	Total Well Depth (ft): -	Water Volume (gal/lin ft) :	
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/11/2020	0737	80.80									start hand purge
	0743	80.72									
	0750	80.90									
	0800	80.54									
	0810										start waterra
	0811	81.19									
	0812	81.81									
	0815	82.30									stopped to investigate other
	1230										MH wells
	1242	82.95									High turbidity - waiting
	1249									811 au	for water clarity to improve
	1252	81.9									before parameter collection
	1321	81.54								58.2	
	1325	81.57	45		13.06	0.266	3.92	8.95	-61.6	55.9	
	1330	81.40	47		13.09	0.259	2.71	8.93	-67.6	51.2	
	1340	81.35	53		13.13	0.258	1.58	8.86	-78.6	49.2	
	1350	Producing 0 water, pulled tubing - check valve worn through									
	1440	Restart pump									

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: 576304
	Project Name: Camp Hero Phase IV	Project #: 60443903

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
12/11/2020	1450		71		12.15	0.266	1.97	9.15	16.3	662 av	JC w/ JH - MK managing
	1546	82.92	165		11.65	0.251	1.83	8.36	-51.7	41.8	waterra tubing / purge water
											no parameters collected
											between 1450 and 1546.

Drawdown: minimal **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (=10 NTU ideal) **All for 3 consecutive readings**

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: Camp Hero	LocID: S70627	Date: 12/02/2020
	Project Name: Camp Hero Phase IV	Project #: 60443903	Recorded By: MW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: 650 MDS # 6167	Development Equipment: waterra	
	Water Level Indicator Type/ID #: Solinst 101 # 018027	Equipment Decon.:	
WELL INFO	Casing I.D. (in): S70627	Water Column Thickness (ft) : 22.77	Initial Depth to Water (ft): 73.66
	Total Well Depth (ft): 96.43 (soft bottom)	Water Volume (gal/lin ft) :	
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Notes
~~1220~~											
12/02/2020	1220										tubing primed - hand
	1225										connected to waterra
	1233	45.83									check valve fell off - connected new
	1243										check valve fell off again - switch to ha
	1255										hand purge - start
	1259	88.54									
	1310	94.92									silty flow
	1311										check valve blocked by silt
	1325		3.7		9.04	0.463	8.14	6.70	51.5		cleaned and resumed purge
		well purged dry		>15	min recharge for 1 ft						
12/04/2020	1400	73.16									water level check
12/06/2020	1305	73.90									start purge (1314)
	1324	91.00	3								well dry
			total = 6.7								

Drawdown: minimal Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (<10 NTU ideal) All for 3 consecutive readings

Appendix C5

Groundwater Sampling Forms

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AECOM

MONITORING WELL SAMPLE COLLECTION FORM

OCATION	Site: Camp Hero	LocID: S19494	Date: 12/07/2020
	Camp Hero Phase IV	Project #: ~~60190175~~ 60443903	Recorded By: MK Checked By:
QUIPMENT	Water Quality Meter Type/ID #: YSI 600XLM #16662	Water Level Indicator Type/ID #: Solinst 101 #018027	PID Type/ID #: Mini RAE 3000
	Explosimeter Type/ID #: —	Sampling Equipment: QED Bladder Pump	Equipment Decon.: Alconox
WELL INFO	Casing I.D. (in) [a]: S19494 (2")	Unit Casing Volume (gal/lin ft) [b]:	Initial Depth to Water (ft) [c]: 55.80
	Total Well Depth (ft) [d]:	Water Column Thickness (ft) [d-c]:	Well Volume (gal) {[d-c] x b}:
	Ambient PID (ppm):	Well Mouth PID (ppm):	Ground Condition of Well:

CASING INFO											
	Casing I.D. (in) [a]: S19494 (2")	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
	Unit Casing Volume (gal/lin ft) [b]:	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/7/2020	0853	55.80		350	12.45	6.41	0.382	9.24	5.09	-35.8	8/7	150	clear
	0858	55.85		↓	12.79	6.37	0.374	8.67	1.98	-40.3	↓	↓	
	0903	55.90			12.81	6.37	0.373	7.26	1.27	-40.9			
	0908	↓			12.84	6.39	0.372	6.66	1.17	-40.7			
	0913				12.84	6.38	0.372	6.48	1.04	-39.5			
	0918	↓		↓	12.84	6.38	0.372	6.25	6.92	-39.6	↓	↓	

ıp Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

ıple ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
0925 sample	18 x 250 mL amber	~	N	pump	STD
S19494-1220	6 x 250 mL Poly	HNO_3	3xY, 3xN	↓	↓
S19494-1220 MS	6 x 250 mL Poly	NH_4	3xY, 3xN		
S19494-1220 MSD	9 x 250 mL VOA	HCl	N		

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

OCATION	Site: Camp Hero Phase IV	LocID: S19495 Project #: ~~60190175~~ 60443903	Date: 12/8/2020 Recorded By: MK Checked By:
QUIPMENT	Water Quality Meter Type/ID #: YSI 600 XLM #16662 Explosimeter Type/ID #: -	Water Level Indicator Type/ID #: Solinst 101 #018027 Sampling Equipment: QED Bladder Pump	PID Type/ID #: MiniRAE 3000 Equipment Decon.: Alconox
WELL INFO	Casing I.D. (in) [a]: 2" Total Well Depth (ft) [d]: Ambient PID (ppm): 0.0	Unit Casing Volume (gal/lin ft) [b]: Water Column Thickness (ft) [d-c]: Well Mouth PID (ppm):	Initial Depth to Water (ft) [c]: 53.59 Well Volume (gal) {[d-c] x b}: Ground Condition of Well:

CASING INFO											
	Casing I.D. (in) [a]: 2	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
	Unit Casing Volume (gal/lin ft) [b]: 0.16	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge CPM4	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/8/20	0830	53.59	-	80	9.18	7.76	0.163	4.36		4.7	7/5	175	clear no odor
↓	0835	53.59	-	80	9.02	7.62	0.165	3.55		-22.5	9/6	↓	
↓	0840	↓	-	↓	9.12	7.54	0.160	3.10		-35.7	9/6	↓	
↓	0845	↓	-	↓	9.12	7.51	0.157	3.08		-43.1	↓	↓	
↓	0850	↓	-	↓	9.11	7.50	0.151	2.75		-49.5	↓	↓	
↓	0855	↓	-	↓	8.95	7.49	0.146	2.47		-63.4	↓	↓	
↓	0900	↓	-	↓	8.85	7.47	0.144	2.32		-73.7	↓	↓	
↓	0905	↓	-	↓	8.87	7.47	0.144	2.17		-79.8	↓	↓	

p Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

ple ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
S19495-1220 0930	6 x 250 mL amber	-	N	Pump	STD
	2 x 250 mL Poly	HNO_3	1xY 1xN	↓	STD
	2 x 250 mL Poly	NH_4	1xY 1xN	↓	STD
	3 x 40 mL VOA	HCL	N	↓	STD

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

OCATION			
	Site: Camp Hero	LocID: 519495	
	Project Name: ~~Forest Glen Annex Remedial Investigation~~ Phase IV	Project #: ~~60100175~~	60443903

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conduc-tivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/8/20	0910	53.59	-	80	8.72	7.46	0.145	2.14		-85.1	9/6	175	
	0915		-		8.53	7.45	0.145	1.99		-87.9			
	0920		-		8.40	7.45	0.145	1.91	21.1	-92.3			
	0925				8.23	7.44	0.145	1.90	19.3	-95.1			
	0930				8.02	7.44	0.145	1.89	16.9	-96.6			

...p Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: Camp Hero	LocID: S79269	Date: 12/8/2020
		Project #: ~~60190175~~ 60443903	Recorded By: JC Checked By:
		#16662	
EQUIPMENT	Water Quality Meter Type/ID #: YSI 600 XLM	Water Level Indicator Type/ID #: NA	PID Type/ID #: MiniRae 3000 #14858
	Explosimeter Type/ID #: NA	Sampling Equipment: Cone port	Equipment Decon.: NA
WELL INFO	Casing I.D. (in) [a]: 6"	Unit Casing Volume (gal/lin ft) [b]: UNK	Initial Depth to Water (ft) [c]:
	Total Well Depth (ft) [d]:	Water Column Thickness (ft) [d-c]:	Well Volume (gal) {[d-c] x b}:
	Ambient PID (ppm):	Well Mouth PID (ppm):	Ground Condition of Well:

CASING INFO										
Casing I.D. (in) [a]:	1.5	**2.0**	2.2	3.0	4.0	4.3	5.0	6.0	7.0	**8.0**
Unit Casing Volume (gal/lin ft) [b]:	0.09	**0.16**	0.20	0.37	0.65	0.75	1.0	1.5	2.0	**2.6**

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/8/20	1155	UNK	5	~1gpm	11.07	6.99	0.363	5.25		57.8	UNK	UNK	clear - no odor

Pump Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

Sample ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
"S79269-1220"	6 - 250mL AG	–	N	Pump	STD (above)
"S79269-1220 D"	2 - 250mL Pl	HNO_3	1xY, 1xN	Pump	STD (above)
	2 - 250mL Pl	HN_4	1xY, 1xN	Pump	STD (above)
	3 - 40mL VOA	HCl	N	Pump	STD (above)

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: S3599	Date: 12/09/2020
	Project Name: Camp Hero Phase IV	Project Number: 6044 3903	Recorded By: / Checked By:

EQUIPMENT	Sampling Equipment - Pump: Sample port	Controller: –	Compressor: –
	Water Level Indicator Type/ID#: –	Water Quality Meter Type: YSI 556 MPS Sonde ID: –	Handset ID: #K8527
	PID Type/ID#: –	Equipment Decon: DF	

WELL & SAMPLING INFO	Description: Sample port from LH system	Screen Interval (BTOC): –	Initial Depth to Water (BTOC): – / Ambient PID (ppm): –
	Historic Pump Settings: –		Pump Inlet Depth (BTOC): – / Well Head PID (ppm): –
	Condition of Well/Comments: –		Height of stick-up (ft): –
	NOTE:		

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (Lpm)	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
12/09/2020	1705	–	~~5~~		5.16	0.421	6.42	6.99	22.2	27.9			

Pumping Rate: ≤ 0.5L/min; **Measurements:** every 3 - 5 minutes; **Stabilization is defined as the following for three consecutive readings:** ±3% Temp, ±3% Conductivity; + 10% DO; ± 0.1 pH; ± 10mV ORP; 10% Turb

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Parameter(s)
S3599 - 1220 (1230)	6 - 250 mL Amber	–	SVOC, SVOC SIM, PCBs
	2 - 250 mL Poly	HNO_3	Metals (total and dissolved)
	2 - 250 mL Poly	HN4	Hex Cr (total and dissolved)
	3 - 40 mL VOA	HCl	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: Camp Herd Phase IV	LocID: CH-MW045S	Date: 12/9/20
		Project #: ~~60190175~~ 60443903	Recorded By: JH Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: 650MDS / 6167	Water Level Indicator Type/ID #: Heron Dipper T/27112	PID Type/ID #: Mini RAE3000 / 14858
	Explosimeter Type/ID #: NA	Sampling Equipment: Bladder Pump / MP50 19643 / 041220	Equipment Decon.: Alconox
WELL INFO	Casing I.D. (in) [a]: 2"	Unit Casing Volume (gal/lin ft) [b]: 0.16	Initial Depth to Water (ft) [c]: 44.83
	Total Well Depth (ft) [d]: 98.81	Water Column Thickness (ft) [d-c]: 53.98	Well Volume (gal) {[d-c] x b}: 8.64
	Ambient PID (ppm): 0.0	Well Mouth PID (ppm): 1.6	Ground Condition of Well: Muddy

*pump inlet @ mid-screen

CASING INFO										
Casing I.D. (in) [a]:	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft) [b]:	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/9/20	0937	44.86		200	8.43	7.52	0.377	10.40	84	162.1	8/7	52	On @ 0927
	0943				10.25	7.42	0.462	5.67	81	-85.1			
	0948				10.45	7.33	0.470	5.54	79	-111.1			
	0953		0.5		10.52	7.25	0.472	5.37	91.7	-119.8			Water slightly effervescent
	0958				10.47	7.26	0.472	5.27	94.6	-129.8			
	1004		1		10.46	7.24	0.470	4.94	97.3	-132.3			
	1009				10.49	7.23	0.467	4.83	63.4	-133.7			
	1014		1.5		10.48	7.22	0.461	4.99	70.3	-128.7			

Pump Rate: <=0.5 L/min Drawdown: < 0.33 ft Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

Sample ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
CH-MW045S-1220 @ 1129	3x 40mL Glass	HCl	N	Pump	VOCs
	2x 250 mL amber		N		SVOCs
	2x 250 mL amber		N		SVOCs SIM
	2x 250 mL amber		N		PCBs
	1x 250 mL poly	HNO_3	N		Metals (Total ~~+ Diss~~)
45 drops of buffer added to Hex Cr (pH ~9.0)	1x 250 mL poly	Yes*	N		Hex Cr (Total ~~+ Diss~~)
	1x 250 mL poly	HNO_3	Y		Metals Diss
	1x 250 mL poly	Yes*	Y		Hex Cr Diss

* NH_4OH / $(NH_4)_2SO_4$

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

OCATION			
	Site: Camp Hero	LocID:	CH-MW045S
	Project Name: ~~Forest Glen Annex Remedial Investigation~~ Camp Hero Phase IV	Project #: ~~60190175~~	60443903

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
	1020	44.84		200	10.55	7.21	0.450	4.91	57.2	-140.2	8/7	52	
	1025		2		10.58	7.20	0.448	4.84	48.4	-139.9			
	1030		2.5		10.55	7.19	0.441	4.59	50.1	-142.1			
	1035				10.55	7.17	0.432	4.47	42.3	-141.1			
	1044		4		10.61	7.14	0.416	5.09	39.8	-150.2			DO jumping around
	1049				10.62	7.13	0.407	4.68	37.1	-147.2			
	1054		4.5		10.60	7.13	0.399	4.63	36.6	-146.4			
	1100				10.62	7.12	0.390	4.50	34.0	-154.0			
	1106		5		10.53	7.11	0.384	4.79	36.6	-158.6			
	1111				10.56	7.11	0.380	4.32	31.2	-159.3			
	1116				10.58	7.10	0.372	4.23	29.0	-164.7			
	1121		7		10.63	7.08	0.368	4.13	29.4	-162.0			
	1126				10.54	7.09	0.364	4.16	30.4	-167.4			
	1129 — SAMPLE												Slight odor noticed when sampling

ıp Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: Camp Hero Phase IV	LocID: S58922	Date: 12/9/20
		Project #: ~~60190175~~ 60443903	Recorded By: JH Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: 650MDS / 6167	Water Level Indicator Type/ID #: Heron Dipper T/ 2H	PID Type/ID #: MiniRAE 3000 / 14858
	Explosimeter Type/ID #: N/A	Sampling Equipment: Bladder Pump / MP 50 47035 / 041220	Equipment Decon.: Alconox
WELL INFO	Casing I.D. (in) [a]: 4"	Unit Casing Volume (gal/lin ft) [b]: 0.65	Initial Depth to Water (ft) [c]: 44.63
	Total Well Depth (ft) [d]: 58.41	Water Column Thickness (ft) [d-c]: 13.78	Well Volume (gal) {[d-c] x b}: 8.96
	Ambient PID (ppm): 0.0	Well Mouth PID (ppm): 0.0	Ground Condition of Well: Concrete pad in grassy area

* pump inlet @ 53

CASING INFO											
	Casing I.D. (in) [a]:	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
	Unit Casing Volume (gal/lin ft) [b]:	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons) *	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/9/20	1303	44.63	~~44.63~~	150	9.25	6.85	0.225	9.40	10.06	80.9	8/7	30	On @ 1256
	1308				10.20	6.19	0.238	9.43	1.97	103.8			
	1314				10.24	5.99	0.243	9.47	0.88	118.4			
	1319				10.49	5.95	0.242	9.57	0.53	129.9			
	1324				10.58	5.93	0.241	9.78	0.41	137.2			
	1329				10.64	5.92	0.241	9.86	0.58	142.1			
	1334		1.5		10.54	5.91	0.241	9.82	0.30	145.6			
		SAMPLE											

Pump Rate: <=0.5 L/min Drawdown: < 0.33 ft Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

Sample ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
S58922-1220	3x 40mL Glass	HCl	N	Pump	VOCs
@ 1343	2x 250mL amber		N		SVOCs
	2x 250mL amber		N		SVOCs SIM
	2x 250mL amber		N		PCBs
	1x 250mL poly		N		Metals (total)
	1x 250mL poly		Y		Metals (dissolved)
Added 40 drops of buffer to Hex Cr pH ≈ 8.1-8.3	1x 250mL poly		N		Hex Cr (total)
	1x 250mL poly		Y		Hex Cr (dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: S1202	Date: 12/09/2020
	Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: [illegible] Checked By:

EQUIPMENT			
	Sampling Equipment - Pump: Sample Port	Controller: –	Compressor: –
	Water Level Indicator Type/ID#: –	Water Quality Meter Type: YSI 556 MPS Sonde ID: –	Handset ID: # R8527
	PID Type/ID#: –	Equipment Decon: DI	

WELL & SAMPLING INFO			
	Description: Sample port from GS system / Screen Interval (BTOC): –	Initial Depth to Water (BTOC): –	Ambient PID (ppm): –
	Historic Pump Settings: –	Pump Inlet Depth (BTOC): –	Well Head PID (ppm): –
	Condition of Well/Comments: –	Height of stick-up (ft): –	
	NOTE:		

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (Lpm)	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
12/09/2020	1700	–	5		4.75	0.410	6.75	6.72	47.6	26.3			

Pumping Rate: ≤ 0.5L/min; **Measurements:** every 3 - 5 minutes; **Stabilization is defined as the following for three consecutive readings:** ± 3% Temp, ± 3% Conductivity; + 10% DO; ± 0.1 pH; ± 10mV ORP; 10% Turb

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Parameter(s)
S1202-1220 (1150)	6 - 250 mL Amber	–	SVOC, SVOC SIM, PCBs
	2 - 250 mL Poly	HNO_3	Metals (total and dissolved)
	2 - 250 mL Poly	HNy	Hex Cr (total and dissolved)
	3 - 40 mL VOA	HCL	VOC

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

OCATION	Site: Ph IV RI, Former Camp Hero	LocID: S45879	Date: 12/10/2020
		Project #: ~~60190175~~ 60449303	Recorded By: JC Checked By:
QUIPMENT	Water Quality Meter Type/ID #: YSI 6920 /	Water Level Indicator Type/ID #: Heron Dipper T /	PID Type/ID #: MiniRae 3000 /
	Explosimeter Type/ID #: NA	Sampling Equipment: QED Bladder Pump	Equipment Decon.: Alconox + Distilled Water
WELL INFO	Casing I.D. (in) [a]: 6"	Unit Casing Volume (gal/lin ft) [b]:	Initial Depth to Water (ft) [c]: 33.51
	Total Well Depth (ft) [d]: 63.	Water Column Thickness (ft) [d-c]:	Well Volume (gal) {[d-c] x b}:
	Ambient PID (ppm): ~~0.1~~ JC 0.0	Well Mouth PID (ppm): ~~1.1~~ JC 0.0	Ground Condition of Well: Grassy, well in Full MH

CASING INFO										
Casing I.D. (in) [a]:	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft) [b]:	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/10/20	1325	33.59	–	250	12.79	6.40	0.317	9.54	12.9	-35.4	CPM4 8/7	38	Clear no odor
	1330	33.59	–	250	12.70	6.34	0.314	9.26	11.8	-30.1	"	"	clear no odor
	1335	33.60	2	250	12.65	6.27	0.311	8.80	7.67	-19.4	"	"	"
	1340	33.61	–	350	12.65	6.22	0.305	8.71	6.47	-7.4	"	"	"
	1345	33.60	–	350	12.71	6.16	0.303	8.36	–	3.1	"	"	"
	1350	33.60	3	350	12.62	6.15	0.302	8.13	6.61	6.9	"	"	"
	1355	33.60	–	350	12.70	6.26	0.311	6.96	10.00	-7.3	"	"	"
	1400	33.60	3.5	350	12.71	6.26	0.310	6.47	7.25	-15.2			

ıp Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

ıple ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
"S45879-1220" @ 1525	6 x 250mL AG	–	N	Pump	STD
	3 x 40mL VOA	HCl	N	Pump	STD
	2 x 250mL Plastic	HNO_3	1xY, 1xN	Pump	STD
	2 x 250mL Plastic	NH_4	1xY, 1xN	Pump	STD
* 25 drops of buffer. pH ≈ 8.1					

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: Camp Hero	LocID: S45879
	Project Name: ~~Forest Glen Annex Remedial Investigation~~ Phase IV	Project #: ~~60190175~~ 60443903

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/10/20	1405	33.60	-	350	12.66	6.21	0.307	6.30	6.34	-6.2	CPM4 8/7	38	clear, no odor
	1410	33.60	4	350	12.63	6.18	0.303	5.93	5.48	3.0	"	"	"
	1415	33.60	-	350	12.67	6.15	0.301	5.52	5.07	9.3	"	"	"
	1420	33.60	-	350	12.61	6.11	0.300	4.97	4.56	15.9	"	"	"
	1425	33.60	5	350	12.58	6.10	0.298	4.63	4.14	19.2	"	"	"
	1430	33.60	-	350	12.58	6.10	0.298	4.22	3.97	20.4	"	"	"
	1435	33.60	-	350	12.53	6.10	0.299	3.80	4.24	19.4	"	"	"
	1440	33.60	6	350	12.27	6.09	0.298	3.48	4.29	23.0	"	"	"
	1445	33.60	-	350	12.43	6.08	0.296	3.16	3.97	24.1	"	"	"
	1450	33.60	-	350	12.44	6.07	0.296	2.87	3.81	25.7	"	"	"
	1455	33.60	6.5	350	12.48	6.07	0.294	2.77	4.09	27.0	"	"	"
	1500	33.60	-	250	12.37	6.06	0.295	2.62	3.60	28.7	"	"	"
	1505	33.60	-	250	12.28	6.06	0.294	2.43	3.87	31.0	"	"	"
	1510	33.60	7	250	12.27	6.07	0.295	2.25	3.48	27.8	"	"	"
	1515	33.56	-	250	12.23	6.06	0.293	2.16	3.30	30.0	"	"	"
	1520	33.56	7.5	0250	12.20	6.04	0.292	2.08	3.29	33.0	"	"	"
	1525			SAMPLE									

Pump Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

OCATION	Site: Camo Hero Phase IV	LocID: CH-MW044S	Date: 12/11/20
		Project #: ~~60190175~~ 60443903	Recorded By: JH Checked By:
QUIPMENT	Water Quality Meter Type/ID #: 650 MDS / 6167	Water Level Indicator Type/ID #: Heron Dipper T / 27112	PID Type/ID #: MiniRAE3000 / 0464M
	Explosimeter Type/ID #: N/A	Sampling Equipment: QED bladder / MP50 47038 / 041220	Equipment Decon.: Alconox
WELL INFO	Casing I.D. (in) [a]: 2"	Unit Casing Volume (gal/lin ft) [b]: 0.16	Initial Depth to Water (ft) [c]: 66.45
	Total Well Depth (ft) [d]:	Water Column Thickness (ft) [d-c]:	Well Volume (gal) {[d-c] x b}:
	Ambient PID (ppm): 0.0	Well Mouth PID (ppm): 2.6	Ground Condition of Well: Muddy

CASING INFO											
	Casing I.D. (in) [a]:	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
	Unit Casing Volume (gal/lin ft) [b]:	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/11/20	0950	66.57		330	11.08	7.82	0.387	8.49	20.9	151.5	8/7	62	one 946
	0955	66.57	0.5	330	11.61	7.94	0.299	5.65	21.7	-44.4			No odor, no color
	1000				11.65	8.00	0.296	5.31	21.0	-105.4			
	1005		1.5		11.69	8.03	0.296	5.73	20.8	-133.7			
	1010				11.71	8.05	0.296	5.45	23.1	-143.1			
	1015		2.5		11.72	8.04	0.296	5.34	22.0	-147.6			
	1020		3		11.71	8.01	0.296	5.05	20.9	-154.5			
	1020				11.63	7.95	0.295	4.82	17.5	-171.8			

ıp Rate: <=0.5 L/min Drawdown: < 0.33 ft Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

ıple ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
CH-MW044S-1220 @ 1037	3 x 40mL glass	HCl	N	Pump	VOCs
	2x 250mL amber		N		SVOCs
	2 x 250 mL amber		N		SVOCs SIM
	2 x 250mL amber		N		PCBs
	2x 250mL poly	HNO_3	1xY, 1xN		Metals
	2x 250mL poly	$NH_4(NH_4)_2SO_4$	1xY, 1xN		Hex Cr
*25 drops of buffer added to Hex Cr, pH ~8.1					

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

OCATION	Site: Camp Hero	LocID: RH-MW044S
	Project Name: ~~Forest Glen Annex Remedial Investigation~~ Phase IV	Project #: ~~60190175~~ 6044398~~3~~

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conduc-tivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/11/20	1030	66.57	4	330	11.56	7.91	0.295	4.85	17.4	-173.9	8/7	62	
	1035				11.60	7.91	0.298	4.70	18.3	-170.2			
	1037	— SAMPLE —											

ıp Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: ~~CH-MW~~ Camp Hero Phase IV	LocID: CH-MW044D	Date: 12/11/20
		Project #: ~~60190175~~ 60443903	Recorded By: JH Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: 650 MDS / 6167	Water Level Indicator Type/ID #: Heron Dipper T/27112	PID Type/ID #: MiniRAE 300 / 046412
	Explosimeter Type/ID #: N/A	Sampling Equipment: Bladder Pump QED / MP50 19643 / 041220 * Inlet @ 150 ft bgs	Equipment Decon.: Alconox
WELL INFO	Casing I.D. (in) [a]: 2"	Unit Casing Volume (gal/lin ft) [b]: 0.16	Initial Depth to Water (ft) [c]: 66.29
	Total Well Depth (ft) [d]: 150	Water Column Thickness (ft) [d-c]:	Well Volume (gal) {[d-c] x b}:
	Ambient PID (ppm): 0.0	Well Mouth PID (ppm): 5.2	Ground Condition of Well: Muddy

CASING INFO										
Casing I.D. (in) [a]:	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft) [b]:	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
	1123	66.83		110	11.47	7.01	1.359	3.84	9.31	-74.8	15/15	110	Pump on @ ~~0903~~ 1115 JH
	1128	66.83		↓	11.51	6.94	1.214	2.96	8.31	-84.0			
	1136	66.83	0.5		11.51	6.90	1.150	2.86	7.95	-88.3			Bubbles in ~~air~~ water line JH
	1141	↓			11.58	6.88	1.124	2.55	7.41	-88.6			
	1146				11.62	6.87	1.106	2.45	7.47	-90.4			
	1153		1		11.73	6.87	1.085	2.44	5.81	-89.7			
	1158				11.77	6.86	1.072	2.36	6.45	-90.1			
	1203				11.77	6.86	1.067	2.34	5.78	-87.7			

Pump Rate: <=0.5 L/min Drawdown: < 0.33 ft Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

Sample ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
CH-MW044D-1220 @ 1212	3 x 40 mL glass	HCl	N	pump	VOCs
	2 x 250 mL amber		N	↓	SVOCs
	2 x 250 mL amber		N		SVOCs SIM
	2 x 250 mL amber		N		PCBs
	2 x 250 mL poly	HNO_3	1xY, 1xN		Metals
	2 x 250 mL poly	NH_4/$(NH_4)_2SO_4$	1xY, 1xN		Hex Cr
	~~2 x 250 mL~~ JH				

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION			
Site: Camp Hero		LocID: CH-MW044D	
Project Name: ~~Forest Glen Annex Remedial Investigation~~ Phase IV		Project #: ~~60190175~~	60443903

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/11/20	1208	66.83	1.5	110	11.80	6.86	1.055	2.28	5.47	-87.4			
	1212		SAMPLED										

ump Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: Camp Hero	LocID: CH-MW045D	Date: 12/12/2020
		Project #: ~~60190175~~ 60443903	Recorded By: JH/JC Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: YSI 650MDS / 6167	Water Level Indicator Type/ID #: Heron Dipper T / 27112	PID Type/ID #: Mini Rae 3000 / 046412
	Explosimeter Type/ID #: NA	Sampling Equipment: QED Bladder Pump / 47038	Equipment Decon.: Alconox
WELL INFO	Casing I.D. (in) [a]: 2"	Unit Casing Volume (gal/lin ft) [b]: 0.16	Initial Depth to Water (ft) [c]: 44.67
	Total Well Depth (ft) [d]: 138.00	Water Column Thickness (ft) [d-c]: 93.33	Well Volume (gal) {[d-c] x b}: 14.9
	Ambient PID (ppm): 0.0	Well Mouth PID (ppm): 0.4	Ground Condition of Well: Soil

CASING INFO											
	Casing I.D. (in) [a]: 2"	1.5	**2.0**	2.2	3.0	4.0	4.3	5.0	6.0	7.0	**8.0**
	Unit Casing Volume (gal/lin ft) [b]: 0.16	0.09	**0.16**	0.20	0.37	0.65	0.75	1.0	1.5	2.0	**2.6**

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/12/20	855	44.70	—	350	11.56	7.28	2.449	7.09	48.7	57.4	CPM4 8/7	80	clear / no odor
	900	44.70	—	350	11.59	6.63	2.248	6.52	68.5	-21.9			" "
	905	44.71	—	350	11.61	6.50	2.210	6.31	60.7	-42.6			" "
	910	44.73	—	350	11.56	6.44	2.177	5.42	62.2	-49.9			" "
	915	44.75	1.5	350	11.58	6.44	2.152	4.90	59.7	-52.1			" "
	920	44.78	—	350	11.61	6.43	2.110	4.11	61.9	-62.0			" "
	925	44.82	—	350	11.62	6.46	2.099	4.16	62.1	-64.2			" "
	930	44.82	3.5	350	11.64	6.47	2.098	4.15	64.4	-64.0			" "

Pump Rate: <=0.5 L/min **Drawdown:** < 0.33 ft **Measurements:** 3-5 min **Stabilization:** +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

Sample ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
"CH-MW045D-1220" @ 935	3 x 40 mL VOA	HCl	N	Bladder Pump	VOCs
	2 x 250 mL AG	—	N		SVOCs
	2 x 250 mL AG	—	N		SVOCs SIM
	2 x 250 mL AG	—	N		PCBs
	2 x 250 mL Pl	HNO_3	1 x Y, 1 x N		Metals (Total, Diss)
- 25 drops of buffer added to Cr^{6+}	2 x 250 mL Pl	Buffer	1 x Y, 1 x N		Hex Cr (Total, Diss)

AECOM

MONITORING WELL SAMPLE COLLECTION FORM

LOCATION	Site: Camp Hero	LocID: S 70627	Date: 12/12/2020
		Project #: ~~60190175~~ 60443903	Recorded By: JC / JH Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: YSI 650 MDS / 6167	Water Level Indicator Type/ID #: Heron Dipper T / 27112	PID Type/ID #: Mini Rae 3000 / 046412
	Explosimeter Type/ID #: NA	Sampling Equipment: QED Bladder Pump / 47038	Equipment Decon.: Alconox
WELL INFO	Casing I.D. (in) [a]: 2"	Unit Casing Volume (gal/lin ft) [b]: 0.16	Initial Depth to Water (ft) [c]: ~~73.44~~ JC 74.15
	Total Well Depth (ft) [d]: 96.43	Water Column Thickness (ft) [d-c]: JC ~~22.99~~ 22.28	Well Volume (gal) {[d-c] x b}: ~~3.7~~ JC 3.6
	Ambient PID (ppm): 0.0	Well Mouth PID (ppm): 1.4	Ground Condition of Well: Grassy

CASING INFO											
	Casing I.D. (in) [a]: 2"	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
	Unit Casing Volume (gal/lin ft) [b]: 0.16	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Water Level (BTOC)	Volume Removed (Gallons)	Pumping Rate (mL/min)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)	Refill/Discharge	Pressure (PSI)	Remarks (odor, clarity, etc.)
12/12/20	1120	73.73	–	80	12.80	6.98	0.609	7.67	13.3	24.1	CPM4 8/7	40	clear / no odor
↓	1125	75.06	–	80	12.59	6.69	0.603	5.55	9.46	43.0	↓	↓	" "
	1130	75.42	–	80	12.61	6.65	0.595	5.43	9.96	49.5			" "
	1135	75.80	–	80	12.60	6.62	0.592	6.62	9.12	55.8			" "
	1140	76.16	–	80	12.63	6.60	0.590	6.60	8.91	59.0			" "
	1145	76.44	–	80	12.65	6.59	0.587	6.59	10.14	61.4			" "
	1150	76.81	0.75	80	12.65	6.60	0.585	6.59	9.11	61.8			" "

Pump Rate: <=0.5 L/min Drawdown: < 0.33 ft Measurements: 3-5 min Stabilization: +/- 0.5 C, +/- 0.1 pH, +/- 3% conductivity, +/- 10% DO, +/- 10% turb (<= 10 NTU ideal) for 3 consecutive readings

Sample ID #(s)/Time(s)/Ferrous Iron Result(s)	No. Containers/Volume/Type	Preserv.	Filter (Y/N)	Pump OR Bailer	Parameter(s)
"S70627-1220" @ 1155	3x 40 mL VOA	HCl	N	Bladder Pump	VOCs
	2x 250mL AG	–	N	↓	SVOCs
	2x 250mL AG	–	N		SVOCs SIM
	2x 250mL AG	–	N		PCBs
	2x 250mL Pl	HNO_3	1xY, 1xN		Metals (Total/Diss)
	2x 250mL Pl	Buffer	1xY, 1xN		Hex Cr (Total/Diss)
– 25 drops of buffer added to Cr^{6+}					

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: S 17231S	Date: 12/10/20
	Project Name: Phase IV	Project Number: 60443903	Recorded By: JC Checked By:

EQUIPMENT			
	Sampling Equipment - Pump: ~~YSI 6920~~ JH Bladder Pump	Controller: MP50	Compressor: MP50
	Water Level Indicator Type/ID#: Heron Dipper T	Water Quality Meter Type: YSI 6920 Sonde ID:	Handset ID:
	PID Type/ID#: MiniRAE 3000	Equipment Decon: Alconox	

WELL & SAMPLING INFO			
	Description: flush	Screen Interval (BTOC):	Initial Depth to Water (BTOC): / Ambient PID (ppm):
	Historic Pump Settings:		Pump Inlet Depth (BTOC): / Well Head PID (ppm):
	Condition of Well/Comments: ~~Near porch~~ JH inside shed		Height of stick-up (ft):
	NOTE: Pump ~ 105 ft bgs		

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate mL(Lpm)	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
12/10/20	1015			80	5.99	0.312	8.43	7.50	-41.0	—			
↓	1020			60	6.03	0.307	8.59	7.50	-47.4	—			
	1025			↓	6.10	0.302	8.72	7.50	-54.9	7.56			
	1030				6.28	0.296	8.28	7.49	-63.0	~~7.~~			
	1035				6.35	0.295	8.43	7.48	-65.8	7.59			
	1040				6.69	0.288	7.81	7.47	-57.7	—			
	1045				6.85	0.285	7.70	7.47	-49.3	6.21			
	1050				6.98	0.283	7.88	7.46	-49.0	—			
	1055				7.16	0.281	8.03	7.45	-51.4	7.22			
	1100				7.27	0.281	7.85	7.46	-50.2	—			
	1105				7.34	0.281	7.89	7.46	-48.2	7.40			

Pumping Rate: ≤ 0.5L/min; **Measurements:** every 3 - 5 minutes; **Stabilization is defined as the following for three consecutive readings:** ± 3% Temp, ± 3% Conductivity; + 10% DO; ± 0.1 pH; ± 10mV ORP; 10% Turb

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Parameter(s)
S 17231S-1220 @ 1115	3 x 40 mL glass	HCl	VOCs
	2 x 250mL glass		SVOCs
	2 x 250mL glass		SVOCs SIM
	2 x 250 mL glass		PCBs
	2 x 250mL poly	HNO_3	Metals (1 filtered)
	2 x 25mL poly	$NH_4(NH_4)_2SO_3$	Hex Cr (1 filtered)
* 25 drops of buffer added to Hex Cr.			

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: S 17231 S	Date: 12/10/20	
	Project Name: Phase IV	Project Number: 60443903	Recorded By: JC	Checked By:

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (~~m~~Lpm)	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
12/10/20	1110			60	7.37	0.280	7.82	7.47	-50.8	—			
↓	1115	—	SAMPLE	—	—	—	—	—	—	—	—	—	

Pumping Rate: ≤ 0.5L/min; **Measurements:** every 3 - 5 minutes; **Stabilization is defined as the following for three consecutive readings:** ± 3% Temp, + 3% Conductivity; + 10% DO; + 0.1 pH; + 10mV ORP; 10% Turb

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: CH-MW044S	Date: 2-22-2021	
	Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: MK	Checked By:

EQUIPMENT				
	Sampling Equipment - Pump: QED Sample Pro #9516	Controller/Compressor: QED MP50 #047042		
	Water Level Indicator Type/ID#: Solinst WLM 3540	Water Quality Meter Type: YSI 6920 / YSI 650	Sonde ID: 43305	Handset ID: 030776
	PID Type/ID#: Mini RAE 3000 #12219	Equipment Decon: Alconox		

WELL & SAMPLING INFO				
	Initial Depth to Water (BTOC): 66.47	Screen Interval (BTOC): 110-120	Total Depth (BTOC): 123.90	Ambient PID (ppm): 0.0
	Historic Pump Settings: Refill/Discharge = 8/7, Pressure = 62 PSI, Rate = 330 mLpm			Well Head PID (ppm): 0.0
	Condition of Well/Comments: Excellent			Pump Inlet Depth (BTOC): 118
	NOTE: 1055 pump on			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/22/21	1120	64.40	-	100	8.83	6.64	6.48	0.258	-69.5	20.1	0.12	20/10	105	CPM 2
02/22/21	1125	64.62	-	100	9.79	6.82	7.63	0.269	-92.6	5.5	0.13	20/10	105	CPM 2
02/22/21	1130	64.67	-	100	9.90	6.87	7.34	0.270	-98.5	3.6	0.13	20/10	105	CPM2
02/22/21	1135	64.71	-	100	10.02	6.89	7.20	0.268	-101.2	4.6	0.13	20/10	105	CPM2
02/22/21	1140	64.73	-	100	10.16	6.93	7.41	0.267	-100.9	5.5	0.13	20/10	105	CPM2
02/22/21	1145	64.69	-	100	10.23	6.94	7.55	0.265	-97.1	6.9	0.13	20/10	105	CPM2
02/22/21	1150	64.72	-	100	10.29	6.94	7.67	0.266	-99.3	10.5	0.13	20/10	105	CPM2
02/22/21	1155	64.73	1.5	100	10.27	6.94	7.74	0.265	-99.9	3.4	0.13	20/10	105	CPM2

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
"CH-MW044S-0221" @ 1155	3 x 40 mL Glass VOA	HCL	N	VOC
	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION			
Site: **Camp Hero**	LocID: CH-MW044D	Date: 2/22/2021	
Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: MK	Checked By:

EQUIPMENT				
Sampling Equipment - Pump: QED Sample Pro # 35589	Controller/Compressor: QED MP50 # 047042			
Water Level Indicator Type/ID#: Solinst WLM 3540	Water Quality Meter Type: YSI6920V2/650MDS	Sonde ID: 43305	Handset ID: 030776	
PID Type/ID#: MiniRae 3000 / 12219	Equipment Decon: Alconox			

WELL & SAMPLING INFO			
Initial Depth to Water (BTOC): 66.48	Screen Interval (BTOC): 140-150	Total Depth (BTOC): 150.00	Ambient PID (ppm): 0.0
Historic Pump Settings: **Refill/Discharge = 15/5, Pressure = 110 PSI, Rate = 110 mLpm**			Well Head PID (ppm): 0.0
Condition of Well/Comments: Excellent			Pump Inlet Depth (BTOC): 145
NOTE: Pump on @ 1235			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/22/21	1250	66.43	-	40	7.99	6.98	6.72	0.370	-42.0	6.6	0.18	20/10	105	CPM 2
02/22/21	1255	66.46	-	40	7.78	7.04	4.79	0.384	-92.7	8.3	0.19	20/10	105	
02/22/21	1300	66.45	-	40	7.60	7.15	4.13	0.391	-112.5	8.3	0.19	20/10	105	
02/22/21	1305	66.47	-	40	7.39	7.22	3.65	0.397	-125.3	8.0	0.19	20/10	105	
02/22/21	1310	66.45	-	40	7.24	7.28	3.17	0.400	-133.7	7.7	0.19	20/10	105	
02/22/21	1315	66.47	-	40	6.99	7.31	2.80	0.403	-139.1	8.0	0.19	20/10	105	
02/22/21	1320	66.48	-	40	6.72	7.33	2.52	0.405	-142.0	7.5	0.20	20/10	105	
02/22/21	1325	66.46	-	40	6.44	7.34	2.34	0.406	-144.6	7.7	0.20	20/10	105	
02/22/21	1330	66.49	0.5	40	6.29	7.35	2.27	0.407	-146.3	7.7	0.20	20/10	105	

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time

"CH-MW044D-0221" @ 1330

Container Count, Volume & Type	Preservative	Filter	Parameter(s)
3 x 40 mL Glass VOA	HCL	N	VOC
2 x 250 mL Glass Amber	-	N	SVOCs
2 x 250 mL Glass Amber	-	N	SVOCs SIM
2 x 250 mL Glass Amber	-	N	PCBs
1 x 250 mL Poly	HNO_3	N	Metals (Total)
1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: CH-MW045S	Date: 2-22-2021
	Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: CH Checked By:

EQUIPMENT		
Sampling Equipment - Pump: Bladder Pump /33121	Controller/Compressor: MP50 / 047526	
Water Level Indicator Type/ID#: Solinist WLM / 29515	Water Quality Meter Type: YSI 6290	Sonde ID: ~~15969~~ 100251 Handset ID: 15969
PID Type/ID#: Multi Rae 3000 / 14120	Equipment Decon: Alconox	

WELL & SAMPLING INFO			
Initial Depth to Water (BTOC): 45.00 ft	Screen Interval (BTOC): 88-98	Total Depth (BTOC): 98.81	Ambient PID (ppm): 0.0 ppm
Historic Pump Settings: Refill/Discharge = 8/7, Pressure = 52 PSI, Rate = 200 mLpm			Well Head PID (ppm): 0.5 ppm
Condition of Well/Comments: Excellent			Pump Inlet Depth (BTOC): 94 ft

NOTE: clear water, no odor
8/7 50 psi

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (ºC)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02-22-21	1115	45.00	—	240	9.89	6.58	6.12	0.341	137.2	36.6	0.16	8/7	50	clear; no odor
02-22-21	1120	45.00	—	290	10.28	6.93	5.10	0.343	102.6	34.6	0.17	8/7	50	
02-22-21	1125	45.00	—	275	10.39	7.04	4.89	0.343	74.6	25.2	0.16	8/7	50	
02-22-21	1130	45.00	—	280	10.41	7.13	4.71	0.343	43.2	18.4	0.16	8/7	50	
02-22-21	1135	45.00	—	290	10.48	7.19	4.45	0.343	13.2	14.9	0.16	8/7	50	
02-22-21	1140	45.00	—	280	10.50	7.24	4.05	0.342	-12.1	12.3	0.16	8/7	50	
02-22-21	1145	45.00	—	275	10.56	7.26	3.96	0.342	-26.6	10.6	0.16	8/7	50	
02-22-21	1150	45.00	—	275	10.62	7.29	3.95	0.342	-40.2	8.40	0.16	8/7	50	
02-22-21	1155	45.00	—	280	10.61	7.31	3.74	0.341	-51.8	7.7	0.16	8/7	50	
02-22-21	1200	45.00	—	290	10.61	7.32	3.62	0.341	-58.6	8.5	0.16	8/7	50	
02-22-21	1205	45.00	—	290	10.63	7.33	3.62	0.340	-66.3	11.6	0.16	8/7	50	

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) for 3 consecutive readings

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
CH-MW045S-0221 1240	3 x 40 mL Glass VOA	HCL	N	VOC
	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: **Camp Hero**	LocID: CH-MW045S	Date: 2.22.2021	
	Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: CH	Checked By:

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02-22-21	1210	45.00	—	290	10.72	7.34	3.51	0.340	-72.4	13.1	0.16	8/7	50	clear / no odor
02-22-21	1215	45.00	—	295	10.68	7.36	3.13	0.340	-78.3	10.6	0.16	8/7	50	
02-22-21	1220	45.00	—	290	10.63	7.38	2.73	0.339	-84.6	10.5	0.16	8/7	50	
02-22-21	1225	45.00	—	300	10.66	7.39	2.61	0.339	-89.1	10.2	0.16	8/7	50	
02-22-21	1230	45.00	—	290	10.59	7.41	2.39	0.339	-93.3	9.0	0.16	8/7	50	
02-22-21	1235	45.00	—	290	10.57	7.42	2.28	0.338	-97.9	9.2	0.16	8/7	50	
02-22-21	1240	45.00	—	285	10.53	7.43	2.22	0.337	-101.5	7.8	0.16	8/7	50	sample collected
			6.5 gal											

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: **Camp Hero**	LocID: CH-MW045D	Date: 2-22-21	
	Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: CH	Checked By:

EQUIPMENT			
Sampling Equipment - Pump: Bladder Pump R9723	Controller/Compressor: MP50/047526		
Water Level Indicator Type/ID#: Solinist WLM/29515	Water Quality Meter Type: YSI6290	Sonde ID: 100251	Handset ID: 15961
PID Type/ID#: MultiRae 3000 / 18120	Equipment Decon: Alconox		

WELL & SAMPLING INFO			
Initial Depth to Water (BTOC): 44.85	Screen Interval (BTOC): 128-138	Total Depth (BTOC): 138.00 ft	Ambient PID (ppm): 0.0 ppm
Historic Pump Settings: Refill/Discharge = 8/7, Pressure = 80 PSI, Rate = 350 mLpm, CPM = 4			Well Head PID (ppm): 0.1 ppm
Condition of Well/Comments: Excellent			Pump Inlet Depth (BTOC): 133
NOTE: 20/10 100psi CPM=4			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/22/2021	~~1320~~ 1400	44.66	—	110	8.86	6.88	5.20	2.233	-3.7	17.3	1.21	20/10	100	water clear; no odor
02/22/2021	1405	44.72	—	110	9.28	6.93	2.43	3.336	-34.7	8.9	1.77	20/10	100	
02/22/21	1410	44.66	—	110	9.24	7.03	1.43	3.427	-67.0	2.9	1.81	20/10	100	
02/22/21	1415	44.66	—	110	9.16	7.11	1.16	3.340	-88.8	1.1	1.76	20/10	100	
02/22/21	1420	44.66	—	110	9.07	7.14	1.00	3.240	-104.6	-0.3	1.70	20/10	100	
02/22/21	1425	44.65	—	110	9.11	7.17	0.90	3.113	-115.2	-1.3	1.63	20/10	100	
02/22/21	1430	44.66	—	110	9.15	7.18	0.83	3.073	-122.5	-2.0	1.61	20/10	100	
02/22/21	1435	44.66	—	110	9.14	7.20	0.76	3.048	-129.1	-3.0	1.60	20/10	100	
02/22/21	1440	44.66	—	110	9.12	7.21	0.72	3.029	-133.3	-3.0	1.59	20/10	100	
02/22/21	1445	44.66	—	110	9.11	7.23	0.68	3.006	-138.6	-3.6	1.57	20/10	100	sample collected
	~~1450~~		1 gal.											

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time

CH-MW045D-~~14~~0221 1445

Container Count, Volume & Type	Preservative	Filter	Parameter(s)
3 x 40 mL Glass VOA	HCL	N	VOC
2 x 250 mL Glass Amber	-	N	SVOCs
2 x 250 mL Glass Amber	-	N	SVOCs SIM
2 x 250 mL Glass Amber	-	N	PCBs
1 x 250 mL Poly	HNO_3	N	Metals (Total)
1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

~~57.74~~

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: S19495	Date: 2-23-2021
	Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: CH — Checked By:

EQUIPMENT	Sampling Equipment - Pump: Bladder Pump 9516	Controller/Compressor: 047042 MP50
	Water Level Indicator Type/ID#: Solinist WLM /29515	Water Quality Meter Type: YSI 6290 — Sonde ID: 100521 — Handset ID: 15969
	PID Type/ID#: MultiRae 3000/18120	Equipment Decon: Alconox

WELL & SAMPLING INFO	Initial Depth to Water (BTOC): 53.16 ft	Screen Interval (BTOC): 100-110 ft	Total Depth (BTOC): 110.71 ft	Ambient PID (ppm): 0.0 ppm
	Historic Pump Settings: —			Well Head PID (ppm): 0.0 ppm
	Condition of Well/Comments: Water in vault; well cap sealed			Pump Inlet Depth (BTOC): 105.03
	NOTE: ~~4.58~~		Vault PID = 0.0 ppm	

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/23/21	1020	53.58	—	150	11.20	6.34	8.53	0.112	162.0	681.0	0.05	20/10	100	orange/brown color; no odor
02/23/21	1025	53.58	—	150	11.34	6.62	7.92	0.095	157.6	825.4	0.04	20/10	100	
02/23/21	1030	53.54	—	150	11.30	6.78	7.55	0.093	152.9	834.8	0.04	20/10	100	
02/23/21	1035	53.53	—	150	11.22	6.89	7.29	0.093	145.7	759.4	0.04	20/10	100	
02/23/21	1040	53.58	—	150	11.12	6.98	7.12	0.093	145.7	662.2	0.04	20/10	100	
02/23/21	1045	53.42	—	150	11.42	7.01	6.97	0.001	143.9	409.8	0.00	20/10	100	
~~02/23/21~~	~~1050~~													pump battery died
02/23/21	1055	53.54	—	150	10.49	7.09	7.77	0.092	140.2	583.7	0.04	20/10	100	
02/23/21	1100	53.52	—	150	11.04	7.16	6.86	0.093	137.1	438.4	0.04	20/10	100	
02/23/21	1105	53.52	—	150	11.26	7.22	6.54	0.093	135.0	361.5	0.04	20/10	100	
02/23/21	1110	53.52	—	150	11.20	7.25	6.43	0.093	133.4	301.6	0.04	20/10	100	

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
S19495-0221 1310	3 x 40 mL Glass VOA	HCL	N	VOC
	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: S19495	Date: 2.23.2021	
	Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: CH	Checked By:

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
2/23/21	1115	53.52	—	150	11.06	7.27	6.32	0.093	132.8	259.4	0.04	20/10	100	
02/23/21	1120	53.52	—	150	10.98	7.30	6.16	0.093	131.2	182.2	0.04	20/10	100	
02/23/21	1125	53.52	—	150	10.97	7.30	6.10	0.093	131.0	160.4	0.04	20/10	100	
02/23/21	1130	53.52	—	150	10.95	7.33	5.98	0.093	129.9	136.1	0.04	20/10	100	
02/23/21	1135	53.52	—	150	10.92	7.36	5.72	0.094	128.4	121.0	0.04	20/10	100	
02/23/21	1140	53.52	—	150	10.86	7.37	5.45	0.094	127.8	104.8	0.04	20/10	100	
02/23/21	1145	53.52	—	150	10.83	7.39	5.16	0.095	126.9	83.3	0.04	20/10	100	
02/23/21	1150	53.52	—	150	11.01	7.40	5.04	0.095	125.4	92.3	0.04	20/10	100	
02/23/21	1155	53.52	—	150	11.10	7.43	4.83	0.095	123.0	100.0	0.04	20/10	100	
02/23/21	1200	53.52	—	150	10.85	7.43	4.77	0.095	122.5	119.4	0.04	20/10	100	
02/23/21	1205	53.52	—	150	10.90	7.44	4.66	0.095	122.0	103.2	0.04	20/10	100	
02/23/21	1210	53.52	—	150	10.95	7.45	4.44	0.095	120.9	82.7	0.04	20/10	100	
02/23/21	1215	53.52	—	150	10.97	7.46	4.30	0.096	119.7	69.7	0.04	20/10	100	
02/23/21	1220	53.52	—	150	10.82	7.47	4.19	0.095	119.1	62.4	0.04	20/10	100	
02/23/21	1225	53.52	—	150	10.98	7.47	4.03	0.095	118.8	57.7	0.04	20/10	100	
02/23/21	1230	53.52	—	150	10.85	7.50	3.93	0.096	117.3	55.8	0.04	20/10	100	
02/23/21	1235	53.52	—	150	10.93	7.49	3.83	0.096	117.0	51.0	0.04	20/10	100	
02/23/21	1240	53.52	—	150	10.86	7.49	3.77	0.096	116.2	48.3	0.04	20/10	100	
02/23/21	1245	53.52	—	150	11.16	7.52	3.70	0.096	114.0	45.2	0.04	20/10	100	
02/23/21	1250	53.52	—	150	11.00	7.52	3.61	0.096	113.4	41.7	0.04	20/10	100	
02/23/21	1255	53.52	—	150	11.06	7.53	3.48	0.096	112.2	39.1	0.04	20/10	100	
02/23/21	1300	53.52	—	150	10.94	7.52	3.45	0.097	112.1	35.8	0.04	20/10	100	
02/23/21	1305	53.52	—	150	10.93	7.53	3.36	0.096	111.2	34.5	0.04	20/10	100	
02/23/21	1310	53.52	—	150	10.86	7.53	3.30	0.097	110.3	33.3	0.04	20/10	100	
			5 gal.											

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: **Camp Hero**	LocID: **S58922**	Date: 02/23/21
	Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: MG / JC Checked By:

EQUIPMENT	Sampling Equipment - Pump: QED Bladder Pump #35589	Controller/Compressor: MP-50 #47526
	Water Level Indicator Type/ID#: Solinst WLM 101 #3540	Water Quality Meter Type: YSI 6920 Sonde ID: 43305 Handset ID: 30776
	PID Type/ID#: MiniRae 3000 / 12219	Equipment Decon: Liquinox

WELL & SAMPLING INFO	Initial Depth to Water (BTOC): 44.54	Screen Interval (BTOC): —	Total Depth (BTOC): 58.15	Ambient PID (ppm): 0.0
	Historic Pump Settings: **Refill/Discharge = 8/7, Pressure = 30 PSI, Rate = 150 mLpm**			Well Head PID (ppm): 0.0
	Condition of Well/Comments: Good, no plug			Pump Inlet Depth (BTOC): ~~40~~ 53 JC
	NOTE: —			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/23/21	945	44.50	-	300	10.78	5.84	10.31	0.238	145.2	0.5	0.11	8/7	40	
02/23/21	950	44.50		↓	11.10	5.85	10.22	0.240	147.9	0.3	0.12	↓	↓	
02/23/21	955	44.50			11.22	5.86	10.26	0.241	151.2	0.1	0.12			
02/23/21	1000	44.51			11.23	5.84	10.25	0.242	154.6	0.1	0.12			
02/23/21	1005	44.51			11.24	5.85	10.26	0.242	157.4	0.1	0.12			
02/23/21	1010	44.51	2.25		11.23	5.84	10.26	0.242	159.2	0.1	0.12			

MG / JC

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
S58922-0221	3 x 40 mL Glass VOA	HCL	N	VOC
1015	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

Monitoring Well Sample Collection Form

LOCATION			
Site: **Camp Hero**	LocID: **S48579**	Date: 02/23/21	
Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: MG / JC	Checked By:

EQUIPMENT			
Sampling Equipment - Pump: QED Bladder Pump #33121		Controller/Compressor: QED MP-50 #047526	
Water Level Indicator Type/ID#: Solinst 101 # 3540	Water Quality Meter Type: YSI 6920	Sonde ID: 43305	Handset ID: 30776
PID Type/ID#: miniRAE 3000 / 12219	Equipment Decon: Liquinox		

WELL & SAMPLING INFO			
Initial Depth to Water (BTOC): 33.04	Screen Interval (BTOC): —	Total Depth (BTOC): 61.21	Ambient PID (ppm): 0.0
Historic Pump Settings: Refill/Discharge = 8/7, Pressure = 38 PSI, Rate = 250 mLpm, CPM = 4			Well Head PID (ppm): 0.0
Condition of Well/Comments: Good, no plug			Pump Inlet Depth (BTOC): 57
NOTE: Transducer not pulled, pump on @ 1101			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/23/21	1105	32.99	—	185	11.47	6.27	2.42	0.369	-33.8	33.2	0.18	8/7	40	
	1110	33.19	—	188	11.80	6.50	1.06	0.370	-93.6	23.2	0.18	8/7	40	
	1115	33.24	—	185	11.74	6.56	0.86	0.371	-107.1	19.4	0.18	8/7	40	
	1120	33.28	—	185	11.69	6.60	0.77	0.369	-114.3	15.8	0.18	8/7	40	
	1125	33.29	—	185	11.65	6.59	0.85	0.366	-111.3	1.5	0.18	8/7	40	
	1130	33.29	—	185	11.60	6.59	0.86	0.365	-109.2	12.7	0.18	8/7	40	
	1135	33.29	—	185	11.48	6.56	0.90	0.363	-105.4	10.2	0.17	8/7	40	
	1140	33.29	2.0	185	11.51	6.53	0.96	0.360	-100.8	10.3	0.17	8/7	40	

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) for 3 consecutive readings

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
"S48579-0221" @ 1145	3 x 40 mL Glass VOA	HCL	N	VOC
	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION			
Site: **Camp Hero**	LocID: **S19494**	Date: 02/23/21	
Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: MG/JC	Checked By:

EQUIPMENT			
Sampling Equipment - Pump: Sample Pro bladder R9725	Controller/Compressor: MP-50 47526 → 48695		
Water Level Indicator Type/ID#: Solinst 101 #	Water Quality Meter Type: YSI 6920	Sonde ID: 43305	Handset ID: 30776
PID Type/ID#: MiniRAE 3000	Equipment Decon:		

WELL & SAMPLING INFO			
Initial Depth to Water (BTOC): 49.79	Screen Interval (BTOC): —	Total Depth (BTOC): 82.97	Ambient PID (ppm): 0.0
Historic Pump Settings: **Refill/Discharge = 9/6, Pressure = 175 PSI, Rate = 80 mLpm, CPM = 4**			Well Head PID (ppm): 0.0
Condition of Well/Comments:			Pump Inlet Depth (BTOC):
NOTE: Initially, very turbid → suggest purging until visably clears			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/23/21	1300	51.01	—	310	12.46	6.20	3.66	0.301	42.7	1372	0.14	8/7	60	change MP-50
	1305	51.10	—		12.59	5.98	0.87	0.320	7.9	1109	0.15			
	1310	51.10	—		12.61	6.07	0.83	0.328	-11.9	531	0.16			
	1315	51.15	—		12.60	6.11	1.06	0.326	-24.1	191	0.16			
	1320	51.24	—		12.54	6.12	1.02	0.329	-30.7	137	0.16			
	1325	51.24	—		12.55	6.15	0.95	0.330	-36.7	87.8	0.16			
	1330	51.68	—		12.56	6.14	0.97	0.331	-39.7	44.1	0.16			
	1335	51.76	—		12.51	6.15	0.97	0.331	-40.3	27.2	0.16			
	1340	57.78	—		12.51	6.12	0.95	0.331	-41.1	31.2	0.16			
	1345	51.78	—		12.49	6.14	1.03	0.329	-43.1	101	0.16			bumped cell
	1350	51.78	4.5		12.44	6.13	1.05	0.330	-42.3	93.1	0.16			

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time

S19494-0221 (1415)

S19494-0221MS

S19494-0221 MSD

Container Count, Volume & Type	Preservative	Filter	Parameter(s)
9 x 40 mL Glass VOA	HCL	N	VOC
6 x 250 mL Glass Amber	-	N	SVOCs
6 x 250 mL Glass Amber	-	N	SVOCs SIM
6 x 250 mL Glass Amber	-	N	PCBs
3 x 250 mL Poly	HNO_3	N	Metals (Total)
3 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
3 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
3 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: S19494	Date: 02/23/21
	Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: MG/JC Checked By:

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/23/21	1355	51.78		310	12.39	6.13	1.03	0.330	-42.7	40.3	0.16	8/7	60	
	1400	51.78			12.39	6.14	1.06	0.330	-43.6	19.1	0.16			
	1405	51.78			12.43	6.15	1.07	0.330	-44.4	11.1	0.16			
	1410	51.78	6.25		12.41	6.15	1.07	0.329	-44.4	12.8	0.16			

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: **Camp Hero**	LocID: S70627	Date: 2-24-2021
	Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: CH Checked By:

EQUIPMENT	Sampling Equipment - Pump: Bladder pump / 9516		Controller/Compressor: MP50 / 048695	
	Water Level Indicator Type/ID#: Solonist WLM / 29515	Water Quality Meter Type: YSI 6290	Sonde ID: 43305	Handset ID: 030776
	PID Type/ID#: MultiRae 3000/18120	Equipment Decon: Alconox		

WELL & SAMPLING INFO	Initial Depth to Water (BTOC): 73.97	Screen Interval (BTOC): 86 - 96	Total Depth (BTOC): 96.43	Ambient PID (ppm): 0.0
	Historic Pump Settings: **Refill/Discharge = 8/7, Pressure = 40 PSI, Rate = 80 mLpm , CMP = 4**			Well Head PID (ppm): 0.0
	Condition of Well/Comments: Excellent			Pump Inlet Depth (BTOC): 92
	NOTE:			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02-24-21	0850	74.75	—	100	10.47	6.22	5.81	0.845	147.5	97.1	0.42	8/7	50	clear; no odor
02-24-21	0855	75.80	—	100	10.60	6.41	4.51	0.841	142.8	82.5	0.42	8/7	50	
02-24-21	0900	76.50	—	98	10.60	6.46	4.12	0.841	140.7	57.1	0.42	8/7	50	
02-24-21	0905	77.00	—	100	10.66	6.49	3.84	0.840	138.5	44.0	0.42	8/7	50	
02-24-21	0910	77.76	—	90	10.62	6.50	3.68	0.841	136.1	31.3	0.42	8/7	50	
02-24-21	0915	78.35	—	88	10.57	6.51	3.62	0.844	133.0	27.7	0.42	8/7	50	
02-24-21	0920	78.98	—	86	10.58	6.51	3.51	0.846	129.5	28.3	0.42	8/7	50	
02-24-21	0925	79.65	—	86	10.91	6.53	3.49	0.848	123.1	25.9	0.42	8/7	50	
02-24-21	0930	80.15	—	86	11.07	6.54	3.49	0.848	119.4	-1.7	0.42	8/7	50	
02-24-21	0935	80.70	—	86	11.40	6.53	3.45	0.851	115.0	-2.0	0.42	8/7	50	
02-24-21	0940	81.22	—	86	11.74	6.55	3.54	0.852	109.8	-3.3	0.42	8/7	50	Hach=24.3

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
~~CH~~ S70627-0221 1015	3 x 40 mL Glass VOA	HCL	N	VOC
	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION			
	Site: **Camp Hero**	LocID: S70627	Date: 02-24-2021
	Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: CH Checked By:

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02-24-21	0945	81.68	—	82	11.75	6.53	3.37	0.854	106.1	-3.5	0.42	8/7	48	Hach=21.7
02-24-21	0950	82.03	—	60	11.95	6.54	3.33	0.853	103.6	-3.6	0.42	8/7	48	Hach=19.9
02-24-21	0955	82.30	—	44	12.29	6.55	3.25	0.857	99.4	-3.7	0.42	8/4	48	Hach=17.2
02-24-21	1000	82.47	—	50	12.41	6.56	3.27	0.859	95.2	-4.2	0.42	8/4	48	Hach=16.4
02-24-21	1005	82.69	—	48	12.43	6.55	3.26	0.861	93.4	-3.7	0.43	8/4	48	Hach=18.0
02-24-21	1010	82.85	—	48	12.44	6.54	3.19	0.863	91.1	-3.6	0.43	8/4	48	Hach=17.7
			2 gal.											
		84.35 - final WL after sample collection												

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: **Camp Hero**	LocID: **S1202**	Date: 2/24/2021
	Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: SC Checked By:

EQUIPMENT	Sampling Equipment - Pump: **Sample Port**		Controller/Compressor:
	Water Level Indicator Type/ID#: NA	Water Quality Meter Type: YSI 6920 V2	Sonde ID: 100521 Handset ID: 15969
	PID Type/ID#: MiniRae #12219	Equipment Decon: NA	

WELL & SAMPLING INFO	Initial Depth to Water (BTOC): UNK	Screen Interval (BTOC): UNK	Total Depth (BTOC): UNK	Ambient PID (ppm): 0.3
	Historic Pump Settings: **Sample Port**			Well Head PID (ppm): NA
	Condition of Well/Comments: NA			Pump Inlet Depth (BTOC): NA
	NOTE: Purge @ 957			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/24/21	1009	—	2	580	8.78	6.17	8.22	0.554	151.0	3.7	0.27	—	—	—

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
"S1202-0221" @ 1010	3 x 40 mL Glass VOA	HCL	N	VOC
	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: Camp Hero	LocID: S3599	Date: 2/24/2021	
	Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: JC	Checked By:

EQUIPMENT			
Sampling Equipment - Pump: Sample Port		Controller/Compressor: NA	
Water Level Indicator Type/ID#: NA	Water Quality Meter Type: YSI 6920V2	Sonde ID: 100521	Handset ID: 15969
PID Type/ID#: Mini Rae 3000 #12219	Equipment Decon: NA		

WELL & SAMPLING INFO			
Initial Depth to Water (BTOC): UNK	Screen Interval (BTOC): UNK	Total Depth (BTOC): UNK	Ambient PID (ppm): 0.1
Historic Pump Settings: Sample Port			Well Head PID (ppm): NA
Condition of Well/Comments: NA			Pump Inlet Depth (BTOC): NA
NOTE: Purge @ 1036			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/24/21	1045	–	1.5	630	17.73	6.43	6.50	0.493	131.0	11.4	0.24	–	–	–

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
"S3599-0221" @ 1045	3 x 40 mL Glass VOA	HCL	N	VOC
	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION			
Site: Camp Hero	LocID: S17231S	Date: 2/25/2021	
Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: MK	Checked By:

EQUIPMENT	
Sampling Equipment - Pump: QED Bladder Pump #9516	Controller/Compressor: QED MP50 # 048695
Water Level Indicator Type/ID#: Solinst Model 101 #3540	Water Quality Meter Type: YSI 650 MDS / 6120 V2 Sonde ID: 43305 Handset ID: 030776
PID Type/ID#: MiniRAE 3000 # 12219	Equipment Decon:

WELL & SAMPLING INFO			
Initial Depth to Water (BTOC): 63.42	Screen Interval (BTOC): UNK	Total Depth (BTOC): 107.48	Ambient PID (ppm): 0.0
Historic Pump Settings: UNK			Well Head PID (ppm): 0.0
Condition of Well/Comments: Asked Tom Dess for access - ok with removing plywood on door			Pump Inlet Depth (BTOC): 100
NOTE: pump on @ 0900			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
2/25/2021	0905	63.42	-	200	9.64	6.63	5.40	0.293	172.6	23.1	0.14	20/10	70	CPM 2
2/25/21	0910	63.64	-	200	10.32	8.33	1.49	0.305	153.6	16.7	0.15	20/10	70	
2/25/21	0915	63.76	-	200	10.36	8.65	1.05	0.307	147.1	16.1	0.15	20/10	70	Clear
2/25/21	0920	63.87	-	200	10.48	8.86	0.82	0.307	131.9	16.6	0.15	20/10	70	sewage odor
2/25/21	0925	64.08	-	200	10.53	8.98	0.67	0.306	95.9	16.2	0.15	20/10	70	
2/25/21	0930	64.15	-	200	10.54	9.03	0.62	0.308	57.3	16.2	0.15	20/10	70	
2/25/21	0935	64.23	-	200	10.55	9.07	0.55	0.307	19.6	15.7	0.15	20/10	70	
2/25/21	0940	64.28	-	200	10.53	9.07	0.51	0.309	-44.1	15.7	0.15	20/10	70	
2/25/21	0945	64.32	-	200	10.56	9.05	0.48	0.310	-118.7	15.7	0.15	20/10	70	
2/25/21	0950	64.37	-	200	10.53	9.03	0.44	0.311	-197.7	15.7	0.15	20/10	70	
2/25/21	0955	64.43	-	200	10.54	9.02	0.43	0.312	-243.3	15.7	0.15	20/10	70	

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time

"S17231S - 0221" (1020)

"S17231S - 0221D" (1020)

Container Count, Volume & Type	Preservative	Filter	Parameter(s)
6 x 40 mL Glass VOA	HCL	N	VOC
4 x 250 mL Glass Amber	-	N	SVOCs
4 x 250 mL Glass Amber	-	N	SVOCs SIM
4 x 250 mL Glass Amber	-	N	PCBs
2 x 250 mL Poly	HNO_3	N	Metals (Total)
2 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
2 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
2 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION	Site: **Camp Hero**	LocID: 5172315	Date: 2/25/ ~~2022~~ MK 2021
	Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: MK Checked By:

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
2/25/2021	1000	64.44	-	200	10.56	9.00	0.41	0.313	-272.6	15.7	0.15	20/10	70	
2/25/2021	1005	64.47	-	206	10.56	8.93	0.38	0.315	-294.9	16.4	0.15	20/10	70	
2/25/21	1010	64.49	-	260	10.59	8.86	0.37	0.318	-303.2	17.0	0.15	20/10	70	
2/25/21	1015	64.52	-	200	10.58	8.82	0.35	6.319	-311.8	17.2	0.15	20/10	20	
2/25/21	1020	64.55	5.5	200	10.60	8.79	0.34	0.320	-306.7	17.2	0.15	20/10	70	Sample

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

AECOM

Monitoring Well Sample Collection Form

LOCATION			
Site: **Camp Hero**	LocID: **S79269**	Date: 02·25·2021	
Project Name: **Camp Hero Phase IV**	Project Number: **60443903**	Recorded By: CH	Checked By:

EQUIPMENT			
Sampling Equipment - Pump: **Sample Port**		Controller/Compressor: —	
Water Level Indicator Type/ID#: —	Water Quality Meter Type: YSI 6290	Sonde ID: 43305	Handset ID: 030776
PID Type/ID#: —	Equipment Decon: —		

WELL & SAMPLING INFO			
Initial Depth to Water (BTOC): —	Screen Interval (BTOC): —	Total Depth (BTOC): —	Ambient PID (ppm): 0.0
Historic Pump Settings: **Sample Port**			Well Head PID (ppm): —
Condition of Well/Comments: Excellent			Pump Inlet Depth (BTOC): —

NOTE: TURN SYSTEM TO "HAND" WAIT ~5 MIN
PURGE STARTED @ 1135

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02·25·21	1200	—	~~—~~ 2	~~—~~ ~~840~~ 750	17.26	6.97	6.59	0.349	61.9	2.8	0.17	—	—	purge started @ 1135

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time

S79269-0221 1145
S79269-0221D 1145

Container Count, Volume & Type	Preservative	Filter	Parameter(s)
6 x 40 mL Glass VOA	HCL	N	VOC
4 x 250 mL Glass Amber	-	N	SVOCs
4 x 250 mL Glass Amber	-	N	SVOCs SIM
4 x 250 mL Glass Amber	-	N	PCBs
2 x 250 mL Poly	HNO_3	N	Metals (Total)
2 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
2 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
2 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

AECOM

Monitoring Well Sample Collection Form

LOCATION			
	Site: Camp Hero	LocID: S76304	Date: 2-27-2021
	Project Name: Camp Hero Phase IV	Project Number: 60443903	Recorded By: GH / Checked By:

EQUIPMENT		
	Sampling Equipment - Pump: Whale Pump - 3 stage #66475944941	Controller/Compressor: ——
	Water Level Indicator Type/ID#: Skinny Dipper / 046822	Water Quality Meter Type: YSI 5290 / Sonde ID: 43305 / Handset ID: 030776
	PID Type/ID#: MiniRae 3000 / 12219	Equipment Decon: Alconox

WELL & SAMPLING INFO				
	Initial Depth to Water (BTOC): 80.62	Screen Interval (BTOC): 131-141	Total Depth (BTOC): UNK	Ambient PID (ppm): 0.0 ppm
	Historic Pump Settings: ——			Well Head PID (ppm): 0.0 ppm
	Condition of Well/Comments: Fair - very old			Pump Inlet Depth (BTOC): 87
	NOTE:			

Date (MM/DD/YY)	Time (24 hr)	Depth to Water (BTOC)	Volume Removed (gallons)	Pumping Rate (mLpm)	Temp (°C)	pH	DO (mg/L)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU)	Salinity (PPT)	Pump Refill/ Discharge (seconds)	Pump Pressure (PSI)	Comment
02/27/21	1000	81.96	—		11.96	8.43	0.26	0.294	-277.6	-5.2	0.14	—	—	Hach: 0.22
02/27/21	1005	81.79	—		11.96	8.42	0.26	0.294	-277.1	-6.1	0.14	—	—	
02/27/21	1010	81.78	—		11.97	8.44	0.26	0.294	-277.4	0.24	0.14	—	—	Hach: 0.21
02/27/21	1015	81.76	—		11.94	8.43	0.26	0.293	-277.6	0.22	0.14	—	—	
02/27/21	1020	81.91	—		12.01	8.43	0.25	0.293	-277.7	0.23	0.14	—	—	
02/27/21	1025	81.65	—		11.99	8.43	0.26	0.293	-277.7	0.23	0.14	—	—	
02/27/21	1030	81.65	—		11.99	8.42	0.25	0.293	-277.4	0.60	0.14	—	—	
02/27/21	1035	81.62	—		11.98	8.44	0.25	0.293	-277.6	0.31	0.14	—	—	
			—									—	—	

Pumping Rate: < 0.5 L/min; **Measurements:** every 3 - 5 min; **Stabilization:** +/- 1°C; +/- 0.2 pH; +/- 3% Conductivity; +/- 10% DO; +/- 10mV ORP; +/- 10% Turbidity (ideal <10 NTU) **for 3 consecutive readings**

Sample ID Numbers and Sample Time	Container Count, Volume & Type	Preservative	Filter	Parameter(s)
CH-S76304-0221 1040	3 x 40 mL Glass VOA	HCL	N	VOC
	2 x 250 mL Glass Amber	-	N	SVOCs
	2 x 250 mL Glass Amber	-	N	SVOCs SIM
	2 x 250 mL Glass Amber	-	N	PCBs
	1 x 250 mL Poly	HNO_3	N	Metals (Total)
	1 x 250 mL Poly	HNO_3	Y	Metals (Dissolved)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	N	Hex Cr (Total)
	1 x 250 mL Poly	$NH_4OH/(NH_4)_2SO_4$	Y	Hex Cr (Dissolved)

Appendix C6

Land Surveying Report

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From: Doug Adams <DEA@youngengineering.com>
Sent: Tuesday, December 22, 2020 2:30 PM
To: Martin, Amanda (Chelmsford); Tom Kruel
Cc: Doris Connolly; Donahue, Megan; Tom Wolpert; Bourdeau, James
Subject: [EXTERNAL] RE: Camp Hero - Land Surveying
Attachments: 2017_0107_CAMP_HERO_WELL.xlsx

Follow Up Flag: Follow up
Flag Status: Completed

Hi Amanda,

Attached please find the survey coordinates for our field work, as requested.

Please let me know if you have any questions.

Please have a safe and happy remainder of the holiday season.

Warm regards,

Doug

Douglas Adams, PE, PG
Young & Young
400 Ostrander Avenue
Riverhead, NY 11901
631.727.2303 (o)
631.774.3521 (m)
dea@youngengineering.com

Please think before you ink

AECOM - Camp Hero State Park

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
NYPE_Montauk	323180.2590	1551577.4963	53.25	BASE STATION
11001	334054.5890	1569624.7473	55.91	S 19495 T/CASING
11002	334056.2205	1569625.0299	60.31	S 19495 GROUND SURFACE
11003	334735.4824	1570010.8186	58.27	S 19494 GROUND SURFACE
11004	334735.2101	1570010.8283	58.12	S 19494 T/CASING
11007	333996.0015	1570746.3276	63.64	S 17231D GROUND
11008	333996.3612	1570747.0485	64.98	S 17231D T/CASING
11009	333996.9786	1570747.2021	64.86	S 17231D T/RISER
11010	333997.6370	1570718.5462	65.34	S 17231S CONC FLOOR
11011	334001.0634	1570722.9408	65.88	S 17231S T/RISER
11012	332250.4936	1570419.1840	65.82	CH-MW044 GROUND SURFACE
11013	332250.1293	1570418.9190	68.93	CH-MW044 T/CASING
11014	332250.4144	1570419.0395	68.09	CH-MW044 T/RISER S
11015	332250.2837	1570419.5106	68.38	CH-MW044 T/RISER D
11016	332355.7731	1571124.1102	72.92	S 19496 CONC
11017	332355.9428	1571124.2968	73.21	S 19496 T/RISER
11018	332355.7554	1571124.8607	72.63	S 19496 GROUND SURFACE
11019	331674.6083	1570351.4399	45.18	CH-MW045 GROUND SURFACE
11020	331674.6871	1570351.3065	47.75	CH-MW045 T/CASING
11021	331674.7725	1570351.2595	46.85	CH-MW045 D T/RISER
11022	331674.6989	1570351.0745	46.89	CH-MW045 S T/RISER
11023	335654.9906	1569814.3588	71.74	S 121811 T/CASING
11024	335655.2919	1569815.0387	69.88	S 121811 GROUND SURFACE
11025	335726.9261	1570332.5094	73.31	S 121808 T/CASING
11026	335726.7261	1570332.3094	71.31	S 121808 GROUND SURFACE
11027	336044.0839	1570491.7518	83.00	S 76304 T/CASING
11028	336044.0719	1570491.3827	80.84	S 76304 GROUND SURFACE
11029	332875.3128	1569181.3203	48.52	S 21084 CONC FLOOR
11032	332878.3287	1569177.8465	49.12	S 21084 T/CASING

Appendix C7

Investigation-Derived Waste Documentation

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AWT Environmental Services, Inc.

P.O. Box 128, Sayreville, NJ 08871
732-613-1660 Fax 732-613-1536

Material Profile Sheet
Product Code:
Generator No:

A. GENERATOR INFORMATION

GENERATOR USEPA ID: N Y R 0 0 0 1 5 7 6 4 4

GENERATOR NAME: United States Army Corps of Engineers
MAILING ADDRESS: 696 Virginia Road
Concord, MA 01743
GENERATOR CONTACT:
GENERATOR PHONE #: 973-318-8962
SITE ADDRESS: 1898 Montauk Highway, Montauk, NY
NAME OF WASTE: Sediment/Soil

AWT COORDINATOR: M. Postorino
PROJECT #: 17349
WASTE ID#:
PROCESS GENERATING WASTE:
Cleaning of a Frac Tank that contained monitoring well purge water.

B. PHYSICAL CHARACTERISTICS OF WASTE

Color/Physical Description: Brown

STRONG INCIDENTAL ODOR PRESENT: ___ Yes X No

PHYSICAL STATE @70°F:
X SOLID ___ SINGLE PHASE
X LIQUID X BI-LAYERED
___ POWDER ___ MULTI-LAYERED
___ SEMI SOLID ___ SLUDGE

___ WASTEWATER
X NONWASTEWATER

SPECIFIC GRAVITY: ___

FLASHPOINT
___ <70°F
___ >200°F
___ 70°F-100°F
___ 101°F-141°F
___ 142°F-200°F
___ >200°F
X NO FLASH
___ EXACT

Ignitable (if solid) ___ Yes √ No
___ Closed Cup ___ Open Cup

LIQUID/SOLID/SLUDGE
% Sludge ___
% Suspended Solid ___
%Solid/Debris 90-100
% Free Liquid 0-10

pH
___ <2.0
___ 2.01-5
___ 5.01-9
___ 9.01-12.4
X >12.50
___ EXACT

Dumpable	X	Yes		No
Pumpable		Yes	X	No
Pourable		Yes	X	No

C. CHEMICAL COMPOSITION

Is MSDS Attached? ___ Yes X No
Is Analysis Attached? X Yes ___ No

	RANGE MINIMUM	RANGE MAXIMUM
Sediment/Soil	90%	100%
Water	0%	10%

D. REGULATORY INFORMATION

USEPA HAZARDOUS WASTE ?: ☐ YES ☒ NO
USEPA CODE(S):
APPLICABLE SUBCATEGORIES:
STATE HAZARDOUS WASTE?: ☐ YES ☒ NO
STATE CODE(S):
D.O.T. HAZARDOUS WASTE?: ☐ YES ☒ NO
PROPER SHIPPING NAME: Non RCRA Non DOT Material
CLASS: ___ I.D. NO.: ___ P.G.: ___ R.Q.: ___

E. SHIPPING INFORMATION/SHIPMENT METHOD:

___ BULK LIQUID
___ BULK SOLID
___ DRUM TRAILER
___ ROLL-OFF
X DRUM SIZE
___ PALLETS
___ CUBIC YARD BOX

ANTICIPATED VOLUME: 1-2 x 55
QUANTITY:
UNITS :
PRICE:
FREQUENCY:

F. SPECIAL HANDLING CONSIDERATIONS

CERCLA FACILITIES ___ INCINERATE ONLY ___
NO LANDFILL ___ CCI SALES CODE ___
PROJECT CODE ___
OTHER ___

G. TRANSPORTATION ARRANGEMENTS

LTL PICK-UP ☐ DEDICATED LOAD ☒ AWT to handle

H. OTHER HAZARDOUS CHARACTERISTICS

INDICATE IF THE WASTE IS:
___ RCRA REACTIVE
___ WATER REACTIVE
___ RADIOACTIVE
___ SUBJECT TO SUBPART FF
___ BENZENE REGULATIONS
___ ETIOLOGICAL
___ TSCA REGULATED
___ OXIDIZING MATERIAL
___ PYROPHORIC
___ EXPLOSIVE/SHOCK SENSITIVE
X NONE OF THE ABOVE

Indicate If Waste Contains Any Of The Following:

	None	Or Less Than	Or Actual
Pcb's	X	<50PPM	PPM
Cyanides	X	<250PPM	PPM
Phenolics	X	<50PPM	PPM
Sulfides	X	<500PPM	PPM
VOC's	X	<500PPM	PPM

I

Is this waste characteristically hazardous for metals or organics (EPA Waste Code D004-D043)? ___ Yes X No. If yes please list the constituents and concentrations in Section D

Does this waste contain underlying hazardous constituents as defined in 40 CFR 268 (2)(I) at concentrations exceeding the UTS treatment standards? ___ Yes X No. If yes, please list constituents and concentrations in Section D

GENERATOR CERTIFICATION: I hereby certify that all information submitted in this and all attached documents is complete, contains true and accurate descriptions and it is representative of the waste material, and that all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. If the TDSF discovers, after having taken delivery of the waste, that any waste does not conform to the identification and description on this MPS then the TSD shall provide notice of such condition to the Generator and coordinate the return of the nonconforming waste to the point of origin as set forth on the manifest or to such other locations designated in writing by the Generator. Generator agrees to reimburse AWT for all handling, packaging, clean-up and transportation costs or charges, damage to equipment, and cost associated with lost time incurred by the TSD during the receipt, handling, temporary storage and return of such nonconforming waste to correction is performed, I will be contacted as such to issue any approval.

AUTHORIZED SIGNATURE: RUPP.JULIA.MICHELLE.1284880923 Digitally signed by RUPP.JULIA.MICHELLE.1284880923 Date: 2021.05.07 16:11:53 -04'00'
TITLE: US Army Corps of Engineers Project Manager
DATE: 07 MAY 2021

AWT Environmental Services, Inc.

P.O. Box 128, Sayreville, NJ 08871
732-613-1660 Fax 732-613-1536

Material Profile Sheet
Product Code: ______
Generator No: ______

A. GENERATOR INFORMATION

GENERATOR USEPA ID: N Y R 0 0 0 1 5 7 6 4 4

GENERATOR NAME: United States Army Corps of Engineers
MAILING ADDRESS: 696 Virginia Road
Concord, MA 01743
GENERATOR CONTACT: ______
GENERATOR PHONE #: 973-318-8962
SITE ADDRESS: 1898 Montauk Highway, Montauk, NY
NAME OF WASTE: Soil with high pH

AWT COORDINATOR: M. Postorino
PROJECT #: 17349
WASTE ID#: ______
PROCESS GENERATING WASTE: ______
Corrosive due to Portland cement

B. PHYSICAL CHARACTERISTICS OF WASTE

Color/Physical Description: Brown

STRONG INCIDENTAL ODOR PRESENT: ___ Yes X No

PHYSICAL STATE @70°F
X SOLID; X SINGLE PHASE
___ LIQUID; ___ BI-LAYERED
___ POWDER; ___ MULTI-LAYERED
___ SEMI SOLID; ___ SLUDGE

___ WASTEWATER
X NONWASTEWATER

SPECIFIC GRAVITY ______

FLASHPOINT
___ <70°F
___ >200°F
___ 70°F-100°F
___ 101°F-141°F
___ 142°F-200°F
___ >200°F
X NO FLASH
___ EXACT

Ignitable (if solid) ___ Yes √ No
___ Closed Cup ___ Open Cup

LIQUID/SOLID/SLUDGE
% Sludge ______
% Suspended Solid ______
%Solid/Debris 100
% Free Liquid ______

pH
___ <2.0
___ 2.01-5
___ 5.01-9
___ 9.01-12.4
X >12.50
___ EXACT

Dumpable	X	Yes		No
Pumpable		Yes	X	No
Pourable		Yes	X	No

C. CHEMICAL COMPOSITION

Is MSDS Attached? ___ Yes X No
Is Analysis Attached? X Yes ___ No

	RANGE MINIMUM	RANGE MAXIMUM
Soil with high pH	100%	100%

D. REGULATORY INFORMATION

USEPA HAZARDOUS WASTE ?: X YES ___ NO
USEPA CODE(S): D002
APPLICABLE SUBCATEGORIES: ______
STATE HAZARDOUS WASTE?: X YES ___ NO
STATE CODE(S): C, S
D.O.T. HAZARDOUS WASTE?: X YES ___ NO
PROPER SHIPPING NAME: Corrosive Solids, NOS
CLASS: 8 I.D. NO.: UN1759 P.G.: III R.Q.: ______

E. SHIPPING INFORMATION/SHIPMENT METHOD:

___ BULK LIQUID
___ BULK SOLID
___ DRUM TRAILER
___ ROLL-OFF
X DRUM SIZE
___ PALLETS
___ CUBIC YARD BOX

ANTICIPATED VOLUME: 8 x 55
QUANTITY: ______
UNITS : ______
PRICE: ______
FREQUENCY: ______

F. SPECIAL HANDLING CONSIDERATIONS

CERCLA FACILITIES ______
NO LANDFILL ______
PROJECT CODE ______
INCINERATE ONLY ______
CCI SALES CODE ______
OTHER ______

G. TRANSPORTATION ARRANGEMENTS

LTL PICK-UP [ ]
DEDICATED LOAD [X] AWT to handle

H. OTHER HAZARDOUS CHARACTERISTICS

INDICATE IF THE WASTE IS:
___ RCRA REACTIVE
___ WATER REACTIVE
___ RADIOACTIVE
___ SUBJECT TO SUBPART FF
___ BENZENE REGULATIONS
___ ETIOLOGICAL
___ TSCA REGULATED
___ OXIDIZING MATERIAL
___ PYROPHORIC
___ EXPLOSIVE/SHOCK SENSITIVE
X NONE OF THE ABOVE

Indicate If Waste Contains Any Of The Following:

	None	Or Less Than	Or Actual
Pcb's	X	<50PPM	PPM
Cyanides	X	<250PPM	PPM
Phenolics	X	<50PPM	PPM
Sulfides	X	<500PPM	PPM
VOC's	X	<500PPM	PPM

I

Is this waste characteristically hazardous for metals or organics (EPA Waste Code D004-D043)? ___ Yes X No. If yes please list the constituents and concentrations in Section D

Does this waste contain underlying hazardous constituents as defined in 40 CFR 268 (2)(I) at concentrations exceeding the UTS treatment standards? ___ Yes X No. If yes, please list constituents and concentrations in Section D

GENERATOR CERTIFICATION: I hereby certify that all information submitted in this and all attached documents is complete, contains true and accurate descriptions and it is representative of the waste material, and that all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. If the TDSF discovers, after having taken delivery of the waste, that any waste does not conform to the identification and description on this MPS then the TSD shall provide notice of such condition to the Generator and coordinate the return of the nonconforming waste to the point of origin as set forth on the manifest or to such other locations designated in writing by the Generator. Generator agrees to reimburse AWT for all handling, packaging, clean-up and transportation costs or charges, damage to equipment, and cost associated with lost time incurred by the TSD during the receipt, handling, temporary storage and return of such nonconforming waste to correction is performed, I will be contacted as such to issue any approval.

AUTHORIZED SIGNATURE: RUPP.JULIA.MICHELLE.1284880923 Digitally signed by RUPP.JULIA.MICHELLE.1284880923 Date: 2021.05.07 16:18:42 -04'00'
TITLE: US Army Corps of Engineers Project Manager
DATE: 07 May 2021

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYR000157644
2. Page 1 of: 1
3. Emergency Response Phone: 732-613-1660
4. Manifest Tracking Number: 021325245 JJK

5. Generator's Name and Mailing Address
United States Army Corps of Engineers
696 Virginia Road
Concord, MA 01743
Generator's Phone: 973-318-8962

Generator's Site Address (if different than mailing address)
1898 Montauk Highway
Montauk, NY Suffolk

6. Transporter 1 Company Name: AWT Environmental Services, Inc. — U.S. EPA ID Number: NJR986647352

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
Cycle Chem, Inc.
217 South First Street
Elizabeth, NJ 07206
Facility's Phone: 908-355-5800
U.S. EPA ID Number: NJD002200046

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN1759-Corrosive Solids, NOS - 8, PG III - ERG# 154	8	DM	4,000	P	D002		
	2. ~~Non RCRA Non DOT Material~~ AO		DM		G			
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. Soil with high pH - Profile #
2. Sediment and Water - Profile #

AWT P.O. #17349-MP

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: ON BEHALF OF DOD Shewen Bian - USACE — Signature — Month 05 Day 10 Year 21

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: ALLEN OWENS — Signature — Month 5 Day 10 Year 21
Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature — Month 5 Day 11 Year 21

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. TRANSPORTER COPY

CLEAN WATER
of New York, Inc.

Clean Water of New York, Inc.
3249 Richmond Terrace
Staten Island, NY 10303
Phone: 718-981-4600 Fax: 718-981-5213

JOB RECEIPT

Job Number	Date	Time	Job Type
JOB0182336	5/10/21	8:14 am	Truck Job

Generator

US ARMY CORPS OF ENGINEERS
1898 Montauk Highway
Montauk, NY 11954
(631) 668-3781
EPA Permit #

Customer

AWT ENVIRONMENTAL SERVICES, INC.
P.O. Box 128
Sayerville, NJ 08871

PO #: 17349-MP Job #
Profile Sheet: Yes Approval Code: 242-268

Transporter

WILLIAM J. LAUER CORP.
P.O. Box 030178
Staten Island, NY 10303

EPA Permit #: NYR000157644
NYS DEC Permit #: 2A-531
Transport / Vessel: VAC # 53
# of Tanks: 1
Total Capacity: 6,300
U of M: Gallons

Site / Vessel Name: CAMP HERO

Received 2,353 Gallons Of Oily Water For Proper Treatment and Disposal.

Products & Test Results	Category	Code	Description	Quantity	UoM
	D	N018	Oily Water	2,353	Gallons

Compartment	% Water	% Oil	% Solid	Halogens (ppm)	Flash Point (oF)	PH Value
1	96.00	3.00	1.00	0	>= 100	6.00

Other Tests Peformed: No

(11.25 hrs)

Did this load or any portion of this load orginate at a utility? No

P. Pinne
Receiver's Signature and Date
5/11/2021 8:16 am

Generator's Representative Signature and Date

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: Not Required	2. Page 1 of: 1	3. Emergency Response Phone: 732-613-1660	4. Waste Tracking Number: 17349-1

GENERATOR

5. Generator's Name and Mailing Address
United States Army Corps of Engineers
696 Virginia Road
Concord, MA 01743

Generator's Site Address (if different than mailing address)
1898 Montauk Highway
Montauk, NY Suffolk

Generator's Phone: 973-318-8962

6. Transporter 1 Company Name: William J. Lauer Corp. (LE)
U.S. EPA ID Number: NYR000157644 (LE)

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Clean Water of New York
3249 Richmond Terrace/P.O. Box 030312
Staten Island, NY 10303-0312
U.S. EPA ID Number

Facility's Phone: 718-981-4600

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non RCRA Non DOT Liquids	001	TT	2353	G	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

1. Oily Water - Approval #242-268

AWT P.O. # 17349-MP

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Chanel Hardy signed as an agent of the Generator (USACE) | Signature: Chanel Hardy | Month 05 Day 10 Year 21

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gabino Villegas | Signature: Gabino Villegas | Month 05 Day 10 Year 21
Transporter 2 Printed/Typed Name | Signature | Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Philip Puma | Signature: P. Puma | Month 5 Day 11 Year 21

169-BLC-O 5 11977 (Rev. 9/09) DESIGNATED FACILITY TO GENERATOR

Appendix D

Analytical Results and Validation

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Appendix D1

Eurofins Lancaster Laboratories Environmental Laboratory Reports

(Provided Upon Request)

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Appendix D2

Data Validation Reports

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Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Facility:	C02NY0024-03, Camp Hero
Event:	Camp Hero Fall 2020
SDG:	410-23193-1_52_2a_FUDSChem_rev2
Guidance Document:	Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016
Prime Contractor:	AECOM, Arlington, VA
Project Manager:	Mark MacEwan
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	AECOM
Data Review Level:	S2AVEM
Primary Data Reviewer:	Devon Chicoine, Project Chemist
Date Submitted:	February 06, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	E218.6	E218.6 - Dissolved	SW6020B	SW6020B - Dissolved	SW7470A	SW7470A - Dissolved	SW8082A	SW8260C	SW8270D
CH_TB-1220-01	410-23193-2	Water	Trip Blank/TB									X	
S19494-1220	410-23193-1	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016 and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by AECOM, Arlington, VA; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-23193-1_52_2a_FUDSChem_rev2. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Extracted Internal Standard
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 14 results (7.91%) out of the 177 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
E218.6	No additional comments; see Checklist for detail.
SW6020B	No additional comments; see Checklist for detail.
SW7470A	No additional comments; see Checklist for detail.
SW8082A	No additional comments; see Checklist for detail.
SW8260C	No additional comments; see Checklist for detail.
SW8270D	No additional comments; see Checklist for detail.

Devon Chicoine

February 06, 2021

Reviewed by Devon Chicoine, Project Chemist, AECOM

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method BNASIM, LCS RPD

The objective of laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. LCS/LCSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Laboratory control sample/laboratory control sample duplicate RPD results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCSD 410-76129/3-A (BD)/ LCSD 410-76129/3-A	2-Methylnaphthalene	21.99	< 20	< 20	rpd	J/UJ	Z	
LCSD 410-76129/3-A (BD)/ LCSD 410-76129/3-A	1-Methylnaphthalene	23.04	< 20	< 20	rpd	J/UJ	Z	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	1-Methylnaphthalene	0.0500	0.0300 U Q J1	0.0300 UJ		ug/l	Z/D
S19494-1220	N	2-Methylnaphthalene	0.0700	0.0600 U Q J1	0.0600 UJ		ug/l	Z/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method BNASIM, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-1220MS (SD)/ 410-23193-1MSD	Naphthalene	23.27	< 20	< 20	rpd	J/UJ	D	
S19494-1220MS (SD)/ 410-23193-1MSD	2-Methylnaphthalene	23.69	< 20	< 20	rpd	J/UJ	D	
S19494-1220MS (SD)/ 410-23193-1MSD	1-Methylnaphthalene	25.48	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	1-Methylnaphthalene	0.0500	0.0300 U Q J1	0.0300 UJ		ug/l	Z/D
S19494-1220	N	2-Methylnaphthalene	0.0700	0.0600 U Q J1	0.0600 UJ		ug/l	Z/D
S19494-1220	N	Naphthalene	0.0700	0.0600 U J1	0.0600 UJ		ug/l	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method E218.6, Dissolved, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-1220 (N)/ 410-23193-1		38.17	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S19494-1220 (N)/ 410-23193-1DUP		38.17	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020B, Dissolved, Lab Replicate RPD

The objective of duplicate sample (LR) analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. Duplicate analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Laboratory duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-1220 (LR)/ 410-23193-1DUP	Nickel	1.800	< 1.5	< 1.5	ug/l	J/UJ	D1	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Replicate RPD for SW6020B, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	Nickel	1.50	1.80 J1	1.80 J		ug/l	D1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method SW6020B, Dissolved, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-1220MS (MS)/ 410-23193-1MS	Iron	0.000	87 - 118	30 - 118	percent	J/X	M	Spike amount Insignificant
S19494-1220MS (MS)/ 410-23193-1MS	Manganese	135.0	87 - 115	30 - 115	percent	J/None	M	Spike amount Insignificant
S19494-1220MS (MS)/ 410-23193-1MS	Sodium	140.0	85 - 117	30 - 117	percent	J/None	M	Spike amount Insignificant
S19494-1220MS (MS)/ 410-23193-1MS	Magnesium	185.0	83 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-1220MS (MS)/ 410-23193-1MS	Calcium	50.00	87 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Sodium	120.0	85 - 117	30 - 117	percent	J/None	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Manganese	145.0	87 - 115	30 - 115	percent	J/None	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Magnesium	150.0	83 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Calcium	25.00	87 - 118	30 - 118	percent	J/X	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Iron	25.00	87 - 118	30 - 118	percent	J/X	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020B, Total, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-1220MS (MS)/ 410-23193-1MS	Magnesium	164.0	83 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-1220MS (MS)/ 410-23193-1MS	Calcium	40.00	87 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S19494-1220MS (MS)/ 410-23193-1MS	Barium	76.92	86 - 114	30 - 114	percent	J/UJ	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Iron	-60.00	87 - 118	30 - 118	percent	J/X	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Calcium	0.000	87 - 118	30 - 118	percent	J/X	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Magnesium	40.00	83 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Manganese	44.00	87 - 115	30 - 115	percent	J/UJ	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Barium	61.54	86 - 114	30 - 114	percent	J/UJ	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Sodium	68.00	85 - 117	30 - 117	percent	J/UJ	M	Spike amount Insignificant
S19494-1220MSD (SD)/ 410-23193-1MSD	Cobalt	84.81	85 - 118	30 - 118	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6020B, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	Cobalt	0.500	0.290 J J1	0.290 J	-	ug/l	M/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method SW8082A, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-1220 (N)/ 410-23193-1		7.050	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S19494-1220 (N)/ 410-23193-1		7.050	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method SW8270D, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-76130/2-A (BS)/ LCS 410-76130/2-A	Dimethyl phthalate	37.20	45 - 127	10 - 127	percent	J/UJ	C	
LCSD 410-76130/3-A (BD)/ LCSD 410-76130/3-A	Dimethyl phthalate	44.80	45 - 127	10 - 127	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method SW8270D, LCS RPD

The objective of laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. LCS/LCSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Laboratory control sample/laboratory control sample duplicate RPD results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCSD 410-76130/3-A (BD)/ LCSD 410-76130/3-A	Benzoic acid	25.77	< 20	< 20	rpd	J/UJ	Z	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS RPD for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	Benzoic acid	25.0	24.0 U	24.0 UJ		ug/l	Z

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method SW8270D, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-1220 (N)/ 410-23193-1		8.020	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270D, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-1220 (N)/ 410-23193-1	2-Fluorophenol	17.00	19 - 119	10 - 119	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	2-Methylphenol (o-Cresol)	2.00	1.00 U	1.00 UJ		ug/l	I
S19494-1220	N	4-Chloro-3-methylphenol	3.50	3.20 U	3.20 UJ		ug/l	I
S19494-1220	N	4-Methylphenol (p-Cresol)	2.00	1.00 U	1.00 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	Naphthalene	0.0700	0.0600 U J1	0.0600 UJ		ug/l	D
S19494-1220	N	1-Methylnaphthalene	0.0500	0.0300 U Q J1	0.0300 UJ		ug/l	Z/D
S19494-1220	N	2-Methylnaphthalene	0.0700	0.0600 U Q J1	0.0600 UJ		ug/l	Z/D

Test Method: SW6020B Extraction Method: Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	Nickel	1.50	1.80 J1	1.80 J		ug/l	D1

Test Method: SW6020B Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	Cobalt	0.500	0.290 J J1	0.290 J	-	ug/l	M/TR

Test Method: SW8270D Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-1220	N	2-Methylphenol (o-Cresol)	2.00	1.00 U	1.00 UJ		ug/l	I
S19494-1220	N	4-Chloro-3-methylphenol	3.50	3.20 U	3.20 UJ		ug/l	I
S19494-1220	N	4-Methylphenol (p-Cresol)	2.00	1.00 U	1.00 UJ		ug/l	I
S19494-1220	N	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S19494-1220	N	Benzoic acid	25.0	24.0 U	24.0 UJ		ug/l	Z

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Table of Results with Modified Qualifiers

Modified Qualifiers for test method E218.6, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S19494-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S19494-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P

Modified Qualifiers for test method E218.6

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S19494-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S19494-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P

Modified Qualifiers for test method SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S19494-1220	N	PCB, Total	0.550	0.330 U	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1016 (Aroclor 1016)	0.550	0.330 U	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1221 (Aroclor 1221)	0.550	0.330 U	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1232 (Aroclor 1232)	0.550	0.330 U	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1242 (Aroclor 1242)	0.550	0.330 U	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1248 (Aroclor 1248)	0.550	0.330 U	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1254 (Aroclor 1254)	0.550	0.330 U	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1260 (Aroclor 1260)	0.550	0.330 U M	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1262 (Aroclor 1262)	0.550	0.330 U M	0.330 UJ	0.330 U	
S19494-1220	N	PCB-1268 (Aroclor 1268)	0.550	0.330 U M	0.330 UJ	0.330 U	

Modified Qualifiers for test method SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S19494-1220	N	1,4-Dichlorobenzene	5.00	1.00 U	1.00 UJ	1.00 U	
S19494-1220	N	2-Chloronaphthalene	1.00	0.800 U	0.800 UJ	0.800 U	
S19494-1220	N	4-Chloroaniline	10.0	9.00 U	9.00 UJ	9.00 U	
S19494-1220	N	Benzaldehyde	10.0	9.00 U	9.00 UJ	9.00 U	
S19494-1220	N	Benzoic acid	25.0	24.0 U	24.0 UJ	24.0 UJ	Z
S19494-1220	N	Benzyl butyl phthalate	5.00	4.00 U	4.00 UJ	4.00 U	
S19494-1220	N	Biphenyl (Diphenyl)	10.0	9.00 U	9.00 UJ	9.00 U	
S19494-1220	N	Bis(2-ethylhexyl)phthalate	11.0	10.0 U	10.0 UJ	10.0 U	
S19494-1220	N	Caprolactam	11.0	10.0 U	10.0 UJ	10.0 U	
S19494-1220	N	Carbazole	2.00	1.00 U	1.00 UJ	1.00 U	
S19494-1220	N	Dibenzofuran	2.00	1.00 U	1.00 UJ	1.00 U	
S19494-1220	N	Diethyl phthalate	5.00	4.00 U	4.00 UJ	4.00 U	
S19494-1220	N	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ	4.00 UJ	C
S19494-1220	N	Di-n-butyl phthalate	5.00	4.00 U	4.00 UJ	4.00 U	
S19494-1220	N	di-n-Octyl phthalate	11.0	10.0 U	10.0 UJ	10.0 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
D1	Lab Replicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
M	MS Recovery
P	Sample preservation/collection requirement not met.
TR	Trace Level Detect
Z	LCS RPD

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; cooler temperature at 0.5 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?		•		
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?		•		see outlier report
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: E218.6 (Hexavalent Chromium by EPA Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?		•		pH approximately 8.2; validator modified qualifiers from U to UJ; bias low; used reason code P
Were holding times met?		•		pH approximately 8.2; validator modified qualifiers from U to UJ; bias low; used reason code P
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Review Questions

Method: SW6020B (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; cooler temperature at 0.5 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		see outlier report; S19494-1220 MS recovery outside control limits
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?		•		see outlier report
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW7470A (Mercury in Water (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; cooler temperature at 0.5 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW8082A (Polychlorinated Biphenyls (PCB))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; cooler temperature at 0.5 C
Were holding times met?	•			prep hold time exceeds 7 days according to the eQAPP; EPA NFG recommends 1 year; validator modified the qualifiers
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Review Questions

Method: SW8260C (Volatile Organic Compounds by GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples received in good condition; cooler temperature was 0.5 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			trip blank had no detects
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-23193-1_52_2a_FUDSChem_rev2

Review Questions

Method: SW8270D (Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples received in good condition; cooler temperature was 0.5 C
Were holding times met?	•			S19494-1220 surrogate (1) were outside QC limits; lab reanalyzed outside hold and met criteria; the first set of data was reported and qualified for the surrogate out
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		2-fluorophenol outside QC limits at 17% for sample S19494-1220; sample re-prepped outside hold time; first set of data reported and base neutral compounds were not qualified for the one acid surrogate that is out; validator modified qualifiers
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		see outlier report
Was the LCS/LCSD RPD within project acceptance limits?		•		see outlier report
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-23807-1_52_2a_FUDSChem_rev2

Facility:	C02NY0024-03, Camp Hero
Event:	Camp Hero Fall 2020
SDG:	410-23807-1_52_2a_FUDSChem_rev2
Guidance Document:	Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016
Prime Contractor:	AECOM, Arlington, VA
Project Manager:	Mark MacEwan
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	AECOM
Data Review Level:	S2AVEM
Primary Data Reviewer:	Devon Chicoine, Project Chemist
Date Submitted:	February 08, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	E218.6	E218.6 - Dissolved	SW6020B	SW6020B - Dissolved	SW7470A	SW7470A - Dissolved	SW8082A	SW8260C	SW8270D
CH_TB-1220-02	410-23807-12	Water	Trip Blank/TB									X	
CH-EB-1220-01	410-23807-4	Water	Equipment Blank/EB	X	X		X		X		X	X	X
CH-EB-1220-02	410-23807-10	Water	Equipment Blank/EB	X	X		X		X		X	X	X
CH-MW045S-1220	410-23807-5	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S1202-1220	410-23807-8	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S17231S-1220	410-23807-9	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S19495-1220	410-23807-1	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S3599-1220	410-23807-7	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S48579-1220	410-23807-11	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S58922-1220	410-23807-6	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S79269-1220	410-23807-2	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S79269-1220D	410-23807-3	Water	Field Duplicate/FD	X	X	X	X	X	X	X	X	X	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016 and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by AECOM, Arlington, VA; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-23807-1_52_2a_FUDSChem_rev2. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 204 results (13.63%) out of the 1497 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
E218.6	No additional comments; see Checklist for detail.
SW6020B	No additional comments; see Checklist for detail.
SW7470A	No additional comments; see Checklist for detail.
SW8082A	No additional comments; see Checklist for detail.
SW8260C	No additional comments; see Checklist for detail.
SW8270D	No additional comments; see Checklist for detail.

Devon Chicoine

February 08, 2021

Reviewed by Devon Chicoine, Project Chemist, AECOM

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Data Validation Report for 410-23807-1_52_2a_FUDSChem_rev2

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-1220-02 (EB)/ 410-23807-10	Chrysene	0.01100	< 0.011	< 0.053	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Fluorene	0.01400	< 0.011	< 0.053	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Pyrene	0.01400	< 0.011	< 0.053	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Anthracene	0.01800	< 0.011	< 0.053	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Fluoranthene	0.01800	< 0.011	< 0.053	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
MB 410-77182/1-A (LB)/ MB 410-77182/1-A	2-Methylnaphthalene	0.02180	< 0.02	< 0.07	ug/l	U/None	L	
MB 410-77182/1-A (LB)/ MB 410-77182/1-A	Naphthalene	0.07250	< 0.03	< 0.07	ug/l	U/None	L	
MB 410-77323/1-A (LB)/ MB 410-77323/1-A	Naphthalene	0.09960	< 0.03	< 0.07	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Naphthalene	0.0740	0.0440 J M B	0.0630 UJ		ug/l	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	1,4-Dioxane (p-Dioxane)	0.000	18 - 91	10 - 91	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Acenaphthylene	0.000	35 - 121	10 - 130	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	2-Methylnaphthalene	0.000	39 - 114	10 - 117	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Naphthalene	0.000	43 - 114	10 - 121	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Benzo (g,h,i)perylene	0.000	44 - 128	10 - 129	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Dibenz (a,h)anthracene	0.000	44 - 131	10 - 134	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Phenanthrene	0.000	53 - 115	10 - 130	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Benzo(a)pyrene	0.000	53 - 120	10 - 128	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Benzo (b)fluoranthene	0.000	53 - 126	10 - 134	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Benzo (k)fluoranthene	0.000	54 - 125	10 - 125	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Acenaphthene	1.060	48 - 114	10 - 130	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	1-Methylnaphthalene	1.090	41 - 115	10 - 115	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Indeno(1,2,3-c,d)pyrene	1.210	48 - 130	10 - 130	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Chrysene	1.360	57 - 120	10 - 127	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Benzo (a)anthracene	1.410	59 - 120	10 - 128	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Fluoranthene	1.750	58 - 125	10 - 125	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Pyrene	1.820	53 - 121	10 - 130	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Fluorene	2.060	50 - 118	10 - 118	percent	J/X	C	
LCS 410-77182/2-A (BS)/ LCS 410-77182/2-A	Anthracene	2.190	53 - 119	10 - 130	percent	J/X	C	
LCS 410-77323/2-A (BS)/ LCS 410-77323/2-A	2-Methylnaphthalene	117.0	39 - 114	10 - 117	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-1220-01	EB	1,4-Dioxane (p-Dioxane)	0.320	0.210 U Q	0.210 UJ		ug/l	C
CH-EB-1220-01	EB	1-Methylnaphthalene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	2-Methylnaphthalene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-1220-01	EB	Acenaphthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Acenaphthylene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Anthracene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(a)anthracene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(a)pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(b)fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(g,h,i)perylene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(k)fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Chrysene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Dibenz(a,h)anthracene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-EB-1220-01	EB	Fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Fluorene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Indeno(1,2,3-c,d)pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Naphthalene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-EB-1220-01	EB	Phenanthrene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-EB-1220-01	EB	Pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	1,4-Dioxane (p-Dioxane)	0.320	0.210 U Q	0.210 UJ		ug/l	C
CH-MW045S-1220	N	1-Methylnaphthalene	0.0530	0.0320 U M Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	2-Methylnaphthalene	0.0740	0.0630 U M Q	0.0630 UJ		ug/l	C
CH-MW045S-1220	N	Acenaphthene	0.0530	0.0320 U M Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Acenaphthylene	0.0530	0.0320 U M Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Anthracene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(a)anthracene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(a)pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(b)fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(g,h,i)perylene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(k)fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Chrysene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Dibenz(a,h)anthracene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-MW045S-1220	N	Fluoranthene	0.0530	0.0120 J M Q	0.0120 J	-	ug/l	C/TR
CH-MW045S-1220	N	Fluorene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Indeno(1,2,3-c,d)pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Naphthalene	0.0740	0.0440 J M B	0.0630 UJ		ug/l	L/C
CH-MW045S-1220	N	Phenanthrene	0.0740	0.0360 J M Q	0.0360 J	-	ug/l	C/TR
CH-MW045S-1220	N	Pyrene	0.0530	0.0320 U M Q	0.0320 UJ		ug/l	C
S1202-1220	N	1,4-Dioxane (p-Dioxane)	0.300	0.110 J Q	0.110 J	-	ug/l	C/TR
S1202-1220	N	1-Methylnaphthalene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	2-Methylnaphthalene	0.0710	0.0600 U Q	0.0600 UJ		ug/l	C

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S1202-1220	N	Acenaphthene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Acenaphthylene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Anthracene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(a)anthracene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(a)pyrene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(b)fluoranthene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(g,h,i)perylene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(k)fluoranthene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Chrysene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Dibenz(a,h)anthracene	0.0710	0.0600 U Q	0.0600 UJ		ug/l	C
S1202-1220	N	Fluoranthene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Fluorene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Indeno(1,2,3-c,d)pyrene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Naphthalene	0.0710	0.0600 U Q	0.0600 UJ		ug/l	C
S1202-1220	N	Phenanthrene	0.0710	0.0600 U Q	0.0600 UJ		ug/l	C
S1202-1220	N	Pyrene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S3599-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U Q	0.210 UJ		ug/l	C
S3599-1220	N	1-Methylnaphthalene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	2-Methylnaphthalene	0.0730	0.0630 U Q	0.0630 UJ		ug/l	C
S3599-1220	N	Acenaphthene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Acenaphthylene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Anthracene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(a)anthracene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(a)pyrene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(b)fluoranthene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(g,h,i)perylene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(k)fluoranthene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Chrysene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Dibenz(a,h)anthracene	0.0730	0.0630 U Q	0.0630 UJ		ug/l	C
S3599-1220	N	Fluoranthene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Fluorene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Indeno(1,2,3-c,d)pyrene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Naphthalene	0.0730	0.0630 U Q	0.0630 UJ		ug/l	C
S3599-1220	N	Phenanthrene	0.0730	0.0630 U Q	0.0630 UJ		ug/l	C
S3599-1220	N	Pyrene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U Q	0.210 UJ		ug/l	C
S58922-1220	N	1-Methylnaphthalene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	2-Methylnaphthalene	0.0720	0.0620 U Q	0.0620 UJ		ug/l	C
S58922-1220	N	Acenaphthene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Acenaphthylene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Anthracene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(a)anthracene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C

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Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S58922-1220	N	Benzo(a)pyrene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(b)fluoranthene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(g,h,i)perylene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(k)fluoranthene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Chrysene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Dibenz(a,h)anthracene	0.0720	0.0620 U Q	0.0620 UJ		ug/l	C
S58922-1220	N	Fluoranthene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Fluorene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Indeno(1,2,3-c,d)pyrene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Naphthalene	0.0720	0.0620 U Q	0.0620 UJ		ug/l	C
S58922-1220	N	Phenanthrene	0.0720	0.0620 U Q	0.0620 UJ		ug/l	C
S58922-1220	N	Pyrene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method BNASIM, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-1220-01 (EB)/ 410-23807-4		14.85	< 7	< 14	days	J/X	H2	Prep Exceeds UCL
CH-MW045S-1220 (N)/ 410-23807-5		15.02	< 7	< 14	days	J/X	H2	Prep Exceeds UCL
S1202-1220 (N)/ 410-23807-8		15.01	< 7	< 14	days	J/X	H2	Prep Exceeds UCL
S3599-1220 (N)/ 410-23807-7		14.98	< 7	< 14	days	J/X	H2	Prep Exceeds UCL
S58922-1220 (N)/ 410-23807-6		14.93	< 7	< 14	days	J/X	H2	Prep Exceeds UCL
S79269-1220 (N)/ 410-23807-2		9.220	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method E218.6, Dissolved, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-MW045S-1220 (N)/ 410-23807-5		36.08	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S1202-1220 (N)/ 410-23807-8		36.07	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S17231S-1220 (N)/ 410-23807-9		35.09	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S19495-1220 (N)/ 410-23807-1		37.16	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S3599-1220 (N)/ 410-23807-7		36.04	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S48579-1220 (N)/ 410-23807-11		34.92	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S58922-1220 (N)/ 410-23807-6		35.99	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S79269-1220 (N)/ 410-23807-2		37.06	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S79269-1220D (FD)/ 410-23807-3		37.06	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020B, Dissolved, Lab Replicate RPD

The objective of duplicate sample (LR) analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. Duplicate analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Laboratory duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S48579-1220 (LR)/ 410-23807-11DUP	Antimony	1.100	< 1	< 1	ug/l	J/UJ	D1	
S48579-1220 (LR)/ 410-23807-11DUP	Nickel	2.100	< 1.5	< 1.5	ug/l	J/UJ	D1	
S48579-1220 (LR)/ 410-23807-11DUP	Copper	2.240	< 1	< 1	ug/l	J/UJ	D1	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Replicate RPD for SW6020B, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S48579-1220	N	Antimony	1.00	1.10 J1	1.10 J		ug/l	D1
S48579-1220	N	Copper	1.00	0.820 U	0.820 UJ		ug/l	D1
S48579-1220	N	Nickel	1.50	2.10 J1	2.10 J		ug/l	D1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020B, Dissolved, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S48579-1220 (MS)/ 410-23807-11MS	Barium	117.0	86 - 114	30 - 114	percent	J/None	M	
S48579-1220 (MS)/ 410-23807-11MS	Magnesium	130.0	83 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S48579-1220 (MS)/ 410-23807-11MS	Calcium	57.50	87 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S48579-1220 (SD)/ 410-23807-11MSD	Magnesium	75.00	83 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S48579-1220 (SD)/ 410-23807-11MSD	Iron	77.50	87 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S48579-1220 (SD)/ 410-23807-11MSD	Calcium	125.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6020B, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S48579-1220	N	Barium	2.10	26.0 J1	26.0 J	+	ug/l	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020B, Total, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-1220-01 (EB)/ 410-23807-4	Chromium	0.3700	< 0.33	< 2	ug/l	U/None	V	
CH-EB-1220-01 (EB)/ 410-23807-4	Nickel	0.6800	< 0.6	< 1.5	ug/l	U/None	V	
CH-EB-1220-01 (EB)/ 410-23807-4	Magnesium	16.00	< 10	< 50	ug/l	U/None	V	
CH-EB-1220-01 (EB)/ 410-23807-4	Calcium	200.0	< 74	< 130	ug/l	U/None	V	
CH-EB-1220-01 (EB)/ 410-23807-4	Aluminum	24.00	< 20	< 35	ug/l	U/None	V	
CH-EB-1220-01 (EB)/ 410-23807-4	Sodium	780.0	< 50	< 200	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Chromium	0.7800	< 0.33	< 2	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Manganese	1.100	< 0.63	< 2	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Magnesium	15.00	< 10	< 50	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Calcium	270.0	< 74	< 130	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Aluminum	33.00	< 20	< 35	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Sodium	5800	< 50	< 200	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020B, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Nickel	1.50	1.50	1.50 U		ug/l	V
S1202-1220	N	Aluminum	35.0	27.0 J	35.0 U		ug/l	V
S1202-1220	N	Chromium	2.10	0.720 J	2.10 U		ug/l	V
S17231S-1220	N	Sodium	210	37000	37000 J	+	ug/l	V
S17231S-1220	N	Aluminum	35.0	55.0 J1	55.0 J	+	ug/l	V
S17231S-1220	N	Chromium	2.00	0.620 J	2.00 U		ug/l	V
S3599-1220	N	Chromium	2.00	3.50	3.50 J	+	ug/l	V
S3599-1220	N	Nickel	1.50	2.50	2.50 J	+	ug/l	V
S48579-1220	N	Sodium	210	30000	30000 J	+	ug/l	V
S48579-1220	N	Aluminum	35.0	78.0	78.0 J	+	ug/l	V
S48579-1220	N	Chromium	2.10	0.420 J	2.10 U		ug/l	V
S58922-1220	N	Chromium	2.10	0.440 J	2.10 U		ug/l	V
S58922-1220	N	Nickel	1.50	1.00 J	1.50 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method SW6020B, Total, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S17231S-1220 (MS)/ 410-23807-9MS	Iron	-87.50	87 - 118	30 - 118	percent	J/X	M	Spike amount Insignificant
S17231S-1220 (MS)/ 410-23807-9MS	Calcium	40.00	87 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S17231S-1220 (MS)/ 410-23807-9MS	Sodium	55.00	85 - 117	30 - 117	percent	J/UJ	M	Spike amount Insignificant
S17231S-1220 (MS)/ 410-23807-9MS	Manganese	70.00	87 - 115	30 - 115	percent	J/UJ	M	Spike amount Insignificant
S17231S-1220 (SD)/ 410-23807-9MSD	Sodium	40.00	85 - 117	30 - 117	percent	J/UJ	M	Spike amount Insignificant
S17231S-1220 (SD)/ 410-23807-9MSD	Iron	47.50	87 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S17231S-1220 (SD)/ 410-23807-9MSD	Calcium	82.50	87 - 118	30 - 118	percent	J/UJ	M	Spike amount Insignificant
S17231S-1220 (SD)/ 410-23807-9MSD	Manganese	85.00	87 - 115	30 - 115	percent	J/UJ	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470A, Total, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-1220-01 (EB)/ 410-23807-4	Mercury	0.1200	< 0.079	< 0.3	ug/l	U/None	V	
CH-EB-1220-02 (EB)/ 410-23807-10	Mercury	0.08900	< 0.079	< 0.3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7470A, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Mercury	0.300	0.110 J	0.300 U		ug/l	V
S1202-1220	N	Mercury	0.300	0.100 J	0.300 U		ug/l	V
S17231S-1220	N	Mercury	0.300	0.120 J	0.300 U		ug/l	V
S3599-1220	N	Mercury	0.300	0.100 J	0.300 U		ug/l	V
S48579-1220	N	Mercury	0.300	0.110 J	0.300 U		ug/l	V
S58922-1220	N	Mercury	0.300	0.100 J	0.300 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470A, Total, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
MB 410-76889/1-A (LB)/ MB 410-76889/1-A	Mercury	0.1480	< 0.079	< 0.3	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW8082A, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-1220-02 (EB)/ 410-23807-10		7.150	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-EB-1220-02 (EB)/ 410-23807-10		7.150	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-1220 (N)/ 410-23807-9		7.250	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-1220 (N)/ 410-23807-9		7.250	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S19495-1220 (N)/ 410-23807-1		7.330	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S19495-1220 (N)/ 410-23807-1		7.330	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S48579-1220 (N)/ 410-23807-11		7.080	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S48579-1220 (N)/ 410-23807-11		7.080	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-1220 (N)/ 410-23807-2		7.230	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-1220 (N)/ 410-23807-2		7.230	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-1220D (FD)/ 410-23807-3		7.230	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-1220D (FD)/ 410-23807-3		7.230	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Prep Hold Time for SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-1220-02	EB	PCB, Total	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1016 (Aroclor 1016)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1221 (Aroclor 1221)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1232 (Aroclor 1232)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1242 (Aroclor 1242)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1248 (Aroclor 1248)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1254 (Aroclor 1254)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1260 (Aroclor 1260)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1262 (Aroclor 1262)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1268 (Aroclor 1268)	0.500	0.300 U M	0.300 UJ		ug/l	H2

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method SW8260C, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-1220-01 (EB)/ 410-23807-4	Acetone	1.600	< 0.7	< 20	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Acetone	20.0	2.00 J M	20.0 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270D, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-76539/2-A (BS)/ LCS 410-76539/2-A	1,4-Dichlorobenzene	26.00	29 - 112	10 - 112	percent	J/UJ	C	
LCS 410-76539/2-A (BS)/ LCS 410-76539/2-A	Benzoic acid	54.00	10 - 47	10 - 47	percent	J/None	C	
LCS 410-76812/2-A (BS)/ LCS 410-76812/2-A	Dimethyl phthalate	35.40	45 - 127	10 - 127	percent	J/UJ	C	
LCS 410-76812/2-A (BS)/ LCS 410-76812/2-A	Benzyl butyl phthalate	49.00	53 - 134	10 - 134	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19495-1220	N	1,4-Dichlorobenzene	5.40	1.10 U Q	1.10 UJ		ug/l	C
S79269-1220	N	1,4-Dichlorobenzene	5.40	1.10 U Q	1.10 UJ		ug/l	C
S79269-1220D	FD	Benzyl butyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S79269-1220D	FD	Dimethyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method SW8270D, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S79269-1220 (N)/ 410-23807-2		9.220	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-1220D (FD)/ 410-23807-3		18.53	< 7	< 14	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW8270D, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S79269-1220 (N)/ 410-23807-2	2-Fluorobiphenyl	37.00	44 - 119	10 - 119	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S79269-1220	N	2-Methylphenol (o-Cresol)	2.10	1.10 U	1.10 UJ		ug/l	I
S79269-1220	N	4-Chloro-3-methylphenol	3.80	3.40 U	3.40 UJ		ug/l	I
S79269-1220	N	4-Methylphenol (p-Cresol)	2.10	1.10 U	1.10 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510C							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-1220-01	EB	1,4-Dioxane (p-Dioxane)	0.320	0.210 U Q	0.210 UJ		ug/l	C
CH-EB-1220-01	EB	1-Methylnaphthalene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	2-Methylnaphthalene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-EB-1220-01	EB	Acenaphthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Acenaphthylene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Anthracene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(a)anthracene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(a)pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(b)fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(g,h,i)perylene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Benzo(k)fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Chrysene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Dibenz(a,h)anthracene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-EB-1220-01	EB	Fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Fluorene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Indeno(1,2,3-c,d)pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-EB-1220-01	EB	Naphthalene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-EB-1220-01	EB	Phenanthrene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-EB-1220-01	EB	Pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	1,4-Dioxane (p-Dioxane)	0.320	0.210 U Q	0.210 UJ		ug/l	C
CH-MW045S-1220	N	1-Methylnaphthalene	0.0530	0.0320 U M Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	2-Methylnaphthalene	0.0740	0.0630 U M Q	0.0630 UJ		ug/l	C
CH-MW045S-1220	N	Acenaphthene	0.0530	0.0320 U M Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Acenaphthylene	0.0530	0.0320 U M Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Anthracene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(a)anthracene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(a)pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(b)fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(g,h,i)perylene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Benzo(k)fluoranthene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Chrysene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Dibenz(a,h)anthracene	0.0740	0.0630 U Q	0.0630 UJ		ug/l	C
CH-MW045S-1220	N	Fluoranthene	0.0530	0.0120 J M Q	0.0120 J	-	ug/l	C/TR
CH-MW045S-1220	N	Fluorene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Indeno(1,2,3-c,d)pyrene	0.0530	0.0320 U Q	0.0320 UJ		ug/l	C
CH-MW045S-1220	N	Naphthalene	0.0740	0.0440 J M B	0.0630 UJ		ug/l	L/C
CH-MW045S-1220	N	Phenanthrene	0.0740	0.0360 J M Q	0.0360 J	-	ug/l	C/TR

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Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Pyrene	0.0530	0.0320 U M Q	0.0320 UJ		ug/l	C
S1202-1220	N	1,4-Dioxane (p-Dioxane)	0.300	0.110 J Q	0.110 J	-	ug/l	C/TR
S1202-1220	N	1-Methylnaphthalene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	2-Methylnaphthalene	0.0710	0.0600 U Q	0.0600 UJ		ug/l	C
S1202-1220	N	Acenaphthene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Acenaphthylene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Anthracene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(a)anthracene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(a)pyrene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(b)fluoranthene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(g,h,i)perylene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Benzo(k)fluoranthene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Chrysene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Dibenz(a,h)anthracene	0.0710	0.0600 U Q	0.0600 UJ		ug/l	C
S1202-1220	N	Fluoranthene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Fluorene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Indeno(1,2,3-c,d)pyrene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S1202-1220	N	Naphthalene	0.0710	0.0600 U Q	0.0600 UJ		ug/l	C
S1202-1220	N	Phenanthrene	0.0710	0.0600 U Q	0.0600 UJ		ug/l	C
S1202-1220	N	Pyrene	0.0500	0.0300 U Q	0.0300 UJ		ug/l	C
S3599-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U Q	0.210 UJ		ug/l	C
S3599-1220	N	1-Methylnaphthalene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	2-Methylnaphthalene	0.0730	0.0630 U Q	0.0630 UJ		ug/l	C
S3599-1220	N	Acenaphthene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Acenaphthylene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Anthracene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(a)anthracene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(a)pyrene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(b)fluoranthene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(g,h,i)perylene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Benzo(k)fluoranthene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Chrysene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Dibenz(a,h)anthracene	0.0730	0.0630 U Q	0.0630 UJ		ug/l	C
S3599-1220	N	Fluoranthene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Fluorene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Indeno(1,2,3-c,d)pyrene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S3599-1220	N	Naphthalene	0.0730	0.0630 U Q	0.0630 UJ		ug/l	C
S3599-1220	N	Phenanthrene	0.0730	0.0630 U Q	0.0630 UJ		ug/l	C
S3599-1220	N	Pyrene	0.0520	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U Q	0.210 UJ		ug/l	C
S58922-1220	N	1-Methylnaphthalene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	2-Methylnaphthalene	0.0720	0.0620 U Q	0.0620 UJ		ug/l	C

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Table of All Qualified Results

Test Method: BNASIM   Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S58922-1220	N	Acenaphthene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Acenaphthylene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Anthracene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(a)anthracene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(a)pyrene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(b)fluoranthene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(g,h,i)perylene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Benzo(k)fluoranthene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Chrysene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Dibenz(a,h)anthracene	0.0720	0.0620 U Q	0.0620 UJ		ug/l	C
S58922-1220	N	Fluoranthene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Fluorene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Indeno(1,2,3-c,d)pyrene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C
S58922-1220	N	Naphthalene	0.0720	0.0620 U Q	0.0620 UJ		ug/l	C
S58922-1220	N	Phenanthrene	0.0720	0.0620 U Q	0.0620 UJ		ug/l	C
S58922-1220	N	Pyrene	0.0510	0.0310 U Q	0.0310 UJ		ug/l	C

Test Method: SW6020B   Extraction Method: Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Nickel	1.50	1.50	1.50 U		ug/l	V
S1202-1220	N	Chromium	2.10	0.720 J	2.10 U		ug/l	V
S17231S-1220	N	Sodium	210	37000	37000 J	+	ug/l	V
S3599-1220	N	Nickel	1.50	2.50	2.50 J	+	ug/l	V
S48579-1220	N	Sodium	210	30000	30000 J	+	ug/l	V
S48579-1220	N	Antimony	1.00	1.10 J1	1.10 J		ug/l	D1
S48579-1220	N	Copper	1.00	0.820 U	0.820 UJ		ug/l	D1
S48579-1220	N	Nickel	1.50	2.10 J1	2.10 J		ug/l	D1
S48579-1220	N	Barium	2.10	26.0 J1	26.0 J	+	ug/l	M
S48579-1220	N	Chromium	2.10	0.420 J	2.10 U		ug/l	V
S58922-1220	N	Chromium	2.10	0.440 J	2.10 U		ug/l	V

Test Method: SW6020B   Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Nickel	1.50	4.20	4.20 J	+	ug/l	V
S1202-1220	N	Aluminum	35.0	27.0 J	35.0 U		ug/l	V
S1202-1220	N	Chromium	2.00	2.80	2.80 J	+	ug/l	V
S17231S-1220	N	Sodium	200	38000 J1	38000 J	+	ug/l	V
S17231S-1220	N	Aluminum	35.0	55.0 J1	55.0 J	+	ug/l	V
S17231S-1220	N	Chromium	2.00	0.620 J	2.00 U		ug/l	V
S3599-1220	N	Chromium	2.00	3.50	3.50 J	+	ug/l	V
S3599-1220	N	Nickel	1.50	1.50	1.50 U		ug/l	V
S48579-1220	N	Sodium	200	43000	43000 J	+	ug/l	V
S48579-1220	N	Aluminum	35.0	78.0	78.0 J	+	ug/l	V

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Table of All Qualified Results

Test Method: SW6020B Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S48579-1220	N	Chromium	2.00	1.60 J	2.00 U		ug/l	V
S58922-1220	N	Chromium	2.00	0.810 J	2.00 U		ug/l	V
S58922-1220	N	Nickel	1.50	1.00 J	1.50 U		ug/l	V

Test Method: SW7470A Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S1202-1220	N	Mercury	0.300	0.100 J	0.300 U		ug/l	V
S3599-1220	N	Mercury	0.300	0.100 J	0.300 U		ug/l	V
S48579-1220	N	Mercury	0.300	0.110 J	0.300 U		ug/l	V

Test Method: SW7470A Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Mercury	0.300	0.110 J	0.300 U		ug/l	V
S1202-1220	N	Mercury	0.300	0.110 J	0.300 U		ug/l	V
S17231S-1220	N	Mercury	0.300	0.120 J	0.300 U		ug/l	V
S3599-1220	N	Mercury	0.300	0.110 J	0.300 U		ug/l	V
S58922-1220	N	Mercury	0.300	0.100 J	0.300 U		ug/l	V

Test Method: SW8082A Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-1220-02	EB	PCB, Total	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1016 (Aroclor 1016)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1221 (Aroclor 1221)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1232 (Aroclor 1232)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1242 (Aroclor 1242)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1248 (Aroclor 1248)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1254 (Aroclor 1254)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1260 (Aroclor 1260)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1262 (Aroclor 1262)	0.500	0.300 U	0.300 UJ		ug/l	H2
CH-EB-1220-02	EB	PCB-1268 (Aroclor 1268)	0.500	0.300 U M	0.300 UJ		ug/l	H2

Test Method: SW8260C Extraction Method: SW5030C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-1220	N	Acetone	20.0	2.00 J M	20.0 U		ug/l	V

Test Method: SW8270D Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19495-1220	N	1,4-Dichlorobenzene	5.40	1.10 U Q	1.10 UJ		ug/l	C
S79269-1220	N	2-Methylphenol (o-Cresol)	2.10	1.10 U	1.10 UJ		ug/l	I
S79269-1220	N	4-Chloro-3-methylphenol	3.80	3.40 U	3.40 UJ		ug/l	I
S79269-1220	N	4-Methylphenol (p-Cresol)	2.10	1.10 U	1.10 UJ		ug/l	I
S79269-1220	N	1,4-Dichlorobenzene	5.40	1.10 U Q	1.10 UJ		ug/l	C
S79269-1220D	FD	Benzyl butyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C

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Table of All Qualified Results

Test Method: SW8270D   Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S79269-1220D	FD	Dimethyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-EB-1220-01	EB	1,4-Dioxane (p-Dioxane)	0.320	0.210 U Q	0.210 X	0.210 UJ	C
CH-EB-1220-01	EB	1-Methylnaphthalene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	2-Methylnaphthalene	0.0740	0.0630 U Q	0.0630 X	0.0630 UJ	C
CH-EB-1220-01	EB	Acenaphthene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Acenaphthylene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Anthracene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Benzo(a)anthracene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Benzo(a)pyrene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Benzo(b)fluoranthene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Benzo(g,h,i)perylene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Benzo(k)fluoranthene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Chrysene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Dibenz(a,h)anthracene	0.0740	0.0630 U Q	0.0630 X	0.0630 UJ	C
CH-EB-1220-01	EB	Fluoranthene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Fluorene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Indeno(1,2,3-c,d)pyrene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-EB-1220-01	EB	Naphthalene	0.0740	0.0630 U Q	0.0630 X	0.0630 UJ	C
CH-EB-1220-01	EB	Phenanthrene	0.0740	0.0630 U Q	0.0630 X	0.0630 UJ	C
CH-EB-1220-01	EB	Pyrene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	1,4-Dioxane (p-Dioxane)	0.320	0.210 U Q	0.210 X	0.210 UJ	C
CH-MW045S-1220	N	1-Methylnaphthalene	0.0530	0.0320 U M Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	2-Methylnaphthalene	0.0740	0.0630 U M Q	0.0630 X	0.0630 UJ	C
CH-MW045S-1220	N	Acenaphthene	0.0530	0.0320 U M Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Acenaphthylene	0.0530	0.0320 U M Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Anthracene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Benzo(a)anthracene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Benzo(a)pyrene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Benzo(b)fluoranthene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Benzo(g,h,i)perylene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Benzo(k)fluoranthene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Chrysene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Dibenz(a,h)anthracene	0.0740	0.0630 U Q	0.0630 X	0.0630 UJ	C
CH-MW045S-1220	N	Fluorene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Indeno(1,2,3-c,d)pyrene	0.0530	0.0320 U Q	0.0320 X	0.0320 UJ	C
CH-MW045S-1220	N	Naphthalene	0.0740	0.0440 J M B	0.0630 X	0.0630 UJ	L/C
CH-MW045S-1220	N	Pyrene	0.0530	0.0320 U M Q	0.0320 X	0.0320 UJ	C
S1202-1220	N	1-Methylnaphthalene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	2-Methylnaphthalene	0.0710	0.0600 U Q	0.0600 X	0.0600 UJ	C

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S1202-1220	N	Acenaphthene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Acenaphthylene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Anthracene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Benzo(a)anthracene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Benzo(a)pyrene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Benzo(b)fluoranthene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Benzo(g,h,i)perylene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Benzo(k)fluoranthene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Chrysene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Dibenz(a,h)anthracene	0.0710	0.0600 U Q	0.0600 X	0.0600 UJ	C
S1202-1220	N	Fluoranthene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Fluorene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Indeno(1,2,3-c,d)pyrene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S1202-1220	N	Naphthalene	0.0710	0.0600 U Q	0.0600 X	0.0600 UJ	C
S1202-1220	N	Phenanthrene	0.0710	0.0600 U Q	0.0600 X	0.0600 UJ	C
S1202-1220	N	Pyrene	0.0500	0.0300 U Q	0.0300 X	0.0300 UJ	C
S3599-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U Q	0.210 X	0.210 UJ	C
S3599-1220	N	1-Methylnaphthalene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	2-Methylnaphthalene	0.0730	0.0630 U Q	0.0630 X	0.0630 UJ	C
S3599-1220	N	Acenaphthene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Acenaphthylene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Anthracene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Benzo(a)anthracene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Benzo(a)pyrene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Benzo(b)fluoranthene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Benzo(g,h,i)perylene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Benzo(k)fluoranthene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Chrysene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Dibenz(a,h)anthracene	0.0730	0.0630 U Q	0.0630 X	0.0630 UJ	C
S3599-1220	N	Fluoranthene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Fluorene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Indeno(1,2,3-c,d)pyrene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S3599-1220	N	Naphthalene	0.0730	0.0630 U Q	0.0630 X	0.0630 UJ	C
S3599-1220	N	Phenanthrene	0.0730	0.0630 U Q	0.0630 X	0.0630 UJ	C
S3599-1220	N	Pyrene	0.0520	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U Q	0.210 X	0.210 UJ	C
S58922-1220	N	1-Methylnaphthalene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	2-Methylnaphthalene	0.0720	0.0620 U Q	0.0620 X	0.0620 UJ	C
S58922-1220	N	Acenaphthene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Acenaphthylene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Anthracene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S58922-1220	N	Benzo(a)anthracene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Benzo(a)pyrene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Benzo(b)fluoranthene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Benzo(g,h,i)perylene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Benzo(k)fluoranthene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Chrysene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Dibenz(a,h)anthracene	0.0720	0.0620 U Q	0.0620 X	0.0620 UJ	C
S58922-1220	N	Fluoranthene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Fluorene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Indeno(1,2,3-c,d)pyrene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S58922-1220	N	Naphthalene	0.0720	0.0620 U Q	0.0620 X	0.0620 UJ	C
S58922-1220	N	Phenanthrene	0.0720	0.0620 U Q	0.0620 X	0.0620 UJ	C
S58922-1220	N	Pyrene	0.0510	0.0310 U Q	0.0310 X	0.0310 UJ	C
S79269-1220	N	1,4-Dioxane (p-Dioxane)	0.320	0.210 U	0.210 U	0.210 UJ	I
S79269-1220	N	1-Methylnaphthalene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	2-Methylnaphthalene	0.0750	0.0640 U	0.0640 U	0.0640 UJ	I
S79269-1220	N	Acenaphthene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Acenaphthylene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Anthracene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Benzo(a)anthracene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Benzo(a)pyrene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Benzo(b)fluoranthene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Benzo(g,h,i)perylene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Benzo(k)fluoranthene	0.0540	0.0320 U M	0.0320 U	0.0320 UJ	I
S79269-1220	N	Chrysene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Dibenz(a,h)anthracene	0.0750	0.0640 U	0.0640 U	0.0640 UJ	I
S79269-1220	N	Fluoranthene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Fluorene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Indeno(1,2,3-c,d)pyrene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I
S79269-1220	N	Naphthalene	0.0750	0.0640 U	0.0640 U	0.0640 UJ	I
S79269-1220	N	Phenanthrene	0.0750	0.0640 U	0.0640 U	0.0640 UJ	I
S79269-1220	N	Pyrene	0.0540	0.0320 U	0.0320 U	0.0320 UJ	I

Modified Qualifiers for test method E218.6, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-MW045S-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW045S-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S1202-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S1202-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S17231S-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S17231S-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S19495-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method E218.6, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S19495-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S3599-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S3599-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S48579-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S48579-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S58922-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S58922-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S79269-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S79269-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S79269-1220D	FD	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S79269-1220D	FD	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P

Modified Qualifiers for test method E218.6

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-EB-1220-01	EB	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-EB-1220-01	EB	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-EB-1220-02	EB	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-EB-1220-02	EB	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW045S-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW045S-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S1202-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S1202-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S17231S-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S17231S-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S19495-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S19495-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S3599-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S3599-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S48579-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S48579-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S58922-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S58922-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S79269-1220	N	Chromium, Hexavalent	10.0	9.00 U J1	9.00 U	9.00 UJ	P
S79269-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S79269-1220D	FD	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S79269-1220D	FD	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P

Modified Qualifiers for test method SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S17231S-1220	N	PCB, Total	0.500	0.300 U	0.300 UJ	0.300 U	
S17231S-1220	N	PCB-1016 (Aroclor 1016)	0.500	0.300 U M	0.300 UJ	0.300 U	
S17231S-1220	N	PCB-1221 (Aroclor 1221)	0.500	0.300 U	0.300 UJ	0.300 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S17231S-1220	N	PCB-1232 (Aroclor 1232)	0.500	0.300 U M	0.300 UJ	0.300 U	
S17231S-1220	N	PCB-1242 (Aroclor 1242)	0.500	0.300 U M	0.300 UJ	0.300 U	
S17231S-1220	N	PCB-1248 (Aroclor 1248)	0.500	0.300 U M	0.300 UJ	0.300 U	
S17231S-1220	N	PCB-1254 (Aroclor 1254)	0.500	0.300 U M	0.300 UJ	0.300 U	
S17231S-1220	N	PCB-1260 (Aroclor 1260)	0.500	0.300 U M	0.300 UJ	0.300 U	
S17231S-1220	N	PCB-1262 (Aroclor 1262)	0.500	0.300 U M	0.300 UJ	0.300 U	
S17231S-1220	N	PCB-1268 (Aroclor 1268)	0.500	0.300 U M	0.300 UJ	0.300 U	
S19495-1220	N	PCB, Total	0.520	0.310 U	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1016 (Aroclor 1016)	0.520	0.310 U M	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1221 (Aroclor 1221)	0.520	0.310 U M	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1232 (Aroclor 1232)	0.520	0.310 U M	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1242 (Aroclor 1242)	0.520	0.310 U M	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1248 (Aroclor 1248)	0.520	0.310 U M	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1254 (Aroclor 1254)	0.520	0.310 U M	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1260 (Aroclor 1260)	0.520	0.310 U M	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1262 (Aroclor 1262)	0.520	0.310 U M	0.310 UJ	0.310 U	
S19495-1220	N	PCB-1268 (Aroclor 1268)	0.520	0.310 U M	0.310 UJ	0.310 U	
S48579-1220	N	PCB, Total	0.500	0.300 U	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1016 (Aroclor 1016)	0.500	0.300 U M	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1221 (Aroclor 1221)	0.500	0.300 U M	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1232 (Aroclor 1232)	0.500	0.300 U M	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1242 (Aroclor 1242)	0.500	0.300 U M	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1248 (Aroclor 1248)	0.500	0.300 U M	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1254 (Aroclor 1254)	0.500	0.300 U M	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1260 (Aroclor 1260)	0.500	0.300 U M	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1262 (Aroclor 1262)	0.500	0.300 U M	0.300 UJ	0.300 U	
S48579-1220	N	PCB-1268 (Aroclor 1268)	0.500	0.300 U M	0.300 UJ	0.300 U	
S79269-1220	N	PCB, Total	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1016 (Aroclor 1016)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1221 (Aroclor 1221)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1232 (Aroclor 1232)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1242 (Aroclor 1242)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1248 (Aroclor 1248)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1254 (Aroclor 1254)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1260 (Aroclor 1260)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1262 (Aroclor 1262)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-1220	N	PCB-1268 (Aroclor 1268)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB, Total	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB-1016 (Aroclor 1016)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB-1221 (Aroclor 1221)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB-1232 (Aroclor 1232)	0.520	0.310 U	0.310 UJ	0.310 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S79269-1220D	FD	PCB-1242 (Aroclor 1242)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB-1248 (Aroclor 1248)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB-1254 (Aroclor 1254)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB-1260 (Aroclor 1260)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB-1262 (Aroclor 1262)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-1220D	FD	PCB-1268 (Aroclor 1268)	0.520	0.310 U	0.310 UJ	0.310 U	

Modified Qualifiers for test method SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S79269-1220	N	1,4-Dichlorobenzene	5.40	1.10 U Q	1.10 UJ	1.10 UJ	C
S79269-1220	N	2-Chloronaphthalene	1.10	0.860 U	0.860 UJ	0.860 U	
S79269-1220	N	4-Chloroaniline	11.0	9.60 U	9.60 UJ	9.60 U	
S79269-1220	N	Benzaldehyde	11.0	9.60 U	9.60 UJ	9.60 U	
S79269-1220	N	Benzoic acid	27.0	26.0 U	26.0 UJ	26.0 U	
S79269-1220	N	Benzyl butyl phthalate	5.40	4.30 U	4.30 UJ	4.30 U	
S79269-1220	N	Biphenyl (Diphenyl)	11.0	9.60 U	9.60 UJ	9.60 U	
S79269-1220	N	Bis(2-ethylhexyl)phthalate	12.0	11.0 U	11.0 UJ	11.0 U	
S79269-1220	N	Caprolactam	12.0	11.0 U	11.0 UJ	11.0 U	
S79269-1220	N	Carbazole	2.10	1.10 U	1.10 UJ	1.10 U	
S79269-1220	N	Dibenzofuran	2.10	1.10 U	1.10 UJ	1.10 U	
S79269-1220	N	Diethyl phthalate	5.40	4.30 U	4.30 UJ	4.30 U	
S79269-1220	N	Dimethyl phthalate	5.40	4.30 U	4.30 UJ	4.30 U	
S79269-1220	N	Di-n-butyl phthalate	5.40	4.30 U	4.30 UJ	4.30 U	
S79269-1220	N	di-n-Octyl phthalate	12.0	11.0 U	11.0 UJ	11.0 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Data Validation Report for 410-23807-1_52_2a_FUDSChem_rev2

Reason Code Definitions

Code	Definition
C	LCS Recovery
D1	Lab Replicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
P	Sample preservation/collection requirement not met.
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Data Validation Report for 410-23807-1_52_2a_FUDSChem_rev2

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			The container count for the following samples did not match the information listed on the Chain-of-Custody (COC): CH-EB-1220-01 (410-23807-4) and CH-EB-1220-02 (410-23807-10). The laboratory received 11 containers, while the COC lists 13 containers
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperature of the 3 coolers were 1.7 C, 2.3 C, and 2.4 C
Were holding times met?	•			due a known mis-spike of LCS for prep batch 410-77182; the associated samples were re-prep but outside holding time with acceptable limits; first set of data was reported and qualified
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		1-methylnaphthalene-d10 had a low surrogate recovery at 39% for sample S79269-1220; sample was re-prep outside hold time; first set of results were reported and qualified
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		MB 410-77182 had detections of 2-methylnaphthalene and naphthalene; MB 410-77323 had a detection of naphthalene; see outlier report
Were target analytes in the field blank less than MDL?		•		CH-EB-1220-02 had several BNASIM analytes detected; see outlier report
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		LCS failure that resulted in J/X qualifications was the result of a known mis-spike by the laboratory; the associated samples were re-prep but outside holding time with acceptable limits; first set of data was reported and qualified for CH-MW044S-1220, S3599-1220,S1202-1220, S58922-1220; the qualified field sample results should be considered usable as estimated values with a negative bias; validator modified the qualifiers
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: E218.6 (Hexavalent Chromium by EPA Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			The container count for the following samples did not match the information listed on the Chain-of-Custody (COC): CH-EB-1220-01 (410-23807-4) and CH-EB-1220-02 (410-23807-10). The laboratory received 11 containers, while the COC lists 13 containers
Were samples preserved properly and received in good condition?		•		pH was found to be approximately 8.0-8.5; validator modified qualifiers; added P for the reason code
Were holding times met?		•		pH was found to be approximately 8.0-8.5; validator modified qualifiers; added P for the reason code
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-23807-1_52_2a_FUDSChem_rev2

Review Questions

Method: SW6020B (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			The container count for the following samples did not match the information listed on the Chain-of-Custody (COC): CH-EB-1220-01 (410-23807-4) and CH-EB-1220-02 (410-23807-10). The laboratory received 11 containers, while the COC lists 13 containers
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperature of the 3 coolers were 1.7 C, 2.3 C, and 2.4 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		both EBs had several analytes detected; see outlier report
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		see outlier report
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?		•		see outlier report
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW7470A (Mercury in Water (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			The container count for the following samples did not match the information listed on the Chain-of-Custody (COC): CH-EB-1220-01 (410-23807-4) and CH-EB-1220-02 (410-23807-10). The laboratory received 11 containers, while the COC lists 13 containers
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperature of the 3 coolers were 1.7 C, 2.3 C, and 2.4 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		MB 410-76889 had detection of mercury; see outlier report
Were target analytes in the field blank less than MDL?		•		both EBs had mercury detections; see outlier report
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW8082A (Polychlorinated Biphenyls (PCB))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			The container count for the following samples did not match the information listed on the Chain-of-Custody (COC): CH-EB-1220-01 (410-23807-4) and CH-EB-1220-02 (410-23807-10). The laboratory received 11 containers, while the COC lists 13 containers
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperature of the 3 coolers were 1.7 C, 2.3 C, and 2.4 C
Were holding times met?	•			prep hold time exceeds 7 days according to the eQAPP; EPA NFG recommends 1 year; validator modified the qualifiers
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-23807-1_52_2a_FUDSChem_rev2

Review Questions

Method: SW8260C (Volatile Organic Compounds by GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			The container count for the following samples did not match the information listed on the Chain-of-Custody (COC): CH-EB-1220-01 (410-23807-4) and CH-EB-1220-02 (410-23807-10). The laboratory received 11 containers, while the COC lists 13 containers
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperature of the 3 coolers were 1.7 C, 2.3 C, and 2.4 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		see outlier report
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-23807-1_52_2a_FUDSChem_rev2

Review Questions

Method: SW8270D (Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			The container count for the following samples did not match the information listed on the Chain-of-Custody (COC): CH-EB-1220-01 (410-23807-4) and CH-EB-1220-02 (410-23807-10). The laboratory received 11 containers, while the COC lists 13 containers
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperature of the 3 coolers were 1.7 C, 2.3 C, and 2.4 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		2-fluorophenol had a low surrogate recovery at 37% for sample S79269-1220; sample was re-prep outside hold time; first set of results were reported and base neutral compounds were not qualified for the one acid surrogate that is out (the duplicate sample was within surrogate limits)
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		see outlier report; low LCS; sample S79269-1220D was re-prep outside hold time; first set of results were reported and qualified
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-24516-1_52_2a_FUDSChem_rev3

Facility:	C02NY0024-03, Camp Hero
Event:	Camp Hero Fall 2020
SDG:	410-24516-1_52_2a_FUDSChem_rev3
Guidance Document:	Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016
Prime Contractor:	AECOM, Arlington, VA
Project Manager:	Mark MacEwan
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	AECOM
Data Review Level:	S2AVEM
Primary Data Reviewer:	Devon Chicoine, Project Chemist
Date Submitted:	February 06, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	E218.6	E218.6 - Dissolved	SW6020B	SW6020B - Dissolved	SW7470A	SW7470A - Dissolved	SW8082A	SW8260C	SW8270D
CH_TB-1220-03	410-24516-7	Water	Trip Blank/TB									X	
CH-MW044D-1220	410-24516-2	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
CH-MW044S-1220	410-24516-1	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
CH-MW045D-1220	410-24516-3	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S70627-1220	410-24516-4	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S76304-1220	410-24516-5	Water	Field Sample/N	X	X	X	X	X	X	X	X	X	X
S76304-1220D	410-24516-6	Water	Field Duplicate/FD	X	X	X	X	X	X	X	X	X	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016 and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by AECOM, Arlington, VA; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-24516-1_52_2a_FUDSChem_rev3. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

Blank - Negative

Extracted Internal Standard

Field Duplicate RPD

Lab Blank

Lab Replicate RPD

LCS Recovery

LCS RPD

MS Recovery

Prep Hold Time

Surrogate

Test Hold Time

Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 268 results (31.09%) out of the 862 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
E218.6	No additional comments; see Checklist for detail.
SW6020B	No additional comments; see Checklist for detail.
SW7470A	No additional comments; see Checklist for detail.
SW8082A	No additional comments; see Checklist for detail.
SW8260C	No additional comments; see Checklist for detail.
SW8270D	No additional comments; see Checklist for detail.

Devon Chicoine

February 06, 2021

Reviewed by Devon Chicoine, Project Chemist, AECOM

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-MW044D-1220 (N)/ 410-24516-2		11.29	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW044S-1220 (N)/ 410-24516-1		11.36	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW045D-1220 (N)/ 410-24516-3		10.40	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S70627-1220 (N)/ 410-24516-4		10.31	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S76304-1220 (N)/ 410-24516-5		9.390	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S76304-1220D (FD)/ 410-24516-6		9.390	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Prep Hold Time for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044D-1220	N	1,4-Dioxane (p-Dioxane)	0.300	0.200 U H H3	0.200 UJ		ug/l	H2/I
CH-MW044D-1220	N	1-Methylnaphthalene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	2-Methylnaphthalene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Acenaphthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Acenaphthylene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Anthracene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(a)anthracene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(a)pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(b)fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(g,h,i)perylene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(k)fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Chrysene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Dibenz(a,h)anthracene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Fluorene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Indeno(1,2,3-c,d)pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I

Qualified Results associated with the Prep Hold Time for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044D-1220	N	Naphthalene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Phenanthrene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044S-1220	N	1,4-Dioxane (p-Dioxane)	0.330	1.10 H H3	1.10 J	-	ug/l	H2
CH-MW044S-1220	N	1-Methylnaphthalene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	2-Methylnaphthalene	0.0770	0.0660 U H H3	0.0660 UJ		ug/l	H2
CH-MW044S-1220	N	Acenaphthene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Acenaphthylene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Anthracene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(a)anthracene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(a)pyrene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(b)fluoranthene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(g,h,i)perylene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(k)fluoranthene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Chrysene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Dibenz(a,h)anthracene	0.0770	0.0660 U H H3	0.0660 UJ		ug/l	H2
CH-MW044S-1220	N	Fluoranthene	0.0550	0.0110 J H H3	0.0110 J	-	ug/l	H2/TR
CH-MW044S-1220	N	Fluorene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Indeno(1,2,3-c,d)pyrene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Naphthalene	0.0770	0.0660 U H H3	0.0660 UJ		ug/l	H2
CH-MW044S-1220	N	Phenanthrene	0.0770	0.0380 J H H3	0.0380 J	-	ug/l	H2/TR
CH-MW044S-1220	N	Pyrene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	1,4-Dioxane (p-Dioxane)	0.330	0.190 J H H3	0.190 J	-	ug/l	H2/TR
CH-MW045D-1220	N	1-Methylnaphthalene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	2-Methylnaphthalene	0.0780	0.0670 U H H3	0.0670 UJ		ug/l	H2
CH-MW045D-1220	N	Acenaphthene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Acenaphthylene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Anthracene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2

Qualified Results associated with the Prep Hold Time for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045D-1220	N	Benzo(a)anthracene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Benzo(a)pyrene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Benzo(b)fluoranthene	0.0560	0.0160 J H H3	0.0160 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Benzo(g,h,i)perylene	0.0560	0.0190 J H H3	0.0190 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Benzo(k)fluoranthene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Chrysene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Dibenz(a,h)anthracene	0.0780	0.0670 U H H3	0.0670 UJ		ug/l	H2
CH-MW045D-1220	N	Fluoranthene	0.0560	0.0180 J H H3	0.0180 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Fluorene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Indeno(1,2,3-c,d)pyrene	0.0560	0.0190 J H H3	0.0190 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Naphthalene	0.0780	0.0330 J H H3	0.0330 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Phenanthrene	0.0780	0.0740 J H H3	0.0740 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Pyrene	0.0560	0.0210 J H H3	0.0210 J	-	ug/l	H2/TR
S70627-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U H H3	0.210 UJ		ug/l	H2/I
S70627-1220	N	1-Methylnaphthalene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	2-Methylnaphthalene	0.0720	0.0620 U H H3	0.0620 UJ		ug/l	H2
S70627-1220	N	Acenaphthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	Acenaphthylene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	Anthracene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	Benzo(a)anthracene	0.0520	0.0380 J H H3	0.0380 J	-	ug/l	H2/TR
S70627-1220	N	Benzo(a)pyrene	0.0520	0.0130 J H H3	0.0130 J	-	ug/l	H2/TR
S70627-1220	N	Benzo(b)fluoranthene	0.0520	0.0440 J H H3	0.0440 J	-	ug/l	H2/TR
S70627-1220	N	Benzo(g,h,i)perylene	0.0520	0.0370 J H H3	0.0370 J	-	ug/l	H2/TR
S70627-1220	N	Benzo(k)fluoranthene	0.0520	0.0460 J H H3	0.0460 J	-	ug/l	H2/TR
S70627-1220	N	Chrysene	0.0520	0.0440 J H H3	0.0440 J	-	ug/l	H2/TR
S70627-1220	N	Dibenz(a,h)anthracene	0.0720	0.0410 J H H3	0.0410 J	-	ug/l	H2/TR
S70627-1220	N	Fluoranthene	0.0520	0.0370 J H H3	0.0370 J	-	ug/l	H2/TR
S70627-1220	N	Fluorene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2

Qualified Results associated with the Prep Hold Time for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S70627-1220	N	Indeno(1,2,3-c,d)pyrene	0.0520	0.0450 J H H3	0.0450 J	-	ug/l	H2/TR
S70627-1220	N	Naphthalene	0.0720	0.0620 U H H3	0.0620 UJ		ug/l	H2
S70627-1220	N	Phenanthrene	0.0720	0.0620 U H H3	0.0620 UJ		ug/l	H2
S70627-1220	N	Pyrene	0.0520	0.0290 J H H3	0.0290 J	-	ug/l	H2/TR
S76304-1220	N	1,4-Dioxane (p-Dioxane)	0.320	0.210 U H H3	0.210 UJ		ug/l	H2
S76304-1220	N	1-Methylnaphthalene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	2-Methylnaphthalene	0.0750	0.0640 U H H3	0.0640 UJ		ug/l	H2
S76304-1220	N	Acenaphthene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Acenaphthylene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Anthracene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(a)anthracene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(a)pyrene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(b)fluoranthene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(g,h,i)perylene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(k)fluoranthene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Chrysene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Dibenz(a,h)anthracene	0.0750	0.0640 U H H3	0.0640 UJ		ug/l	H2
S76304-1220	N	Fluoranthene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Fluorene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Indeno(1,2,3-c,d)pyrene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Naphthalene	0.0750	0.0640 U H H3	0.0640 UJ		ug/l	H2
S76304-1220	N	Phenanthrene	0.0750	0.0640 U H H3	0.0640 UJ		ug/l	H2
S76304-1220	N	Pyrene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220D	FD	1,4-Dioxane (p-Dioxane)	0.310	0.210 U H H3	0.210 UJ		ug/l	H2
S76304-1220D	FD	1-Methylnaphthalene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	2-Methylnaphthalene	0.0730	0.0630 U H H3	0.0630 UJ		ug/l	H2
S76304-1220D	FD	Acenaphthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Acenaphthylene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2

Qualified Results associated with the Prep Hold Time for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220D	FD	Anthracene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(a)anthracene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(a)pyrene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(b)fluoranthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(g,h,i)perylene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(k)fluoranthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Chrysene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Dibenz(a,h)anthracene	0.0730	0.0630 U H H3	0.0630 UJ		ug/l	H2
S76304-1220D	FD	Fluoranthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Fluorene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Indeno(1,2,3-c,d)pyrene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Naphthalene	0.0730	0.0630 U H H3	0.0630 UJ		ug/l	H2
S76304-1220D	FD	Phenanthrene	0.0730	0.0630 U H H3	0.0630 UJ		ug/l	H2
S76304-1220D	FD	Pyrene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-MW044D-1220 (N)/ 410-24516-2	Benzo(a)pyrene-d12	24.00	26 - 137	10 - 200	percent	J/UJ	I	
S70627-1220 (N)/ 410-24516-4	Benzo(a)pyrene-d12	25.00	26 - 137	10 - 200	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044D-1220	N	1,4-Dioxane (p-Dioxane)	0.300	0.200 U H H3	0.200 UJ		ug/l	H2/I
CH-MW044D-1220	N	1-Methylnaphthalene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	2-Methylnaphthalene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Acenaphthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Acenaphthylene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Anthracene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(a)anthracene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(a)pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(b)fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(g,h,i)perylene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(k)fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Chrysene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Dibenz(a,h)anthracene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Fluorene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Indeno(1,2,3-c,d)pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Naphthalene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Phenanthrene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I

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Qualified Results associated with the Surrogate for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S70627-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U H H3	0.210 UJ		ug/l	H2/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method E218.6, Dissolved, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-MW044D-1220 (N)/ 410-24516-2		34.05	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
CH-MW044S-1220 (N)/ 410-24516-1		34.12	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
CH-MW045D-1220 (N)/ 410-24516-3		33.16	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S70627-1220 (N)/ 410-24516-4		33.06	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S76304-1220 (N)/ 410-24516-5		32.14	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL
S76304-1220D (FD)/ 410-24516-6		32.14	< 28	< 56	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW6020B, Dissolved, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S76304-1220 (N)/ 410-24516-6	Iron	60.00	< 50	< 50	ug/l	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW6020B, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220	N	Iron	50.0	60.0	60.0 J		ug/l	D3
S76304-1220D	FD	Iron	50.0	40.0 U	40.0 UJ		ug/l	D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020B, Total, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S76304-1220 (N)/ 410-24516-6	Barium	35.29	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Aluminum	40.00	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Nickel	45.28	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Chromium	55.32	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Arsenic	47.62	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Cobalt	48.48	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Manganese	44.44	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Zinc	38.99	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Iron	52.43	< 30	< 30	rpd	J/UJ	D3	
S76304-1220 (N)/ 410-24516-6	Magnesium	30.63	< 30	< 30	rpd	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW6020B, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220	N	Aluminum	35.0	1200	1200 J		ug/l	D3
S76304-1220	N	Arsenic	2.00	520	520 J		ug/l	D3
S76304-1220	N	Barium	2.00	1400	1400 J		ug/l	D3
S76304-1220	N	Chromium	2.00	120	120 J		ug/l	D3
S76304-1220	N	Cobalt	0.500	41.0	41.0 J		ug/l	D3
S76304-1220	N	Iron	1000	1300000 D	1300000 J		ug/l	D3
S76304-1220	N	Magnesium	250	6400	6400 J		ug/l	D3
S76304-1220	N	Manganese	20.0	33000 D	33000 J		ug/l	D3
S76304-1220	N	Nickel	1.50	130	130 J		ug/l	D3
S76304-1220	N	Zinc	300	95000 D	95000 J		ug/l	D3
S76304-1220D	FD	Aluminum	35.0	800	800 J		ug/l	D3
S76304-1220D	FD	Arsenic	2.00	320	320 J		ug/l	D3
S76304-1220D	FD	Barium	2.00	980	980 J		ug/l	D3
S76304-1220D	FD	Chromium	2.00	68.0	68.0 J		ug/l	D3
S76304-1220D	FD	Cobalt	0.500	25.0	25.0 J		ug/l	D3
S76304-1220D	FD	Iron	500	760000 D	760000 J		ug/l	D3
S76304-1220D	FD	Magnesium	250	4700	4700 J		ug/l	D3
S76304-1220D	FD	Manganese	20.0	21000 D	21000 J		ug/l	D3

Qualified Results associated with the Field Duplicate RPD for SW6020B, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220D	FD	Nickel	1.50	82.0	82.0 J		ug/l	D3
S76304-1220D	FD	Zinc	150	64000 D	64000 J		ug/l	D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020B, Total, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
MB 410-78994/1-A (LB)/ MB 410-78994/1-A	Manganese	0.6600	< 0.63	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW8082A, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-MW044D-1220 (N)/ 410-24516-2		12.23	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW044D-1220 (N)/ 410-24516-2		12.23	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW044S-1220 (N)/ 410-24516-1		12.30	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW044S-1220 (N)/ 410-24516-1		12.30	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW045D-1220 (N)/ 410-24516-3		11.34	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW045D-1220 (N)/ 410-24516-3		11.34	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S70627-1220 (N)/ 410-24516-4		11.24	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S70627-1220 (N)/ 410-24516-4		11.24	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S76304-1220 (N)/ 410-24516-5		10.32	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S76304-1220 (N)/ 410-24516-5		10.32	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S76304-1220D (FD)/ 410-24516-6		10.32	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S76304-1220D (FD)/ 410-24516-6		10.32	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW8270D, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-MW044D-1220 (N)/ 410-24516-2		11.29	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW044S-1220 (N)/ 410-24516-1		11.36	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW045D-1220 (N)/ 410-24516-3		10.40	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S70627-1220 (N)/ 410-24516-4		10.31	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S76304-1220 (N)/ 410-24516-5		9.390	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S76304-1220D (FD)/ 410-24516-6		9.390	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Prep Hold Time for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044D-1220	N	1,4-Dichlorobenzene	5.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	2-Chloronaphthalene	1.00	0.810 U H H3	0.810 UJ		ug/l	H2
CH-MW044D-1220	N	2-Methylphenol (o-Cresol)	2.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	4-Chloro-3-methylphenol	3.50	3.20 U H H3	3.20 UJ		ug/l	H2
CH-MW044D-1220	N	4-Chloroaniline	10.0	9.10 U H H3	9.10 UJ		ug/l	H2
CH-MW044D-1220	N	4-Methylphenol (p-Cresol)	2.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	Benzaldehyde	10.0	9.10 U H H3	9.10 UJ		ug/l	H2
CH-MW044D-1220	N	Benzoic acid	25.0	24.0 U H H3	24.0 UJ		ug/l	H2
CH-MW044D-1220	N	Benzyl butyl phthalate	5.00	4.00 U H H3	4.00 UJ		ug/l	H2
CH-MW044D-1220	N	Biphenyl (Diphenyl)	10.0	9.10 U H H3	9.10 UJ		ug/l	H2
CH-MW044D-1220	N	Bis(2-ethylhexyl)phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW044D-1220	N	Caprolactam	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW044D-1220	N	Carbazole	2.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	Dibenzofuran	2.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	Diethyl phthalate	5.00	4.00 U H H3	4.00 UJ		ug/l	H2
CH-MW044D-1220	N	Dimethyl phthalate	5.00	4.00 U H H3	4.00 UJ		ug/l	H2
CH-MW044D-1220	N	Di-n-butyl phthalate	5.00	4.00 U H H3	4.00 UJ		ug/l	H2
CH-MW044D-1220	N	di-n-Octyl phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW044S-1220	N	1,4-Dichlorobenzene	5.50	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW044S-1220	N	2-Chloronaphthalene	1.10	0.880 U H H3	0.880 UJ		ug/l	H2
CH-MW044S-1220	N	2-Methylphenol (o-Cresol)	2.20	1.70 J H H3	1.70 J	-	ug/l	H2/TR
CH-MW044S-1220	N	4-Chloro-3-methylphenol	3.90	3.50 U H H3	3.50 UJ		ug/l	H2
CH-MW044S-1220	N	4-Chloroaniline	11.0	9.90 U H H3	9.90 UJ		ug/l	H2
CH-MW044S-1220	N	4-Methylphenol (p-Cresol)	2.20	1.10 U H H3	1.10 UJ		ug/l	H2

Qualified Results associated with the Prep Hold Time for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044S-1220	N	Benzaldehyde	11.0	9.90 U H H3	9.90 UJ		ug/l	H2
CH-MW044S-1220	N	Benzoic acid	28.0	26.0 U H H3	26.0 UJ		ug/l	H2
CH-MW044S-1220	N	Benzyl butyl phthalate	5.50	4.40 U H H3	4.40 UJ		ug/l	H2
CH-MW044S-1220	N	Biphenyl (Diphenyl)	11.0	9.90 U H H3	9.90 UJ		ug/l	H2
CH-MW044S-1220	N	Bis(2-ethylhexyl)phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW044S-1220	N	Caprolactam	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW044S-1220	N	Carbazole	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW044S-1220	N	Dibenzofuran	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW044S-1220	N	Diethyl phthalate	5.50	4.40 U H H3	4.40 UJ		ug/l	H2
CH-MW044S-1220	N	Dimethyl phthalate	5.50	4.40 U H H3	4.40 UJ		ug/l	H2
CH-MW044S-1220	N	Di-n-butyl phthalate	5.50	4.40 U H H3	4.40 UJ		ug/l	H2
CH-MW044S-1220	N	di-n-Octyl phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW045D-1220	N	1,4-Dichlorobenzene	5.60	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	2-Chloronaphthalene	1.10	0.890 U H H3	0.890 UJ		ug/l	H2
CH-MW045D-1220	N	2-Methylphenol (o-Cresol)	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	4-Chloro-3-methylphenol	3.90	3.60 U H H3	3.60 UJ		ug/l	H2
CH-MW045D-1220	N	4-Chloroaniline	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW045D-1220	N	4-Methylphenol (p-Cresol)	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	Benzaldehyde	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW045D-1220	N	Benzoic acid	28.0	27.0 U H H3	27.0 UJ		ug/l	H2
CH-MW045D-1220	N	Benzyl butyl phthalate	5.60	4.50 U H H3	4.50 UJ		ug/l	H2
CH-MW045D-1220	N	Biphenyl (Diphenyl)	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW045D-1220	N	Bis(2-ethylhexyl)phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW045D-1220	N	Caprolactam	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW045D-1220	N	Carbazole	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	Dibenzofuran	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	Diethyl phthalate	5.60	4.50 U H H3	4.50 UJ		ug/l	H2
CH-MW045D-1220	N	Dimethyl phthalate	5.60	4.50 U H H3	4.50 UJ		ug/l	H2
CH-MW045D-1220	N	Di-n-butyl phthalate	5.60	4.50 U H H3	4.50 UJ		ug/l	H2
CH-MW045D-1220	N	di-n-Octyl phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
S70627-1220	N	1,4-Dichlorobenzene	5.20	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	2-Chloronaphthalene	1.00	0.830 U H H3	0.830 UJ		ug/l	H2
S70627-1220	N	2-Methylphenol (o-Cresol)	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	4-Chloro-3-methylphenol	3.60	3.30 U H H3	3.30 UJ		ug/l	H2
S70627-1220	N	4-Chloroaniline	10.0	9.30 U H H3	9.30 UJ		ug/l	H2
S70627-1220	N	4-Methylphenol (p-Cresol)	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	Benzaldehyde	10.0	9.30 U H H3	9.30 UJ		ug/l	H2
S70627-1220	N	Benzoic acid	26.0	25.0 U H H3	25.0 UJ		ug/l	H2
S70627-1220	N	Benzyl butyl phthalate	5.20	4.10 U H H3	4.10 UJ		ug/l	H2
S70627-1220	N	Biphenyl (Diphenyl)	10.0	9.30 U H H3	9.30 UJ		ug/l	H2
S70627-1220	N	Bis(2-ethylhexyl)phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2

Qualified Results associated with the Prep Hold Time for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S70627-1220	N	Caprolactam	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S70627-1220	N	Carbazole	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	Dibenzofuran	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	Diethyl phthalate	5.20	4.10 U H H3	4.10 UJ		ug/l	H2
S70627-1220	N	Dimethyl phthalate	5.20	4.10 U H H3	4.10 UJ		ug/l	H2
S70627-1220	N	Di-n-butyl phthalate	5.20	4.10 U H H3	4.10 UJ		ug/l	H2
S70627-1220	N	di-n-Octyl phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S76304-1220	N	1,4-Dichlorobenzene	5.40	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	2-Chloronaphthalene	1.10	0.860 U H H3	0.860 UJ		ug/l	H2
S76304-1220	N	2-Methylphenol (o-Cresol)	2.10	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	4-Chloro-3-methylphenol	3.80	3.40 U H H3	3.40 UJ		ug/l	H2
S76304-1220	N	4-Chloroaniline	11.0	9.70 U H H3	9.70 UJ		ug/l	H2
S76304-1220	N	4-Methylphenol (p-Cresol)	2.10	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	Benzaldehyde	11.0	9.70 U H H3	9.70 UJ		ug/l	H2
S76304-1220	N	Benzoic acid	27.0	26.0 U H H3	26.0 UJ		ug/l	H2
S76304-1220	N	Benzyl butyl phthalate	5.40	4.30 U H H3	4.30 UJ		ug/l	H2
S76304-1220	N	Biphenyl (Diphenyl)	11.0	9.70 U H H3	9.70 UJ		ug/l	H2
S76304-1220	N	Bis(2-ethylhexyl)phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
S76304-1220	N	Caprolactam	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
S76304-1220	N	Carbazole	2.10	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	Dibenzofuran	2.10	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	Diethyl phthalate	5.40	4.30 U H H3	4.30 UJ		ug/l	H2
S76304-1220	N	Dimethyl phthalate	5.40	4.30 U H H3	4.30 UJ		ug/l	H2
S76304-1220	N	Di-n-butyl phthalate	5.40	4.30 U H H3	4.30 UJ		ug/l	H2
S76304-1220	N	di-n-Octyl phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
S76304-1220D	FD	1,4-Dichlorobenzene	5.20	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	2-Chloronaphthalene	1.00	0.830 U H H3	0.830 UJ		ug/l	H2
S76304-1220D	FD	2-Methylphenol (o-Cresol)	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	4-Chloro-3-methylphenol	3.60	3.30 U H H3	3.30 UJ		ug/l	H2
S76304-1220D	FD	4-Chloroaniline	10.0	9.40 U H H3	9.40 UJ		ug/l	H2
S76304-1220D	FD	4-Methylphenol (p-Cresol)	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	Benzaldehyde	10.0	9.40 U H H3	9.40 UJ		ug/l	H2
S76304-1220D	FD	Benzoic acid	26.0	25.0 U H H3	25.0 UJ		ug/l	H2
S76304-1220D	FD	Benzyl butyl phthalate	5.20	4.20 U H H3	4.20 UJ		ug/l	H2
S76304-1220D	FD	Biphenyl (Diphenyl)	10.0	9.40 U H H3	9.40 UJ		ug/l	H2
S76304-1220D	FD	Bis(2-ethylhexyl)phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S76304-1220D	FD	Caprolactam	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S76304-1220D	FD	Carbazole	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	Dibenzofuran	2.10	1.00 U H H3	1.00 UJ		ug/l	H2

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Qualified Results associated with the Prep Hold Time for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220D	FD	Diethyl phthalate	5.20	4.20 U H H3	4.20 UJ		ug/l	H2
S76304-1220D	FD	Dimethyl phthalate	5.20	4.20 U H H3	4.20 UJ		ug/l	H2
S76304-1220D	FD	Di-n-butyl phthalate	5.20	4.20 U H H3	4.20 UJ		ug/l	H2
S76304-1220D	FD	di-n-Octyl phthalate	11.0	10.0 U M H	10.0 UJ		ug/l	H2

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044D-1220	N	1,4-Dioxane (p-Dioxane)	0.300	0.200 U H H3	0.200 UJ		ug/l	H2/I
CH-MW044D-1220	N	1-Methylnaphthalene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	2-Methylnaphthalene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Acenaphthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Acenaphthylene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Anthracene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(a)anthracene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(a)pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(b)fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(g,h,i)perylene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Benzo(k)fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Chrysene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Dibenz(a,h)anthracene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Fluoranthene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Fluorene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Indeno(1,2,3-c,d)pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044D-1220	N	Naphthalene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Phenanthrene	0.0710	0.0600 U H H3	0.0600 UJ		ug/l	H2/I
CH-MW044D-1220	N	Pyrene	0.0500	0.0300 U H H3	0.0300 UJ		ug/l	H2/I
CH-MW044S-1220	N	1,4-Dioxane (p-Dioxane)	0.330	1.10 H H3	1.10 J	-	ug/l	H2
CH-MW044S-1220	N	1-Methylnaphthalene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	2-Methylnaphthalene	0.0770	0.0660 U H H3	0.0660 UJ		ug/l	H2
CH-MW044S-1220	N	Acenaphthene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Acenaphthylene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Anthracene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(a)anthracene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2

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Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044S-1220	N	Benzo(a)pyrene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(b)fluoranthene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(g,h,i)perylene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Benzo(k)fluoranthene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Chrysene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Dibenz(a,h)anthracene	0.0770	0.0660 U H H3	0.0660 UJ		ug/l	H2
CH-MW044S-1220	N	Fluoranthene	0.0550	0.0110 J H H3	0.0110 J	-	ug/l	H2/TR
CH-MW044S-1220	N	Fluorene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Indeno(1,2,3-c,d)pyrene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW044S-1220	N	Naphthalene	0.0770	0.0660 U H H3	0.0660 UJ		ug/l	H2
CH-MW044S-1220	N	Phenanthrene	0.0770	0.0380 J H H3	0.0380 J	-	ug/l	H2/TR
CH-MW044S-1220	N	Pyrene	0.0550	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	1,4-Dioxane (p-Dioxane)	0.330	0.190 J H H3	0.190 J	-	ug/l	H2/TR
CH-MW045D-1220	N	1-Methylnaphthalene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	2-Methylnaphthalene	0.0780	0.0670 U H H3	0.0670 UJ		ug/l	H2
CH-MW045D-1220	N	Acenaphthene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Acenaphthylene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Anthracene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Benzo(a)anthracene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Benzo(a)pyrene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Benzo(b)fluoranthene	0.0560	0.0160 J H H3	0.0160 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Benzo(g,h,i)perylene	0.0560	0.0190 J H H3	0.0190 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Benzo(k)fluoranthene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Chrysene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2
CH-MW045D-1220	N	Dibenz(a,h)anthracene	0.0780	0.0670 U H H3	0.0670 UJ		ug/l	H2
CH-MW045D-1220	N	Fluoranthene	0.0560	0.0180 J H H3	0.0180 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Fluorene	0.0560	0.0330 U H H3	0.0330 UJ		ug/l	H2

Data Validation Report for 410-24516-1_52_2a_FUDSChem_rev3

Table of All Qualified Results

Test Method: BNASIM   Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045D-1220	N	Indeno(1,2,3-c,d)pyrene	0.0560	0.0190 J H H3	0.0190 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Naphthalene	0.0780	0.0330 J H H3	0.0330 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Phenanthrene	0.0780	0.0740 J H H3	0.0740 J	-	ug/l	H2/TR
CH-MW045D-1220	N	Pyrene	0.0560	0.0210 J H H3	0.0210 J	-	ug/l	H2/TR
S70627-1220	N	1,4-Dioxane (p-Dioxane)	0.310	0.210 U H H3	0.210 UJ		ug/l	H2/I
S70627-1220	N	1-Methylnaphthalene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	2-Methylnaphthalene	0.0720	0.0620 U H H3	0.0620 UJ		ug/l	H2
S70627-1220	N	Acenaphthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	Acenaphthylene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	Anthracene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	Benzo(a)anthracene	0.0520	0.0380 J H H3	0.0380 J	-	ug/l	H2/TR
S70627-1220	N	Benzo(a)pyrene	0.0520	0.0130 J H H3	0.0130 J	-	ug/l	H2/TR
S70627-1220	N	Benzo(b)fluoranthene	0.0520	0.0440 J H H3	0.0440 J	-	ug/l	H2/TR
S70627-1220	N	Benzo(g,h,i)perylene	0.0520	0.0370 J H H3	0.0370 J	-	ug/l	H2/TR
S70627-1220	N	Benzo(k)fluoranthene	0.0520	0.0460 J H H3	0.0460 J	-	ug/l	H2/TR
S70627-1220	N	Chrysene	0.0520	0.0440 J H H3	0.0440 J	-	ug/l	H2/TR
S70627-1220	N	Dibenz(a,h)anthracene	0.0720	0.0410 J H H3	0.0410 J	-	ug/l	H2/TR
S70627-1220	N	Fluoranthene	0.0520	0.0370 J H H3	0.0370 J	-	ug/l	H2/TR
S70627-1220	N	Fluorene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S70627-1220	N	Indeno(1,2,3-c,d)pyrene	0.0520	0.0450 J H H3	0.0450 J	-	ug/l	H2/TR
S70627-1220	N	Naphthalene	0.0720	0.0620 U H H3	0.0620 UJ		ug/l	H2
S70627-1220	N	Phenanthrene	0.0720	0.0620 U H H3	0.0620 UJ		ug/l	H2
S70627-1220	N	Pyrene	0.0520	0.0290 J H H3	0.0290 J	-	ug/l	H2/TR
S76304-1220	N	1,4-Dioxane (p-Dioxane)	0.320	0.210 U H H3	0.210 UJ		ug/l	H2
S76304-1220	N	1-Methylnaphthalene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	2-Methylnaphthalene	0.0750	0.0640 U H H3	0.0640 UJ		ug/l	H2
S76304-1220	N	Acenaphthene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2

Data Validation Report for 410-24516-1_52_2a_FUDSChem_rev3

Table of All Qualified Results

Test Method: BNASIM   Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220	N	Acenaphthylene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Anthracene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(a)anthracene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(a)pyrene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(b)fluoranthene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(g,h,i)perylene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Benzo(k)fluoranthene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Chrysene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Dibenz(a,h)anthracene	0.0750	0.0640 U H H3	0.0640 UJ		ug/l	H2
S76304-1220	N	Fluoranthene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Fluorene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Indeno(1,2,3-c,d)pyrene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220	N	Naphthalene	0.0750	0.0640 U H H3	0.0640 UJ		ug/l	H2
S76304-1220	N	Phenanthrene	0.0750	0.0640 U H H3	0.0640 UJ		ug/l	H2
S76304-1220	N	Pyrene	0.0540	0.0320 U H H3	0.0320 UJ		ug/l	H2
S76304-1220D	FD	1,4-Dioxane (p-Dioxane)	0.310	0.210 U H H3	0.210 UJ		ug/l	H2
S76304-1220D	FD	1-Methylnaphthalene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	2-Methylnaphthalene	0.0730	0.0630 U H H3	0.0630 UJ		ug/l	H2
S76304-1220D	FD	Acenaphthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Acenaphthylene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Anthracene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(a)anthracene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(a)pyrene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(b)fluoranthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(g,h,i)perylene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Benzo(k)fluoranthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Chrysene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2

Data Validation Report for 410-24516-1_52_2a_FUDSChem_rev3

Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220D	FD	Dibenz(a,h)anthracene	0.0730	0.0630 U H H3	0.0630 UJ		ug/l	H2
S76304-1220D	FD	Fluoranthene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Fluorene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Indeno(1,2,3-c,d)pyrene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2
S76304-1220D	FD	Naphthalene	0.0730	0.0630 U H H3	0.0630 UJ		ug/l	H2
S76304-1220D	FD	Phenanthrene	0.0730	0.0630 U H H3	0.0630 UJ		ug/l	H2
S76304-1220D	FD	Pyrene	0.0520	0.0310 U H H3	0.0310 UJ		ug/l	H2

Test Method: SW6020B Extraction Method: Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220	N	Iron	50.0	60.0	60.0 J		ug/l	D3
S76304-1220D	FD	Iron	50.0	40.0 U	40.0 UJ		ug/l	D3

Test Method: SW6020B Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220	N	Aluminum	35.0	1200	1200 J		ug/l	D3
S76304-1220	N	Arsenic	2.00	520	520 J		ug/l	D3
S76304-1220	N	Barium	2.00	1400	1400 J		ug/l	D3
S76304-1220	N	Chromium	2.00	120	120 J		ug/l	D3
S76304-1220	N	Cobalt	0.500	41.0	41.0 J		ug/l	D3
S76304-1220	N	Iron	1000	1300000 D	1300000 J		ug/l	D3
S76304-1220	N	Magnesium	250	6400	6400 J		ug/l	D3
S76304-1220	N	Manganese	20.0	33000 D	33000 J		ug/l	D3
S76304-1220	N	Nickel	1.50	130	130 J		ug/l	D3
S76304-1220	N	Zinc	300	95000 D	95000 J		ug/l	D3
S76304-1220D	FD	Aluminum	35.0	800	800 J		ug/l	D3
S76304-1220D	FD	Arsenic	2.00	320	320 J		ug/l	D3
S76304-1220D	FD	Barium	2.00	980	980 J		ug/l	D3
S76304-1220D	FD	Chromium	2.00	68.0	68.0 J		ug/l	D3
S76304-1220D	FD	Cobalt	0.500	25.0	25.0 J		ug/l	D3
S76304-1220D	FD	Iron	500	760000 D	760000 J		ug/l	D3
S76304-1220D	FD	Magnesium	250	4700	4700 J		ug/l	D3
S76304-1220D	FD	Manganese	20.0	21000 D	21000 J		ug/l	D3
S76304-1220D	FD	Nickel	1.50	82.0	82.0 J		ug/l	D3
S76304-1220D	FD	Zinc	150	64000 D	64000 J		ug/l	D3

Test Method: SW8270D Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044D-1220	N	1,4-Dichlorobenzene	5.00	1.00 U H H3	1.00 UJ		ug/l	H2

Data Validation Report for 410-24516-1_52_2a_FUDSChem_rev3

Table of All Qualified Results

Test Method: SW8270D   Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044D-1220	N	2-Chloronaphthalene	1.00	0.810 U H H3	0.810 UJ		ug/l	H2
CH-MW044D-1220	N	2-Methylphenol (o-Cresol)	2.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	4-Chloro-3-methylphenol	3.50	3.20 U H H3	3.20 UJ		ug/l	H2
CH-MW044D-1220	N	4-Chloroaniline	10.0	9.10 U H H3	9.10 UJ		ug/l	H2
CH-MW044D-1220	N	4-Methylphenol (p-Cresol)	2.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	Benzaldehyde	10.0	9.10 U H H3	9.10 UJ		ug/l	H2
CH-MW044D-1220	N	Benzoic acid	25.0	24.0 U H H3	24.0 UJ		ug/l	H2
CH-MW044D-1220	N	Benzyl butyl phthalate	5.00	4.00 U H H3	4.00 UJ		ug/l	H2
CH-MW044D-1220	N	Biphenyl (Diphenyl)	10.0	9.10 U H H3	9.10 UJ		ug/l	H2
CH-MW044D-1220	N	Bis(2-ethylhexyl)phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW044D-1220	N	Caprolactam	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW044D-1220	N	Carbazole	2.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	Dibenzofuran	2.00	1.00 U H H3	1.00 UJ		ug/l	H2
CH-MW044D-1220	N	Diethyl phthalate	5.00	4.00 U H H3	4.00 UJ		ug/l	H2
CH-MW044D-1220	N	Dimethyl phthalate	5.00	4.00 U H H3	4.00 UJ		ug/l	H2
CH-MW044D-1220	N	Di-n-butyl phthalate	5.00	4.00 U H H3	4.00 UJ		ug/l	H2
CH-MW044D-1220	N	di-n-Octyl phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW044S-1220	N	1,4-Dichlorobenzene	5.50	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW044S-1220	N	2-Chloronaphthalene	1.10	0.880 U H H3	0.880 UJ		ug/l	H2
CH-MW044S-1220	N	2-Methylphenol (o-Cresol)	2.20	1.70 J H H3	1.70 J	-	ug/l	H2/TR
CH-MW044S-1220	N	4-Chloro-3-methylphenol	3.90	3.50 U H H3	3.50 UJ		ug/l	H2
CH-MW044S-1220	N	4-Chloroaniline	11.0	9.90 U H H3	9.90 UJ		ug/l	H2
CH-MW044S-1220	N	4-Methylphenol (p-Cresol)	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW044S-1220	N	Benzaldehyde	11.0	9.90 U H H3	9.90 UJ		ug/l	H2
CH-MW044S-1220	N	Benzoic acid	28.0	26.0 U H H3	26.0 UJ		ug/l	H2
CH-MW044S-1220	N	Benzyl butyl phthalate	5.50	4.40 U H H3	4.40 UJ		ug/l	H2
CH-MW044S-1220	N	Biphenyl (Diphenyl)	11.0	9.90 U H H3	9.90 UJ		ug/l	H2
CH-MW044S-1220	N	Bis(2-ethylhexyl)phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW044S-1220	N	Caprolactam	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW044S-1220	N	Carbazole	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW044S-1220	N	Dibenzofuran	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW044S-1220	N	Diethyl phthalate	5.50	4.40 U H H3	4.40 UJ		ug/l	H2
CH-MW044S-1220	N	Dimethyl phthalate	5.50	4.40 U H H3	4.40 UJ		ug/l	H2
CH-MW044S-1220	N	Di-n-butyl phthalate	5.50	4.40 U H H3	4.40 UJ		ug/l	H2
CH-MW044S-1220	N	di-n-Octyl phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW045D-1220	N	1,4-Dichlorobenzene	5.60	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	2-Chloronaphthalene	1.10	0.890 U H H3	0.890 UJ		ug/l	H2
CH-MW045D-1220	N	2-Methylphenol (o-Cresol)	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	4-Chloro-3-methylphenol	3.90	3.60 U H H3	3.60 UJ		ug/l	H2
CH-MW045D-1220	N	4-Chloroaniline	11.0	10.0 U H H3	10.0 UJ		ug/l	H2

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Table of All Qualified Results

Test Method: SW8270D Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045D-1220	N	4-Methylphenol (p-Cresol)	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	Benzaldehyde	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW045D-1220	N	Benzoic acid	28.0	27.0 U H H3	27.0 UJ		ug/l	H2
CH-MW045D-1220	N	Benzyl butyl phthalate	5.60	4.50 U H H3	4.50 UJ		ug/l	H2
CH-MW045D-1220	N	Biphenyl (Diphenyl)	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
CH-MW045D-1220	N	Bis(2-ethylhexyl)phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW045D-1220	N	Caprolactam	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
CH-MW045D-1220	N	Carbazole	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	Dibenzofuran	2.20	1.10 U H H3	1.10 UJ		ug/l	H2
CH-MW045D-1220	N	Diethyl phthalate	5.60	4.50 U H H3	4.50 UJ		ug/l	H2
CH-MW045D-1220	N	Dimethyl phthalate	5.60	4.50 U H H3	4.50 UJ		ug/l	H2
CH-MW045D-1220	N	Di-n-butyl phthalate	5.60	4.50 U H H3	4.50 UJ		ug/l	H2
CH-MW045D-1220	N	di-n-Octyl phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
S70627-1220	N	1,4-Dichlorobenzene	5.20	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	2-Chloronaphthalene	1.00	0.830 U H H3	0.830 UJ		ug/l	H2
S70627-1220	N	2-Methylphenol (o-Cresol)	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	4-Chloro-3-methylphenol	3.60	3.30 U H H3	3.30 UJ		ug/l	H2
S70627-1220	N	4-Chloroaniline	10.0	9.30 U H H3	9.30 UJ		ug/l	H2
S70627-1220	N	4-Methylphenol (p-Cresol)	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	Benzaldehyde	10.0	9.30 U H H3	9.30 UJ		ug/l	H2
S70627-1220	N	Benzoic acid	26.0	25.0 U H H3	25.0 UJ		ug/l	H2
S70627-1220	N	Benzyl butyl phthalate	5.20	4.10 U H H3	4.10 UJ		ug/l	H2
S70627-1220	N	Biphenyl (Diphenyl)	10.0	9.30 U H H3	9.30 UJ		ug/l	H2
S70627-1220	N	Bis(2-ethylhexyl)phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S70627-1220	N	Caprolactam	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S70627-1220	N	Carbazole	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	Dibenzofuran	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S70627-1220	N	Diethyl phthalate	5.20	4.10 U H H3	4.10 UJ		ug/l	H2
S70627-1220	N	Dimethyl phthalate	5.20	4.10 U H H3	4.10 UJ		ug/l	H2
S70627-1220	N	Di-n-butyl phthalate	5.20	4.10 U H H3	4.10 UJ		ug/l	H2
S70627-1220	N	di-n-Octyl phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S76304-1220	N	1,4-Dichlorobenzene	5.40	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	2-Chloronaphthalene	1.10	0.860 U H H3	0.860 UJ		ug/l	H2
S76304-1220	N	2-Methylphenol (o-Cresol)	2.10	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	4-Chloro-3-methylphenol	3.80	3.40 U H H3	3.40 UJ		ug/l	H2
S76304-1220	N	4-Chloroaniline	11.0	9.70 U H H3	9.70 UJ		ug/l	H2
S76304-1220	N	4-Methylphenol (p-Cresol)	2.10	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	Benzaldehyde	11.0	9.70 U H H3	9.70 UJ		ug/l	H2
S76304-1220	N	Benzoic acid	27.0	26.0 U H H3	26.0 UJ		ug/l	H2
S76304-1220	N	Benzyl butyl phthalate	5.40	4.30 U H H3	4.30 UJ		ug/l	H2
S76304-1220	N	Biphenyl (Diphenyl)	11.0	9.70 U H H3	9.70 UJ		ug/l	H2

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Table of All Qualified Results

Test Method: SW8270D		Extraction Method: SW3510C						
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-1220	N	Bis(2-ethylhexyl)phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
S76304-1220	N	Caprolactam	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
S76304-1220	N	Carbazole	2.10	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	Dibenzofuran	2.10	1.10 U H H3	1.10 UJ		ug/l	H2
S76304-1220	N	Diethyl phthalate	5.40	4.30 U H H3	4.30 UJ		ug/l	H2
S76304-1220	N	Dimethyl phthalate	5.40	4.30 U H H3	4.30 UJ		ug/l	H2
S76304-1220	N	Di-n-butyl phthalate	5.40	4.30 U H H3	4.30 UJ		ug/l	H2
S76304-1220	N	di-n-Octyl phthalate	12.0	11.0 U H H3	11.0 UJ		ug/l	H2
S76304-1220D	FD	1,4-Dichlorobenzene	5.20	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	2-Chloronaphthalene	1.00	0.830 U H H3	0.830 UJ		ug/l	H2
S76304-1220D	FD	2-Methylphenol (o-Cresol)	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	4-Chloro-3-methylphenol	3.60	3.30 U H H3	3.30 UJ		ug/l	H2
S76304-1220D	FD	4-Chloroaniline	10.0	9.40 U H H3	9.40 UJ		ug/l	H2
S76304-1220D	FD	4-Methylphenol (p-Cresol)	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	Benzaldehyde	10.0	9.40 U H H3	9.40 UJ		ug/l	H2
S76304-1220D	FD	Benzoic acid	26.0	25.0 U H H3	25.0 UJ		ug/l	H2
S76304-1220D	FD	Benzyl butyl phthalate	5.20	4.20 U H H3	4.20 UJ		ug/l	H2
S76304-1220D	FD	Biphenyl (Diphenyl)	10.0	9.40 U H H3	9.40 UJ		ug/l	H2
S76304-1220D	FD	Bis(2-ethylhexyl)phthalate	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S76304-1220D	FD	Caprolactam	11.0	10.0 U H H3	10.0 UJ		ug/l	H2
S76304-1220D	FD	Carbazole	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	Dibenzofuran	2.10	1.00 U H H3	1.00 UJ		ug/l	H2
S76304-1220D	FD	Diethyl phthalate	5.20	4.20 U H H3	4.20 UJ		ug/l	H2
S76304-1220D	FD	Dimethyl phthalate	5.20	4.20 U H H3	4.20 UJ		ug/l	H2
S76304-1220D	FD	Di-n-butyl phthalate	5.20	4.20 U H H3	4.20 UJ		ug/l	H2
S76304-1220D	FD	di-n-Octyl phthalate	11.0	10.0 U M H	10.0 UJ		ug/l	H2

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S70627-1220	N	1-Methylnaphthalene	0.0520	0.0310 U H H3	0.0310 UJ	0.0310 UJ	H2
S70627-1220	N	2-Methylnaphthalene	0.0720	0.0620 U H H3	0.0620 UJ	0.0620 UJ	H2
S70627-1220	N	Acenaphthene	0.0520	0.0310 U H H3	0.0310 UJ	0.0310 UJ	H2
S70627-1220	N	Acenaphthylene	0.0520	0.0310 U H H3	0.0310 UJ	0.0310 UJ	H2
S70627-1220	N	Anthracene	0.0520	0.0310 U H H3	0.0310 UJ	0.0310 UJ	H2
S70627-1220	N	Benzo(a)anthracene	0.0520	0.0380 J H H3	0.0380 J	0.0380 J	H2/TR
S70627-1220	N	Benzo(a)pyrene	0.0520	0.0130 J H H3	0.0130 J	0.0130 J	H2/TR
S70627-1220	N	Benzo(b)fluoranthene	0.0520	0.0440 J H H3	0.0440 J	0.0440 J	H2/TR
S70627-1220	N	Benzo(g,h,i)perylene	0.0520	0.0370 J H H3	0.0370 J	0.0370 J	H2/TR
S70627-1220	N	Benzo(k)fluoranthene	0.0520	0.0460 J H H3	0.0460 J	0.0460 J	H2/TR
S70627-1220	N	Chrysene	0.0520	0.0440 J H H3	0.0440 J	0.0440 J	H2/TR
S70627-1220	N	Dibenz(a,h)anthracene	0.0720	0.0410 J H H3	0.0410 J	0.0410 J	H2/TR
S70627-1220	N	Fluoranthene	0.0520	0.0370 J H H3	0.0370 J	0.0370 J	H2/TR
S70627-1220	N	Fluorene	0.0520	0.0310 U H H3	0.0310 UJ	0.0310 UJ	H2
S70627-1220	N	Indeno(1,2,3-c,d)pyrene	0.0520	0.0450 J H H3	0.0450 J	0.0450 J	H2/TR
S70627-1220	N	Naphthalene	0.0720	0.0620 U H H3	0.0620 UJ	0.0620 UJ	H2
S70627-1220	N	Phenanthrene	0.0720	0.0620 U H H3	0.0620 UJ	0.0620 UJ	H2
S70627-1220	N	Pyrene	0.0520	0.0290 J H H3	0.0290 J	0.0290 J	H2/TR

Modified Qualifiers for test method E218.6, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-MW044D-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW044D-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
CH-MW044S-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW044S-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
CH-MW045D-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW045D-1220	N	Chromium, Trivalent	10.0	8.70 J	8.70 J	8.70 J	TR/P
S70627-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S70627-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S76304-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S76304-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P
S76304-1220D	FD	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P

Table of Results with Modified Qualifiers

Modified Qualifiers for test method E218.6, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S76304-1220D	FD	Chromium, Trivalent	10.0	9.00 U	9.00 UJ	9.00 UJ	P

Modified Qualifiers for test method E218.6

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-MW044D-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW044D-1220	N	Chromium, Trivalent	10.0	7.30 J	7.30 J	7.30 J	TR/P
CH-MW044S-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW044S-1220	N	Chromium, Trivalent	10.0	8.30 J	8.30 J	8.30 J	TR/P
CH-MW045D-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
CH-MW045D-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S70627-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S70627-1220	N	Chromium, Trivalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S76304-1220	N	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S76304-1220	N	Chromium, Trivalent	10.0	120	120	120 J	D3/P
S76304-1220D	FD	Chromium, Hexavalent	10.0	9.00 U	9.00 U	9.00 UJ	P
S76304-1220D	FD	Chromium, Trivalent	10.0	68.0	68.0	68.0 J	D3/P

Modified Qualifiers for test method SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-MW044D-1220	N	PCB, Total	0.510	0.300 U	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1016 (Aroclor 1016)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1221 (Aroclor 1221)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1232 (Aroclor 1232)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1242 (Aroclor 1242)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1248 (Aroclor 1248)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1254 (Aroclor 1254)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1260 (Aroclor 1260)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1262 (Aroclor 1262)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044D-1220	N	PCB-1268 (Aroclor 1268)	0.510	0.300 U M	0.300 UJ	0.300 U	
CH-MW044S-1220	N	PCB, Total	0.520	0.310 U	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1016 (Aroclor 1016)	0.520	0.310 U	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1221 (Aroclor 1221)	0.520	0.310 U	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1232 (Aroclor 1232)	0.520	0.310 U	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1242 (Aroclor 1242)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1248 (Aroclor 1248)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1254 (Aroclor 1254)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1260 (Aroclor 1260)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1262 (Aroclor 1262)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-MW044S-1220	N	PCB-1268 (Aroclor 1268)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-MW045D-1220	N	PCB, Total	0.560	0.340 U	0.340 UJ	0.340 U	
CH-MW045D-1220	N	PCB-1016 (Aroclor 1016)	0.560	0.340 U	0.340 UJ	0.340 U	
CH-MW045D-1220	N	PCB-1221 (Aroclor 1221)	0.560	0.340 U	0.340 UJ	0.340 U	

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-MW045D-1220	N	PCB-1232 (Aroclor 1232)	0.560	0.340 U	0.340 UJ	0.340 U	
CH-MW045D-1220	N	PCB-1242 (Aroclor 1242)	0.560	0.340 U	0.340 UJ	0.340 U	
CH-MW045D-1220	N	PCB-1248 (Aroclor 1248)	0.560	0.340 U	0.340 UJ	0.340 U	
CH-MW045D-1220	N	PCB-1254 (Aroclor 1254)	0.560	0.340 U	0.340 UJ	0.340 U	
CH-MW045D-1220	N	PCB-1260 (Aroclor 1260)	0.560	0.340 U M	0.340 UJ	0.340 U	
CH-MW045D-1220	N	PCB-1262 (Aroclor 1262)	0.560	0.340 U M	0.340 UJ	0.340 U	
CH-MW045D-1220	N	PCB-1268 (Aroclor 1268)	0.560	0.340 U M	0.340 UJ	0.340 U	
S70627-1220	N	PCB, Total	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1016 (Aroclor 1016)	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1221 (Aroclor 1221)	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1232 (Aroclor 1232)	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1242 (Aroclor 1242)	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1248 (Aroclor 1248)	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1254 (Aroclor 1254)	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1260 (Aroclor 1260)	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1262 (Aroclor 1262)	0.600	0.360 U	0.360 UJ	0.360 U	
S70627-1220	N	PCB-1268 (Aroclor 1268)	0.600	0.360 U M	0.360 UJ	0.360 U	
S76304-1220	N	PCB, Total	0.600	0.360 U	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1016 (Aroclor 1016)	0.600	0.360 U	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1221 (Aroclor 1221)	0.600	0.360 U	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1232 (Aroclor 1232)	0.600	0.360 U	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1242 (Aroclor 1242)	0.600	0.360 U	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1248 (Aroclor 1248)	0.600	0.360 U	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1254 (Aroclor 1254)	0.600	0.360 U M	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1260 (Aroclor 1260)	0.600	0.360 U M	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1262 (Aroclor 1262)	0.600	0.360 U M	0.360 UJ	0.360 U	
S76304-1220	N	PCB-1268 (Aroclor 1268)	0.600	0.360 U M	0.360 UJ	0.360 U	
S76304-1220D	FD	PCB, Total	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1016 (Aroclor 1016)	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1221 (Aroclor 1221)	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1232 (Aroclor 1232)	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1242 (Aroclor 1242)	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1248 (Aroclor 1248)	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1254 (Aroclor 1254)	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1260 (Aroclor 1260)	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1262 (Aroclor 1262)	0.520	0.310 U	0.310 UJ	0.310 U	
S76304-1220D	FD	PCB-1268 (Aroclor 1268)	0.520	0.310 U M	0.310 UJ	0.310 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Reason Code Definitions

Code	Definition
D3	Field Duplicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
P	Sample preservation/collection requirement not met.
TR	Trace Level Detect

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

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Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperatures of the 2 coolers were 0.4 C and 0.5 C
Were holding times met?		•		all samples missed prep hold time; coolers did not arrive to the lab on time
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		marginal low surrogate recovery for 1-methylnapthalene-d10 for sample CH-MW044D-1220 at 46% (49-115%); outlier report for surrogate benzo(a)pyrene-d12 is incorrect (CH-MW044D-1220 and S70627-1220 BAPd12 limits good); sample missed hold time due to cooler not arriving at lab on time; no modification of qualifiers
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: E218.6 (Hexavalent Chromium by EPA Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?		•		pH between 8.2 and 9; validator modified qualifiers from U to UJ; low bias; added P for reason code
Were holding times met?	•			pH between 8.2 and 9; validator modified qualifiers from U to UJ; low bias; add P for reason code
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-24516-1_52_2a_FUDSChem_rev3

Review Questions

Method: SW6020B (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperatures of the 2 coolers were 0.4 C and 0.5 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		see outlier report; low detection of manganese; no results required qualification
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		see outlier report; several analytes above 30% for sample S76034-1220 and duplicate
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW7470A (Mercury in Water (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperatures of the 2 coolers were 0.4 C and 0.5 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?				
Were any data recommended for rejection (exclusion) in the data validation process?				

Review Questions

Method: SW8082A (Polychlorinated Biphenyls (PCB))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperatures of the 2 coolers were 0.4 C and 0.5 C
Were holding times met?	•			prep hold time exceeds 7 days according to the eQAPP; EPA NFG recommends 1 year; validator modified the qualifiers
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW8260C (Volatile Organic Compounds by GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperatures of the 2 coolers were 0.4 C and 0.5 C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			trip blank had no detections
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW8270D (Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			samples arrived in good condition; temperatures of the 2 coolers were 0.4 C and 0.5 C
Were holding times met?		•		all samples missed prep hold time; coolers did not arrive at the lab on time
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-30212-1_52_2a_FUDSChem

Facility:	C02NY0024-03, Camp Hero
Event:	Camp Hero February 2021
SDG:	410-30212-1_52_2a_FUDSChem
Guidance Document:	Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016
Prime Contractor:	AECOM, Arlington, VA
Project Manager:	Mark MacEwan
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	AECOM
Data Review Level:	S2AVEM
Primary Data Reviewer:	Devon Chicoine, Project Chemist
Date Submitted:	March 19, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	E218.6	E218.6 - Dissolved	SW6020B	SW6020B - Dissolved	SW7470A	SW7470A - Dissolved	SW8082A	SW8260C	SW8270D
CH-EB-0221-01	410-30212-22	Water	Equipment Blank/EB	X	X		X		X		X	X	X
CH-MW044D-0221	410-30212-5	Water	Field Sample/N	X	X		X		X		X	X	X
CH-MW044D-0221	410-30212-6	Water	Field Sample/N			X		X		X			
CH-MW044S-0221	410-30212-1	Water	Field Sample/N	X	X		X		X		X	X	X
CH-MW044S-0221	410-30212-2	Water	Field Sample/N			X		X		X			
CH-MW045D-0221	410-30212-7	Water	Field Sample/N	X	X		X		X		X	X	X
CH-MW045D-0221	410-30212-8	Water	Field Sample/N			X		X		X			
CH-MW045S-0221	410-30212-3	Water	Field Sample/N	X	X		X		X		X	X	X
CH-MW045S-0221	410-30212-4	Water	Field Sample/N			X		X		X			
CH-TB-0221-01	410-30212-21	Water	Trip Blank/TB									X	
S1202-0221	410-30212-17	Water	Field Sample/N	X	X		X		X		X	X	X
S1202-0221	410-30212-18	Water	Field Sample/N			X		X		X			
S19494-0221	410-30212-13	Water	Field Sample/N	X	X		X		X		X	X	X
S19494-0221	410-30212-14	Water	Field Sample/N			X		X		X			
S19495-0221	410-30212-15	Water	Field Sample/N	X	X		X		X		X	X	X
S19495-0221	410-30212-16	Water	Field Sample/N			X		X		X			
S3599-0221	410-30212-23	Water	Field Sample/N	X	X		X		X		X	X	X
S3599-0221	410-30212-24	Water	Field Sample/N			X		X		X			
S48579-0221	410-30212-11	Water	Field Sample/N	X	X		X		X		X	X	X
S48579-0221	410-30212-12	Water	Field Sample/N			X		X		X			
S58922-0221	410-30212-10	Water	Field Sample/N			X		X		X			

Data Validation Report for 410-30212-1_52_2a_FUDSChem

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	E218.6	E218.6 - Dissolved	SW6020B	SW6020B - Dissolved	SW7470A	SW7470A - Dissolved	SW8082A	SW8260C	SW8270D
S58922-0221	410-30212-9	Water	Field Sample/N	X	X		X		X		X	X	X
S70627-0221	410-30212-19	Water	Field Sample/N	X	X		X		X		X	X	X
S70627-0221	410-30212-20	Water	Field Sample/N			X		X		X			

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016 and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by AECOM, Arlington, VA; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-30212-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 53 results (3.19%) out of the 1659 results (sample and field QC samples) reported are qualified based on review and 4 results (0.24%) have been rejected or deemed a serious deficiency (X qualifier). Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
E218.6	No additional comments; see Checklist for detail.
SW6020B	No additional comments; see Checklist for detail.
SW7470A	No additional comments; see Checklist for detail.
SW8082A	No additional comments; see Checklist for detail.
SW8260C	No additional comments; see Checklist for detail.
SW8270D	No additional comments; see Checklist for detail.

Devon Chicoine

March 19, 2021

Reviewed by Devon Chicoine, Project Chemist, AECOM

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-0221MS (SD)/ 410-30212-13MSD	1-Methylnaphthalene	20.47	< 20	< 20	rpd	J/UJ	D	
S19494-0221MS (SD)/ 410-30212-13MSD	2-Methylnaphthalene	20.93	< 20	< 20	rpd	J/UJ	D	
S19494-0221MS (SD)/ 410-30212-13MSD	Acenaphthylene	20.79	< 20	< 20	rpd	J/UJ	D	
S19494-0221MS (SD)/ 410-30212-13MSD	Naphthalene	22.69	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-0221	N	1-Methylnaphthalene	0.0540	0.0430 U J1	0.0430 UJ		ug/l	D
S19494-0221	N	2-Methylnaphthalene	0.0540	0.0430 U M J1	0.0430 UJ		ug/l	D
S19494-0221	N	Acenaphthylene	0.0540	0.0320 U J1	0.0320 UJ		ug/l	D
S19494-0221	N	Naphthalene	0.0760	0.0650 U M J1	0.0650 UJ		ug/l	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method E218.6, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-0221MSD (SD)/ 410-30212-13MSD	Chromium, Hexavalent	120.0	90 - 111	30 - 125	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW6020B, Dissolved, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-0221MS (MS)/ 410-30212-14MS	Barium	80.00	86 - 114	30 - 114	percent	J/UJ	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-14MS	Manganese	155.0	87 - 115	30 - 115	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-14MS	Sodium	130.0	85 - 117	30 - 117	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-14MS	Calcium	150.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-14MS	Iron	250.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-14MS	Magnesium	200.0	83 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-14MSD	Manganese	160.0	87 - 115	30 - 115	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-14MSD	Calcium	175.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-14MSD	Iron	225.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-14MSD	Magnesium	150.0	83 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020B, Total, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-0221-01 (EB)/ 410-30212-22	Sodium	830.0	< 50	< 200	ug/l	U/None	V	
CH-EB-0221-01 (EB)/ 410-30212-22	Calcium	320.0	< 74	< 130	ug/l	U/None	V	
CH-EB-0221-01 (EB)/ 410-30212-22	Barium	1.000	< 0.75	< 2	ug/l	U/None	V	
CH-EB-0221-01 (EB)/ 410-30212-22	Aluminum	26.00	< 20	< 35	ug/l	U/None	V	
CH-EB-0221-01 (EB)/ 410-30212-22	Magnesium	26.00	< 10	< 50	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020B, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044S-0221	N	Aluminum	35.0	24.0 J	35.0 U		ug/l	V
S19495-0221	N	Aluminum	35.0	62.0	62.0 J	+	ug/l	V
S19495-0221	N	Barium	2.00	4.80	4.80 J	+	ug/l	V
S19495-0221	N	Sodium	200	3600	3600 J	+	ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020B, Total, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
MB 410-98052/1-A (LB)/ MB 410-98052/1-A	Manganese	0.9450	< 0.63	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020B, Total, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-0221MS (MS)/ 410-30212-13MS	Barium	220.0	86 - 114	30 - 114	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-13MS	Manganese	310.0	87 - 115	30 - 115	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-13MS	Sodium	195.0	85 - 117	30 - 117	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-13MS	Calcium	525.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-13MS	Iron	525.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MS (MS)/ 410-30212-13MS	Magnesium	440.0	83 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-13MSD	Barium	190.0	86 - 114	30 - 114	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-13MSD	Manganese	170.0	87 - 115	30 - 115	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-13MSD	Calcium	200.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-13MSD	Iron	400.0	87 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant
S19494-0221MSD (SD)/ 410-30212-13MSD	Magnesium	135.0	83 - 118	30 - 118	percent	J/None	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260C, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-0221-01 (EB)/ 410-30212-22	Chloroform	0.2700	< 0.2	< 1	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270D, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-97942/2-A (BS)/ LCS 410-97942/2-A	Dimethyl phthalate	32.20	45 - 127	10 - 127	percent	J/UJ	C	
LCS 410-97942/2-A (BS)/ LCS 410-97942/2-A	Benzyl butyl phthalate	44.60	53 - 134	10 - 134	percent	J/UJ	C	
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Diethyl phthalate	51.20	56 - 125	10 - 125	percent	J/UJ	C	
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Dimethyl phthalate	16.24	45 - 127	10 - 127	percent	J/UJ	C	
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Benzyl butyl phthalate	29.60	53 - 134	10 - 134	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-0221-01	EB	Benzyl butyl phthalate	5.70	4.50 U Q	4.50 UJ		ug/l	C
CH-EB-0221-01	EB	Dimethyl phthalate	5.70	4.50 U Q	4.50 UJ		ug/l	C
CH-MW044D-0221	N	Benzyl butyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
CH-MW044D-0221	N	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
CH-MW044S-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
CH-MW044S-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
CH-MW045D-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C/I
CH-MW045D-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C/I
CH-MW045S-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
CH-MW045S-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S1202-0221	N	Benzyl butyl phthalate	5.10	4.00 U Q	4.00 UJ		ug/l	C
S1202-0221	N	Dimethyl phthalate	5.10	4.00 U Q	4.00 UJ		ug/l	C
S19494-0221	N	Benzyl butyl phthalate	5.40	4.30 U J1 Q	4.30 UJ		ug/l	C/M
S19494-0221	N	Dimethyl phthalate	5.40	4.30 U J1 Q	4.30 UJ		ug/l	C/M
S19495-0221	N	Benzyl butyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
S19495-0221	N	Dimethyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
S3599-0221	N	Benzyl butyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S3599-0221	N	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S48579-0221	N	Benzyl butyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S48579-0221	N	Dimethyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S58922-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S58922-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S70627-0221	N	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S70627-0221	N	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C

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Qualified Results associated with the LCS Recovery for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S70627-0221	N	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method SW8270D, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-0221MS (MS)/ 410-30212-13MS	Dimethyl phthalate	41.76	45 - 127	10 - 127	percent	J/UJ	M	
S19494-0221MS (MS)/ 410-30212-13MS	Benzyl butyl phthalate	52.75	53 - 134	10 - 134	percent	J/UJ	M	
S19494-0221MS (MS)/ 410-30212-13MS	Benzoic acid	54.03	10 - 47	10 - 47	percent	J/None	M	
S19494-0221MSD (SD)/ 410-30212-13MSD	Dimethyl phthalate	37.77	45 - 127	10 - 127	percent	J/UJ	M	
S19494-0221MSD (SD)/ 410-30212-13MSD	Benzyl butyl phthalate	49.27	53 - 134	10 - 134	percent	J/UJ	M	
S19494-0221MSD (SD)/ 410-30212-13MSD	Benzoic acid	48.54	10 - 47	10 - 47	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-0221	N	Benzyl butyl phthalate	5.40	4.30 U J1 Q	4.30 UJ		ug/l	C/M
S19494-0221	N	Dimethyl phthalate	5.40	4.30 U J1 Q	4.30 UJ		ug/l	C/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method SW8270D, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S19494-0221MS (SD)/ 410-30212-13MSD	4-Chloroaniline	23.97	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-0221	N	4-Chloroaniline	11.0	9.70 U J1	9.70 UJ		ug/l	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270D, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-MW045D-0221 (N)/ 410-30212-7		9.110	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-MW045S-0221 (N)/ 410-30212-3		9.200	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S70627-0221 (N)/ 410-30212-19		7.300	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW8270D, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-MW045D-0221 (N)/ 410-30212-7	2-Fluorophenol	1.000	19 - 119	10 - 119	percent	J/X	I	
CH-MW045D-0221 (N)/ 410-30212-7	Nitrobenzene-d5	25.00	44 - 120	10 - 120	percent	J/UJ	I	
CH-MW045D-0221 (N)/ 410-30212-7	2,4,6-Tribromophenol	11.00	43 - 140	10 - 140	percent	J/UJ	I	
CH-MW045D-0221 (N)/ 410-30212-7	Phenol-d5	0.4000	10 - 67	10 - 67	percent	J/X	I	
CH-MW045S-0221 (N)/ 410-30212-3	2,4,6-Tribromophenol	42.00	43 - 140	10 - 140	percent	J/UJ	I	
S70627-0221 (N)/ 410-30212-19	2-Fluorobiphenyl	41.00	44 - 119	10 - 119	percent	J/UJ	I	
S70627-0221 (N)/ 410-30212-19	2-Fluorophenol	15.00	19 - 119	10 - 119	percent	J/UJ	I	
S70627-0221 (N)/ 410-30212-19	Nitrobenzene-d5	43.00	44 - 120	10 - 120	percent	J/UJ	I	
S70627-0221 (N)/ 410-30212-19	2,4,6-Tribromophenol	35.00	43 - 140	10 - 140	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045D-0221	N	1,4-Dichlorobenzene	5.10	1.00 U	1.00 UJ		ug/l	I
CH-MW045D-0221	N	2-Chloronaphthalene	1.00	0.810 U	0.810 UJ		ug/l	I
CH-MW045D-0221	N	2-Methylphenol (o-Cresol)	2.00	1.00 U	2.00 X		ug/l	I
CH-MW045D-0221	N	4-Chloro-3-methylphenol	5.10	2.00 U	5.10 X		ug/l	I
CH-MW045D-0221	N	4-Chloroaniline	10.0	9.10 U	9.10 UJ		ug/l	I
CH-MW045D-0221	N	4-Methylphenol (p-Cresol)	2.00	1.00 U	2.00 X		ug/l	I
CH-MW045D-0221	N	Benzaldehyde	5.10	2.00 U	2.00 UJ		ug/l	I
CH-MW045D-0221	N	Benzoic acid	25.0	24.0 U	25.0 X		ug/l	I
CH-MW045D-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C/I
CH-MW045D-0221	N	Biphenyl (Diphenyl)	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045D-0221	N	Bis(2-ethylhexyl)phthalate	5.10	4.10 U	4.10 UJ		ug/l	I
CH-MW045D-0221	N	Caprolactam	7.10	6.10 U	6.10 UJ		ug/l	I
CH-MW045D-0221	N	Carbazole	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045D-0221	N	Dibenzofuran	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045D-0221	N	Diethyl phthalate	5.10	4.10 U	4.10 UJ		ug/l	I
CH-MW045D-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C/I
CH-MW045D-0221	N	Di-n-butyl phthalate	5.10	4.10 U	4.10 UJ		ug/l	I
CH-MW045D-0221	N	di-n-Octyl phthalate	11.0	10.0 U	10.0 UJ		ug/l	I
CH-MW045S-0221	N	2-Methylphenol (o-Cresol)	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045S-0221	N	4-Chloro-3-methylphenol	5.10	2.00 U	2.00 UJ		ug/l	I

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Qualified Results associated with the Surrogate for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-0221	N	4-Methylphenol (p-Cresol)	2.00	1.00 U	1.00 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S19494-0221	N	1-Methylnaphthalene	0.0540	0.0430 U J1	0.0430 UJ		ug/l	D
S19494-0221	N	2-Methylnaphthalene	0.0540	0.0430 U M J1	0.0430 UJ		ug/l	D
S19494-0221	N	Acenaphthylene	0.0540	0.0320 U J1	0.0320 UJ		ug/l	D
S19494-0221	N	Naphthalene	0.0760	0.0650 U M J1	0.0650 UJ		ug/l	D

Test Method: SW6020B Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW044S-0221	N	Aluminum	35.0	24.0 J	35.0 U		ug/l	V
S19495-0221	N	Aluminum	35.0	62.0	62.0 J	+	ug/l	V
S19495-0221	N	Barium	2.00	4.80	4.80 J	+	ug/l	V
S19495-0221	N	Sodium	200	3600	3600 J	+	ug/l	V

Test Method: SW8270D Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-0221-01	EB	Benzyl butyl phthalate	5.70	4.50 U Q	4.50 UJ		ug/l	C
CH-EB-0221-01	EB	Dimethyl phthalate	5.70	4.50 U Q	4.50 UJ		ug/l	C
CH-MW044D-0221	N	Benzyl butyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
CH-MW044D-0221	N	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
CH-MW044S-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
CH-MW044S-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
CH-MW045D-0221	N	1,4-Dichlorobenzene	5.10	1.00 U	1.00 UJ		ug/l	I
CH-MW045D-0221	N	2-Chloronaphthalene	1.00	0.810 U	0.810 UJ		ug/l	I
CH-MW045D-0221	N	2-Methylphenol (o-Cresol)	2.00	1.00 U	2.00 X		ug/l	I
CH-MW045D-0221	N	4-Chloro-3-methylphenol	5.10	2.00 U	5.10 X		ug/l	I
CH-MW045D-0221	N	4-Chloroaniline	10.0	9.10 U	9.10 UJ		ug/l	I
CH-MW045D-0221	N	4-Methylphenol (p-Cresol)	2.00	1.00 U	2.00 X		ug/l	I
CH-MW045D-0221	N	Benzaldehyde	5.10	2.00 U	2.00 UJ		ug/l	I
CH-MW045D-0221	N	Benzoic acid	25.0	24.0 U	25.0 X		ug/l	I
CH-MW045D-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C/I
CH-MW045D-0221	N	Biphenyl (Diphenyl)	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045D-0221	N	Bis(2-ethylhexyl)phthalate	5.10	4.10 U	4.10 UJ		ug/l	I
CH-MW045D-0221	N	Caprolactam	7.10	6.10 U	6.10 UJ		ug/l	I
CH-MW045D-0221	N	Carbazole	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045D-0221	N	Dibenzofuran	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045D-0221	N	Diethyl phthalate	5.10	4.10 U	4.10 UJ		ug/l	I
CH-MW045D-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C/I
CH-MW045D-0221	N	Di-n-butyl phthalate	5.10	4.10 U	4.10 UJ		ug/l	I
CH-MW045D-0221	N	di-n-Octyl phthalate	11.0	10.0 U	10.0 UJ		ug/l	I
CH-MW045S-0221	N	2-Methylphenol (o-Cresol)	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045S-0221	N	4-Chloro-3-methylphenol	5.10	2.00 U	2.00 UJ		ug/l	I
CH-MW045S-0221	N	4-Methylphenol (p-Cresol)	2.00	1.00 U	1.00 UJ		ug/l	I
CH-MW045S-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C

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Table of All Qualified Results

Test Method: SW8270D	**Extraction Method: SW3510C**							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-MW045S-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S1202-0221	N	Benzyl butyl phthalate	5.10	4.00 U Q	4.00 UJ		ug/l	C
S1202-0221	N	Dimethyl phthalate	5.10	4.00 U Q	4.00 UJ		ug/l	C
S19494-0221	N	4-Chloroaniline	11.0	9.70 U J1	9.70 UJ		ug/l	D
S19494-0221	N	Benzyl butyl phthalate	5.40	4.30 U J1 Q	4.30 UJ		ug/l	C/M
S19494-0221	N	Dimethyl phthalate	5.40	4.30 U J1 Q	4.30 UJ		ug/l	C/M
S19495-0221	N	Benzyl butyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
S19495-0221	N	Dimethyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
S3599-0221	N	Benzyl butyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S3599-0221	N	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S48579-0221	N	Benzyl butyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S48579-0221	N	Dimethyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S58922-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S58922-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S70627-0221	N	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S70627-0221	N	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S70627-0221	N	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S19494-0221	N	PCB-1016 (Aroclor 1016)	0.540	0.320 U J1	0.540 X	0.320 U	

Modified Qualifiers for test method SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-MW045D-0221	N	1,4-Dichlorobenzene	5.10	1.00 U	5.10 X	1.00 UJ	I
CH-MW045D-0221	N	2-Chloronaphthalene	1.00	0.810 U	1.00 X	0.810 UJ	I
CH-MW045D-0221	N	2-Methylphenol (o-Cresol)	2.00	1.00 U	2.00 X	2.00 X	I
CH-MW045D-0221	N	4-Chloro-3-methylphenol	5.10	2.00 U	5.10 X	5.10 X	I
CH-MW045D-0221	N	4-Chloroaniline	10.0	9.10 U	10.0 X	9.10 UJ	I
CH-MW045D-0221	N	4-Methylphenol (p-Cresol)	2.00	1.00 U	2.00 X	2.00 X	I
CH-MW045D-0221	N	Benzaldehyde	5.10	2.00 U	5.10 X	2.00 UJ	I
CH-MW045D-0221	N	Benzoic acid	25.0	24.0 U	25.0 X	25.0 X	I
CH-MW045D-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	5.10 X	4.10 UJ	C/I
CH-MW045D-0221	N	Biphenyl (Diphenyl)	2.00	1.00 U	2.00 X	1.00 UJ	I
CH-MW045D-0221	N	Bis(2-ethylhexyl)phthalate	5.10	4.10 U	5.10 X	4.10 UJ	I
CH-MW045D-0221	N	Caprolactam	7.10	6.10 U	7.10 X	6.10 UJ	I
CH-MW045D-0221	N	Carbazole	2.00	1.00 U	2.00 X	1.00 UJ	I
CH-MW045D-0221	N	Dibenzofuran	2.00	1.00 U	2.00 X	1.00 UJ	I
CH-MW045D-0221	N	Diethyl phthalate	5.10	4.10 U	5.10 X	4.10 UJ	I
CH-MW045D-0221	N	Dimethyl phthalate	5.10	4.10 U Q	5.10 X	4.10 UJ	C/I
CH-MW045D-0221	N	Di-n-butyl phthalate	5.10	4.10 U	5.10 X	4.10 UJ	I
CH-MW045D-0221	N	di-n-Octyl phthalate	11.0	10.0 U	11.0 X	10.0 UJ	I
CH-MW045S-0221	N	1,4-Dichlorobenzene	5.10	1.00 U	1.00 UJ	1.00 U	
CH-MW045S-0221	N	2-Chloronaphthalene	1.00	0.810 U	0.810 UJ	0.810 U	
CH-MW045S-0221	N	2-Methylphenol (o-Cresol)	2.00	1.00 U	1.00 UJ	1.00 UJ	I
CH-MW045S-0221	N	4-Chloro-3-methylphenol	5.10	2.00 U	2.00 UJ	2.00 UJ	I
CH-MW045S-0221	N	4-Chloroaniline	10.0	9.20 U	9.20 UJ	9.20 U	
CH-MW045S-0221	N	4-Methylphenol (p-Cresol)	2.00	1.00 U	1.00 UJ	1.00 UJ	I
CH-MW045S-0221	N	Benzaldehyde	5.10	2.00 U	2.00 UJ	2.00 U	
CH-MW045S-0221	N	Benzoic acid	25.0	24.0 U	24.0 UJ	24.0 U	
CH-MW045S-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ	4.10 UJ	C
CH-MW045S-0221	N	Biphenyl (Diphenyl)	2.00	1.00 U	1.00 UJ	1.00 U	
CH-MW045S-0221	N	Bis(2-ethylhexyl)phthalate	5.10	4.10 U	4.10 UJ	4.10 U	
CH-MW045S-0221	N	Caprolactam	7.10	6.10 U	6.10 UJ	6.10 U	
CH-MW045S-0221	N	Carbazole	2.00	1.00 U	1.00 UJ	1.00 U	
CH-MW045S-0221	N	Dibenzofuran	2.00	1.00 U	1.00 UJ	1.00 U	
CH-MW045S-0221	N	Diethyl phthalate	5.10	4.10 U	4.10 UJ	4.10 U	
CH-MW045S-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ	4.10 UJ	C
CH-MW045S-0221	N	Di-n-butyl phthalate	5.10	4.10 U	4.10 UJ	4.10 U	
CH-MW045S-0221	N	di-n-Octyl phthalate	11.0	10.0 U	10.0 UJ	10.0 U	
S70627-0221	N	1,4-Dichlorobenzene	5.50	1.10 U	1.10 UJ	1.10 U	

Data Validation Report for 410-30212-1_52_2a_FUDSChem

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S70627-0221	N	2-Chloronaphthalene	1.10	0.880 U	0.880 UJ	0.880 U	
S70627-0221	N	2-Methylphenol (o-Cresol)	2.20	1.10 U	1.10 UJ	1.10 U	
S70627-0221	N	4-Chloro-3-methylphenol	5.50	2.20 U	2.20 UJ	2.20 U	
S70627-0221	N	4-Chloroaniline	11.0	9.90 U	9.90 UJ	9.90 U	
S70627-0221	N	4-Methylphenol (p-Cresol)	2.20	1.10 U	1.10 UJ	1.10 U	
S70627-0221	N	Benzaldehyde	5.50	2.20 U	2.20 UJ	2.20 U	
S70627-0221	N	Benzoic acid	28.0	27.0 U	27.0 UJ	27.0 U	
S70627-0221	N	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ	4.40 UJ	C
S70627-0221	N	Biphenyl (Diphenyl)	2.20	1.10 U	1.10 UJ	1.10 U	
S70627-0221	N	Bis(2-ethylhexyl)phthalate	5.50	4.40 U	4.40 UJ	4.40 U	
S70627-0221	N	Caprolactam	7.70	6.60 U	6.60 UJ	6.60 U	
S70627-0221	N	Carbazole	2.20	1.10 U	1.10 UJ	1.10 U	
S70627-0221	N	Dibenzofuran	2.20	1.10 U	1.10 UJ	1.10 U	
S70627-0221	N	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ	4.40 UJ	C
S70627-0221	N	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ	4.40 UJ	C
S70627-0221	N	Di-n-butyl phthalate	5.50	4.40 U	4.40 UJ	4.40 U	
S70627-0221	N	di-n-Octyl phthalate	12.0	11.0 U	11.0 UJ	11.0 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Bias	
-	The result may be biased low
+	The result may be biased high
Note - The bias field is a separate field; however, it is an integral part of the final flag (qualifier) on the sample result	

Data Validation Report for 410-30212-1_52_2a_FUDSChem

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			cooler temperature receipt 0.3°C, 0.7°C, 1.4°C, 1.8°C, 3.0°C and 3.7°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?		•		<20% RPD for 1-methylnaphthalene, acenaphthylene, 2-methylnaphthalene, naphthalene
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-30212-1_52_2a_FUDSChem

Review Questions

Method: E218.6 (Hexavalent Chromium by EPA Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of cooler receipt 0.3°C, 0.7°C, 1.4°C, 1.8°C, 3.0°C and 3.7°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		see outlier report
Was the MS/MSD RPD within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW6020B (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of cooler receipt 0.3°C, 0.7°C, 1.4°C, 1.8°C, 3.0°C and 3.7°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		see outlier report
Were target analytes in the field blank less than MDL?		•		see outlier report
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		see outlier report
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW7470A (Mercury in Water (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of cooler receipt 0.3°C, 0.7°C, 1.4°C, 1.8°C, 3.0°C and 3.7°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW8082A (Polychlorinated Biphenyls (PCB))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			cooler temperature receipt 0.3°C, 0.7°C, 1.4°C, 1.8°C, 3.0°C and 3.7°C
Were holding times met?	•			eQAPP states 7-day prep hold time; EPA states 365 days HT; validator modified qualifiers
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			0% MS recovery in 1016 but LCS and MSD recovery good; lab misidentified the aroclor in the MS and the lab revised the SDG and reloaded it
Was the MS/MSD RPD within project acceptance limits?	•			RPD criteria met now that the Aroclor is corrected
Were surrogate recoveries within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			CCV associated with batch 410-98151 recovered above the upper control limit for Tetrachloro-m-xylene on column 1 at 26%. Surrogate %R within acceptance criteria and the data have been reported. The associated samples are: CH-MW045D-0221, S58922-0221, S48579-0221, S19494-0221, S19495-0221, S1202-0221, S70627-0221, CH-EB-0221-01 and S3599-0221. If Stage 2b were performed (i.e., results would not be qualified since all of the results were nondetect)
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Data Validation Report for 410-30212-1_52_2a_FUDSChem

Review Questions

Method: SW8260C (Volatile Organic Compounds by GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?		•		S70627-0221 (410-30212-19). The COC lists 13 containers, only 10 were received. Found missing vials left behind
Were samples preserved properly and received in good condition?	•			cooler temperature receipt 0.3°C, 0.7°C, 1.4°C, 1.8°C, 3.0°C and 3.7°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		see outlier report
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW8270D (Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			coolers temperature receipt 0.3°C, 0.7°C, 1.4°C, 1.8°C, 3.0°C and 3.7°C
Were holding times met?		•		see surrogate recovery comments
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		samples CH-MW045S-0221 and CH-MW045D-0221 (see outlier report); samples were re-prepped outside hold time; first set of results were reported (only acid compounds were qualified in -45S; for -45D (acid surrogates were low below 10% and low recoveries were confirmed in the second set of results)possible matrix interference; validator flagged X to all acid compounds results; and S76027-0221 (second analytical run) had surrogate recovery outside control limits - see outlier report. first set of results were reported
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		LCS recovery failed low for dimethyl phthalate and benzyl butyl phthalate; lab reported with comment\narration
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		MS recovery failed low for dimethyl phthalate and benzyl butyl phthalate for S19494-0221
Was the MS/MSD RPD within project acceptance limits?		•		high RPD for 4-chloroaniline
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-30714-1_52_2a_FUDSChem

Facility:	C02NY0024-03, Camp Hero
Event:	Camp Hero February 2021
SDG:	410-30714-1_52_2a_FUDSChem
Guidance Document:	Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016
Prime Contractor:	AECOM, Arlington, VA
Project Manager:	Mark MacEwan
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	AECOM
Data Review Level:	S2AVEM
Primary Data Reviewer:	Devon Chicoine, Project Chemist
Date Submitted:	March 18, 2021

Field Sample ID	**Lab Sample ID**	**Matrix**	**Type/Type Code**	BNASIM	E218.6	E218.6 - Dissolved	SW6020B	SW6020B - Dissolved	SW7470A	SW7470A - Dissolved	SW8082A	SW8260C	SW8270D
CH-EB-0221-02	410-30714-9	Water	Equipment Blank/EB	X	X		X		X		X	X	X
CH-EB-0221-03	410-30714-10	Water	Equipment Blank/EB	X	X		X		X		X	X	X
CH-EB-0221-04	410-30714-11	Water	Equipment Blank/EB	X	X		X		X		X	X	X
CH-TB-0221-02	410-30714-12	Water	Trip Blank/TB									X	
S17231S-0221	410-30714-1	Water	Field Sample/N	X	X		X		X		X	X	X
S17231S-0221	410-30714-2	Water	Field Sample/N			X		X		X			
S17231S-0221D	410-30714-3	Water	Field Duplicate/FD	X	X		X		X		X	X	X
S17231S-0221D	410-30714-4	Water	Field Duplicate/FD			X		X		X			
S79269-0221	410-30714-5	Water	Field Sample/N	X	X		X		X		X	X	X
S79269-0221	410-30714-6	Water	Field Sample/N			X		X		X			
S79269-0221D	410-30714-7	Water	Field Duplicate/FD	X	X		X		X		X	X	X
S79269-0221D	410-30714-8	Water	Field Duplicate/FD			X		X		X			

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016 and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by AECOM, Arlington, VA; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-30714-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 45 results (4.87%) out of the 924 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
E218.6	No additional comments; see Checklist for detail.
SW6020B	No additional comments; see Checklist for detail.
SW7470A	No additional comments; see Checklist for detail.
SW8082A	No additional comments; see Checklist for detail.
SW8260C	No additional comments; see Checklist for detail.
SW8270D	No additional comments; see Checklist for detail.

Devon Chicoine

March 18, 2021

Reviewed by Devon Chicoine, Project Chemist, AECOM

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Data Validation Report for 410-30714-1_52_2a_FUDSChem

Quality Control Outliers for test method BNASIM, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S17231S-0221 (N)/ 410-30714-3	Pyrene	0.06800	< 0.051	< 0.051	ug/l	J/UJ	D3	
S17231S-0221 (N)/ 410-30714-3	Phenanthrene	0.1100	< 0.072	< 0.072	ug/l	J/UJ	D3	
S17231S-0221 (N)/ 410-30714-3	Fluoranthene	0.1400	< 0.051	< 0.051	ug/l	J/UJ	D3	
S79269-0221 (N)/ 410-30714-7	Naphthalene	0.1100	< 0.075	< 0.075	ug/l	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S17231S-0221	N	Fluoranthene	0.0510	0.0310 U	0.0310 UJ		ug/l	D3
S17231S-0221	N	Phenanthrene	0.0720	0.0610 U	0.0610 UJ		ug/l	D3
S17231S-0221	N	Pyrene	0.0510	0.0310 U	0.0310 UJ		ug/l	D3
S17231S-0221D	FD	Fluoranthene	0.0550	0.140 M	0.140 J	-	ug/l	D3/I
S17231S-0221D	FD	Phenanthrene	0.0770	0.110	0.110 J	-	ug/l	D3/I
S17231S-0221D	FD	Pyrene	0.0550	0.0680	0.0680 J	-	ug/l	D3/I
S79269-0221	N	Naphthalene	0.0750	0.110 M B	0.110 J	-	ug/l	D3
S79269-0221D	FD	Naphthalene	0.0710	0.0600 U	0.0600 UJ		ug/l	D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
MB 410-99295/1-A (LB)/ MB 410-99295/1-A	Naphthalene	0.03940	< 0.03	< 0.07	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method BNASIM, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-0221-03 (EB)/ 410-30714-10		7.570	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-EB-0221-04 (EB)/ 410-30714-11		7.560	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-0221D (FD)/ 410-30714-3		8.550	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-0221 (N)/ 410-30714-5		10.91	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW6020B, Total, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-0221-03 (EB)/ 410-30714-10	Magnesium	13.00	< 10	< 50	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020B, Total, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
MB 410-98331/1-A (LB)/ MB 410-98331/1-A	Barium	1.850	< 0.75	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW8082A, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-0221-02 (EB)/ 410-30714-9	PCB-1260 (Aroclor 1260)	0.8600	< 0.1	< 0.52	ug/l	U/None	V	
CH-EB-0221-03 (EB)/ 410-30714-10	PCB-1260 (Aroclor 1260)	0.5700	< 0.11	< 0.54	ug/l	U/None	V	
CH-EB-0221-04 (EB)/ 410-30714-11	PCB-1260 (Aroclor 1260)	0.2900	< 0.11	< 0.53	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Data Validation Report for 410-30714-1_52_2a_FUDSChem

Quality Control Outliers for test method SW8082A, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-0221-02 (EB)/ 410-30714-9		7.010	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-EB-0221-02 (EB)/ 410-30714-9		7.010	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-0221 (N)/ 410-30714-1		7.290	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-0221 (N)/ 410-30714-1		7.290	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-0221D (FD)/ 410-30714-3		7.290	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-0221D (FD)/ 410-30714-3		7.290	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-0221 (N)/ 410-30714-5		7.230	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-0221 (N)/ 410-30714-5		7.230	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-0221D (FD)/ 410-30714-7		7.230	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-0221D (FD)/ 410-30714-7		7.230	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Quality Control Outliers for test method SW8260C, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-0221-02 (EB)/ 410-30714-9	Acetone	1.800	< 0.7	< 20	ug/l	U/None	V	
CH-EB-0221-03 (EB)/ 410-30714-10	Chloroform	0.2300	< 0.2	< 1	ug/l	U/None	V	
CH-EB-0221-04 (EB)/ 410-30714-11	Chloroform	0.2000	< 0.2	< 1	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270D, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Dimethyl phthalate	16.24	45 - 127	10 - 127	percent	J/UJ	C	
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Benzyl butyl phthalate	29.60	53 - 134	10 - 134	percent	J/UJ	C	
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Diethyl phthalate	51.20	56 - 125	10 - 125	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-0221-02	EB	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-02	EB	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-02	EB	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-03	EB	Benzyl butyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
CH-EB-0221-03	EB	Diethyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
CH-EB-0221-03	EB	Dimethyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
CH-EB-0221-04	EB	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-04	EB	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-04	EB	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S17231S-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S17231S-0221	N	Diethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S17231S-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S17231S-0221D	FD	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S17231S-0221D	FD	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S17231S-0221D	FD	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S79269-0221	N	Benzyl butyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S79269-0221	N	Diethyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S79269-0221	N	Dimethyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S79269-0221D	FD	Benzyl butyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S79269-0221D	FD	Diethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S79269-0221D	FD	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

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Quality Control Outliers for test method SW8270D, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
CH-EB-0221-02 (EB)/ 410-30714-9		7.580	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-EB-0221-03 (EB)/ 410-30714-10		7.570	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
CH-EB-0221-04 (EB)/ 410-30714-11		7.560	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-0221 (N)/ 410-30714-1		8.550	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S17231S-0221D (FD)/ 410-30714-3		8.550	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-0221 (N)/ 410-30714-5		8.490	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
S79269-0221D (FD)/ 410-30714-7		8.490	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270D, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
S17231S-0221 (N)/ 410-30714-1	2,4,6-Tribromophenol	28.00	43 - 140	10 - 140	percent	J/UJ	I	
S17231S-0221D (FD)/ 410-30714-3	2,4,6-Tribromophenol	23.00	43 - 140	10 - 140	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

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Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S17231S-0221	N	Fluoranthene	0.0510	0.0310 U	0.0310 UJ		ug/l	D3
S17231S-0221	N	Phenanthrene	0.0720	0.0610 U	0.0610 UJ		ug/l	D3
S17231S-0221	N	Pyrene	0.0510	0.0310 U	0.0310 UJ		ug/l	D3
S17231S-0221D	FD	Fluoranthene	0.0550	0.140 M	0.140 J	-	ug/l	D3/I
S17231S-0221D	FD	Phenanthrene	0.0770	0.110	0.110 J	-	ug/l	D3/I
S17231S-0221D	FD	Pyrene	0.0550	0.0680	0.0680 J	-	ug/l	D3/I
S79269-0221	N	Naphthalene	0.0750	0.110 M B	0.110 J	-	ug/l	D3
S79269-0221D	FD	Naphthalene	0.0710	0.0600 U	0.0600 UJ		ug/l	D3

Test Method: SW8270D Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
CH-EB-0221-02	EB	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-02	EB	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-02	EB	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-03	EB	Benzyl butyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
CH-EB-0221-03	EB	Diethyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
CH-EB-0221-03	EB	Dimethyl phthalate	5.30	4.20 U Q	4.20 UJ		ug/l	C
CH-EB-0221-04	EB	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-04	EB	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
CH-EB-0221-04	EB	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S17231S-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S17231S-0221	N	Diethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S17231S-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S17231S-0221D	FD	Benzyl butyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S17231S-0221D	FD	Diethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S17231S-0221D	FD	Dimethyl phthalate	5.50	4.40 U Q	4.40 UJ		ug/l	C
S79269-0221	N	Benzyl butyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S79269-0221	N	Diethyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S79269-0221	N	Dimethyl phthalate	5.40	4.30 U Q	4.30 UJ		ug/l	C
S79269-0221D	FD	Benzyl butyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S79269-0221D	FD	Diethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C
S79269-0221D	FD	Dimethyl phthalate	5.00	4.00 U Q	4.00 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-EB-0221-03	EB	1,4-Dioxane (p-Dioxane)	0.340	0.230 U	0.230 UJ	0.230 U	
CH-EB-0221-03	EB	1-Methylnaphthalene	0.0570	0.0450 U	0.0450 UJ	0.0450 U	
CH-EB-0221-03	EB	2-Methylnaphthalene	0.0570	0.0450 U	0.0450 UJ	0.0450 U	
CH-EB-0221-03	EB	Acenaphthene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Acenaphthylene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Anthracene	0.0570	0.0340 U M	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Benzo(a)anthracene	0.0570	0.0340 U M	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Benzo(a)pyrene	0.0570	0.0340 U M	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Benzo(b)fluoranthene	0.0570	0.0340 U M	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Benzo(g,h,i)perylene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Benzo(k)fluoranthene	0.0570	0.0340 U M	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Chrysene	0.0570	0.0340 U M	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Dibenz(a,h)anthracene	0.0570	0.0450 U	0.0450 UJ	0.0450 U	
CH-EB-0221-03	EB	Fluoranthene	0.0570	0.0340 U M	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Fluorene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-03	EB	Indeno(1,2,3-c,d)pyrene	0.0570	0.0450 U M	0.0450 UJ	0.0450 U	
CH-EB-0221-03	EB	Naphthalene	0.0790	0.0680 U	0.0680 UJ	0.0680 U	
CH-EB-0221-03	EB	Phenanthrene	0.0790	0.0680 U	0.0680 UJ	0.0680 U	
CH-EB-0221-03	EB	Pyrene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	1,4-Dioxane (p-Dioxane)	0.340	0.230 U	0.230 UJ	0.230 U	
CH-EB-0221-04	EB	1-Methylnaphthalene	0.0570	0.0450 U	0.0450 UJ	0.0450 U	
CH-EB-0221-04	EB	2-Methylnaphthalene	0.0570	0.0450 U	0.0450 UJ	0.0450 U	
CH-EB-0221-04	EB	Acenaphthene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Acenaphthylene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Anthracene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Benzo(a)anthracene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Benzo(a)pyrene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Benzo(b)fluoranthene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Benzo(g,h,i)perylene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Benzo(k)fluoranthene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Chrysene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Dibenz(a,h)anthracene	0.0570	0.0450 U	0.0450 UJ	0.0450 U	
CH-EB-0221-04	EB	Fluoranthene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Fluorene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
CH-EB-0221-04	EB	Indeno(1,2,3-c,d)pyrene	0.0570	0.0450 U	0.0450 UJ	0.0450 U	
CH-EB-0221-04	EB	Naphthalene	0.0790	0.0680 U	0.0680 UJ	0.0680 U	
CH-EB-0221-04	EB	Phenanthrene	0.0790	0.0680 U	0.0680 UJ	0.0680 U	
CH-EB-0221-04	EB	Pyrene	0.0570	0.0340 U	0.0340 UJ	0.0340 U	
S17231S-0221D	FD	1,4-Dioxane (p-Dioxane)	0.330	0.220 U	0.220 UJ	0.220 UJ	I
S17231S-0221D	FD	1-Methylnaphthalene	0.0550	0.0440 U M	0.0440 UJ	0.0440 UJ	I
S17231S-0221D	FD	2-Methylnaphthalene	0.0550	0.0440 U M	0.0440 UJ	0.0440 UJ	I

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S17231S-0221D	FD	Acenaphthene	0.0550	0.0290 J M	0.0290 J	0.0290 J	I/TR
S17231S-0221D	FD	Acenaphthylene	0.0550	0.0330 U	0.0330 UJ	0.0330 UJ	I
S17231S-0221D	FD	Anthracene	0.0550	0.0330 U M	0.0330 UJ	0.0330 UJ	I
S17231S-0221D	FD	Benzo(a)anthracene	0.0550	0.0290 J	0.0290 J	0.0290 J	I/TR
S17231S-0221D	FD	Benzo(a)pyrene	0.0550	0.0250 J M	0.0250 J	0.0250 J	I/TR
S17231S-0221D	FD	Benzo(b)fluoranthene	0.0550	0.0470 J	0.0470 J	0.0470 J	I/TR
S17231S-0221D	FD	Benzo(g,h,i)perylene	0.0550	0.0330 U M	0.0330 UJ	0.0330 UJ	I
S17231S-0221D	FD	Benzo(k)fluoranthene	0.0550	0.0170 J	0.0170 J	0.0170 J	I/TR
S17231S-0221D	FD	Chrysene	0.0550	0.0220 J M	0.0220 J	0.0220 J	I/TR
S17231S-0221D	FD	Dibenz(a,h)anthracene	0.0550	0.0440 U	0.0440 UJ	0.0440 UJ	I
S17231S-0221D	FD	Fluoranthene	0.0550	0.140 M	0.140 J	0.140 J	D3/I
S17231S-0221D	FD	Fluorene	0.0550	0.0280 J	0.0280 J	0.0280 J	I/TR
S17231S-0221D	FD	Indeno(1,2,3-c,d)pyrene	0.0550	0.0440 U M	0.0440 UJ	0.0440 UJ	I
S17231S-0221D	FD	Naphthalene	0.0770	0.0660 U M	0.0660 UJ	0.0660 UJ	I
S17231S-0221D	FD	Phenanthrene	0.0770	0.110	0.110 J	0.110 J	D3/I
S17231S-0221D	FD	Pyrene	0.0550	0.0680	0.0680 J	0.0680 J	D3/I
S79269-0221	N	1,4-Dioxane (p-Dioxane)	0.320	0.210 U	0.210 UJ	0.210 U	
S79269-0221	N	1-Methylnaphthalene	0.0540	0.0430 U	0.0430 UJ	0.0430 U	
S79269-0221	N	2-Methylnaphthalene	0.0540	0.0240 J M	0.0240 J	0.0240 J	TR
S79269-0221	N	Acenaphthene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Acenaphthylene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Anthracene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Benzo(a)anthracene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Benzo(a)pyrene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Benzo(b)fluoranthene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Benzo(g,h,i)perylene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Benzo(k)fluoranthene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Chrysene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Dibenz(a,h)anthracene	0.0540	0.0430 U	0.0430 UJ	0.0430 U	
S79269-0221	N	Fluoranthene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Fluorene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	
S79269-0221	N	Indeno(1,2,3-c,d)pyrene	0.0540	0.0430 U	0.0430 UJ	0.0430 U	
S79269-0221	N	Naphthalene	0.0750	0.110 M B	0.110 J	0.110 J	D3
S79269-0221	N	Phenanthrene	0.0750	0.0640 U	0.0640 UJ	0.0640 U	
S79269-0221	N	Pyrene	0.0540	0.0320 U	0.0320 UJ	0.0320 U	

Modified Qualifiers for test method SW8082A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-EB-0221-02	EB	PCB, Total	0.520	0.860	0.860 J	0.860	
CH-EB-0221-02	EB	PCB-1016 (Aroclor 1016)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-EB-0221-02	EB	PCB-1221 (Aroclor 1221)	0.520	0.310 U	0.310 UJ	0.310 U	
CH-EB-0221-02	EB	PCB-1232 (Aroclor 1232)	0.520	0.310 U M	0.310 UJ	0.310 U	

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8082A							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-EB-0221-02	EB	PCB-1242 (Aroclor 1242)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-EB-0221-02	EB	PCB-1248 (Aroclor 1248)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-EB-0221-02	EB	PCB-1254 (Aroclor 1254)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-EB-0221-02	EB	PCB-1260 (Aroclor 1260)	0.520	0.860	0.860 J	0.860	
CH-EB-0221-02	EB	PCB-1262 (Aroclor 1262)	0.520	0.310 U M	0.310 UJ	0.310 U	
CH-EB-0221-02	EB	PCB-1268 (Aroclor 1268)	0.520	0.310 U M	0.310 UJ	0.310 U	
S17231S-0221	N	PCB, Total	0.510	0.300 U	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1016 (Aroclor 1016)	0.510	0.300 U M	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1221 (Aroclor 1221)	0.510	0.300 U	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1232 (Aroclor 1232)	0.510	0.300 U M	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1242 (Aroclor 1242)	0.510	0.300 U M	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1248 (Aroclor 1248)	0.510	0.300 U M	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1254 (Aroclor 1254)	0.510	0.300 U M	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1260 (Aroclor 1260)	0.510	0.300 U M	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1262 (Aroclor 1262)	0.510	0.300 U M	0.300 UJ	0.300 U	
S17231S-0221	N	PCB-1268 (Aroclor 1268)	0.510	0.300 U M	0.300 UJ	0.300 U	
S17231S-0221D	FD	PCB, Total	0.520	0.310 U	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1016 (Aroclor 1016)	0.520	0.310 U M	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1221 (Aroclor 1221)	0.520	0.310 U	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1232 (Aroclor 1232)	0.520	0.310 U M	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1242 (Aroclor 1242)	0.520	0.310 U M	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1248 (Aroclor 1248)	0.520	0.310 U M	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1254 (Aroclor 1254)	0.520	0.310 U M	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1260 (Aroclor 1260)	0.520	0.310 U M	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1262 (Aroclor 1262)	0.520	0.310 U M	0.310 UJ	0.310 U	
S17231S-0221D	FD	PCB-1268 (Aroclor 1268)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221	N	PCB, Total	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1016 (Aroclor 1016)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1221 (Aroclor 1221)	0.520	0.310 U	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1232 (Aroclor 1232)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1242 (Aroclor 1242)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1248 (Aroclor 1248)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1254 (Aroclor 1254)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1260 (Aroclor 1260)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1262 (Aroclor 1262)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221	N	PCB-1268 (Aroclor 1268)	0.520	0.310 U M	0.310 UJ	0.310 U	
S79269-0221D	FD	PCB, Total	0.530	0.320 U	0.320 UJ	0.320 U	
S79269-0221D	FD	PCB-1016 (Aroclor 1016)	0.530	0.320 U M	0.320 UJ	0.320 U	
S79269-0221D	FD	PCB-1221 (Aroclor 1221)	0.530	0.320 U M	0.320 UJ	0.320 U	
S79269-0221D	FD	PCB-1232 (Aroclor 1232)	0.530	0.320 U M	0.320 UJ	0.320 U	
S79269-0221D	FD	PCB-1242 (Aroclor 1242)	0.530	0.320 U M	0.320 UJ	0.320 U	

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Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8082A							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
S79269-0221D	FD	PCB-1248 (Aroclor 1248)	0.530	0.320 U M	0.320 UJ	0.320 U	
S79269-0221D	FD	PCB-1254 (Aroclor 1254)	0.530	0.320 U M	0.320 UJ	0.320 U	
S79269-0221D	FD	PCB-1260 (Aroclor 1260)	0.530	0.320 U M	0.320 UJ	0.320 U	
S79269-0221D	FD	PCB-1262 (Aroclor 1262)	0.530	0.320 U M	0.320 UJ	0.320 U	
S79269-0221D	FD	PCB-1268 (Aroclor 1268)	0.530	0.320 U M	0.320 UJ	0.320 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

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Reason Code Definitions

Code	Definition
C	LCS Recovery
D3	Field Duplicate RPD
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

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Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			3 coolers at receipt time were 1.8°C, 2.5°C and 3.3°C
Were holding times met?	•			samples missed prep hold time for CH-EB-0221-03, CH-EB-0221-04 according to ADR but was recommended HT not be assessed on a date within 7 days of collection data; validator modified the qualifiers
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		S17231S-0221D surrogate fluoranthene-d10 at 49% (65-129%) and 1-methylnapthalene-d10 at 39% (49-115%); sample was re-prepped outside hold with acceptable recoveries; initial results reported and flagged
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		naphthalene was detected at 0.0394 ug/L in batch 410-99295; all affected samples were re-extracted outside holding time with acceptable results; results reported from initial extraction
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		see outlier report for sample S17231S-0221/D and S79629-0221/D
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: E218.6 (Hexavalent Chromium by EPA Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			3 coolers at receipt time were 1.8°C, 2.5°C and 3.3°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW6020B (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			3 coolers at receipt time were 1.8°C, 2.5°C and 3.3°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		see outlier report
Were target analytes in the field blank less than MDL?		•		see outlier report
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW7470A (Mercury in Water (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			3 coolers at receipt time were 1.8°C, 2.5°C and 3.3°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW8082A (Polychlorinated Biphenyls (PCB))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			3 coolers at receipt time were 1.8°C, 2.5°C and 3.3°C
Were holding times met?	•			eQAPP states 7-day prep hold time; EPA states 365 days HT; validator modified qualifiers
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		see outlier report; PCB-1260 was detected in the EBs but not in the samples
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW8260C (Volatile Organic Compounds by GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			data for S70627-0221 is reported in SDG J30712 (VOC vials were left behind and shipped out a couple days later)
Were samples preserved properly and received in good condition?	•			3 coolers at receipt time were 1.8°C, 2.5°C and 3.3°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		see outlier report
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			response for vinyl chloride in the CCV marginally exceeds the DoD acceptance criteria, biased low, on analytical batch 410-99306; (not part of Stage 2a, if Stage 2b were performed (results for vinyl chloride in associated samples would be qualified J-/UJ
Were DoD QSM corrective actions followed if deviations were noted?		•		results were reported without valid CCVs (vinyl chloride results were 20.5%-marginally out)
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW8270D (Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		LCS 99300/2-A recovery outside control limits for dimethyl phthalate at 16% (45-127%), benzyl butyl phthalate at 29% (53-134%) and diethyl phthalate at 51% (56-125); samples were re-prepped outside hold time with similar recovery; initial results reported
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		LCS 99300/2-A recovery outside control limits for dimethyl phthalate at 16% (45-127%), benzyl butyl phthalate at 29% (53-134%) and diethyl phthalate at 51% (56-125); samples were re-prepped outside hold time with similar recovery; initial results were flagged and reason code "C"
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-30726-1_52_2a_FUDSChem

Facility:	C02NY0024-03, Camp Hero
Event:	Camp Hero February 2021
SDG:	410-30726-1_52_2a_FUDSChem
Guidance Document:	Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016
Prime Contractor:	AECOM, Arlington, VA
Project Manager:	Mark MacEwan
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	AECOM
Data Review Level:	S2AVEM
Primary Data Reviewer:	Devon Chicoine, Project Chemist
Date Submitted:	March 16, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	E218.6	E218.6 - Dissolved	SW6020B	SW6020B - Dissolved	SW7470A	SW7470A - Dissolved	SW8082A	SW8260C	SW8270D
CH-TB-0221-03	410-30726-3	Water	Trip Blank/TB									X	
S76304-0221	410-30726-1	Water	Field Sample/N	X	X		X		X		X	X	X
S76304-0221	410-30726-2	Water	Field Sample/N			X		X		X			

Data Validation Report for 410-30726-1_52_2a_FUDSChem

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Quality Assurance Project Plan, Remedial Investigation Former Camp Hero, Montauk, New York, June 2016 and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by AECOM, Arlington, VA; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-30726-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Extracted Internal Standard
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 43 results (24.29%) out of the 177 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
E218.6	No additional comments; see Checklist for detail.
SW6020B	No additional comments; see Checklist for detail.
SW7470A	No additional comments; see Checklist for detail.
SW8082A	No additional comments; see Checklist for detail.
SW8260C	No additional comments; see Checklist for detail.
SW8270D	No additional comments; see Checklist for detail.

Devon Chicoine

March 16, 2021

Reviewed by Devon Chicoine, Project Chemist, AECOM

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
MB 410-99295/1-A (LB)/ MB 410-99295/1-A	Naphthalene	0.03940	< 0.03	< 0.07	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020B, Total, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
MB 410-98331/1-A (LB)/ MB 410-98331/1-A	Barium	1.850	< 0.75	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270D, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Dimethyl phthalate	16.24	45 - 127	10 - 127	percent	J/UJ	C	
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Benzyl butyl phthalate	29.60	53 - 134	10 - 134	percent	J/UJ	C	
LCS 410-99300/2-A (BS)/ LCS 410-99300/2-A	Diethyl phthalate	51.20	56 - 125	10 - 125	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270D

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S76304-0221	N	Diethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S76304-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: SW8270D   Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
S76304-0221	N	Benzyl butyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S76304-0221	N	Diethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C
S76304-0221	N	Dimethyl phthalate	5.10	4.10 U Q	4.10 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-TB-0221-03	TB	1,1,1,2-Tetrachloroethane	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	1,1,1-Trichloroethane	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	1,1,2-Trichloroethane	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	1,1-Dichloroethane	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	1,1-Dichloroethene	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	1,2,3-Trichlorobenzene	5.00	1.00 U	1.00 U	1.00 UJ	P
CH-TB-0221-03	TB	1,2,4-Trimethylbenzene	5.00	2.00 U	2.00 U	2.00 UJ	P
CH-TB-0221-03	TB	1,3,5-Trimethylbenzene	5.00	1.00 U	1.00 U	1.00 UJ	P
CH-TB-0221-03	TB	1,4-Dioxane (p-Dioxane)	250	100 U	100 U	100 UJ	P
CH-TB-0221-03	TB	2-Butanone (MEK)	10.0	1.00 U	1.00 U	1.00 UJ	P
CH-TB-0221-03	TB	4-Methyl-2-pentanone (MIBK)	10.0	1.00 U	1.00 U	1.00 UJ	P
CH-TB-0221-03	TB	Acetone	20.0	2.00 U	2.00 U	2.00 UJ	P
CH-TB-0221-03	TB	Benzene	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Carbon disulfide	5.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Carbon tetrachloride	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Chloroethane	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Chloroform	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Cyclohexane	5.00	2.00 U	2.00 U	2.00 UJ	P
CH-TB-0221-03	TB	Ethylbenzene	1.00	0.800 U	0.800 U	0.800 UJ	P
CH-TB-0221-03	TB	Isopropylbenzene (Cumene)	5.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	m,p-Xylene	5.00	2.00 U	2.00 U	2.00 UJ	P
CH-TB-0221-03	TB	Methyl acetate	5.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Methylcyclohexane	5.00	1.00 U	1.00 U	1.00 UJ	P
CH-TB-0221-03	TB	Methylene chloride	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	n-Butylbenzene	5.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	n-Propylbenzene	5.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	o-Xylene	1.00	0.800 U	0.800 U	0.800 UJ	P
CH-TB-0221-03	TB	p-Cymene (p-Isopropyltoluene)	5.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	sec-Butylbenzene	5.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	tert-Butylbenzene	5.00	1.00 U	1.00 U	1.00 UJ	P
CH-TB-0221-03	TB	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Toluene	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Trichloroethene (TCE)	1.00	0.500 U	0.500 U	0.500 UJ	P

Data Validation Report for 410-30726-1_52_2a_FUDSChem

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
CH-TB-0221-03	TB	Vinyl chloride	1.00	0.500 U Q	0.500 U	0.500 UJ	P
CH-TB-0221-03	TB	Xylenes, Total	6.00	2.80 U	2.80 U	2.80 UJ	P

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Data Validation Report for 410-30726-1_52_2a_FUDSChem

Reason Code Definitions

Code	Definition
C	LCS Recovery
L	Lab Blank
P	Sample preservation/collection requirement not met.
TR	Trace Level Detect

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Data Validation Report for 410-30726-1_52_2a_FUDSChem

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of the cooler at receipt time was 0.4°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		see outlier report
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-30726-1_52_2a_FUDSChem

Review Questions

Method: E218.6 (Hexavalent Chromium by EPA Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of the cooler at receipt time was 0.4°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Data Validation Report for 410-30726-1_52_2a_FUDSChem

Review Questions

Method: SW6020B (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of the cooler at receipt time was 0.4°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		see outlier report
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW7470A (Mercury in Water (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of the cooler at receipt time was 0.4°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW8082A (Polychlorinated Biphenyls (PCB))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of the cooler at receipt time was 0.4°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

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Review Questions

Method: SW8260C (Volatile Organic Compounds by GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			Three total containers were listed on COC but four total containers were received for CH-TB-0221-03
Were samples preserved properly and received in good condition?	•			CH-TB-0221-03 received with headspace; validator qualified sample results J/UJ with P reason code for preservation
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			The response for vinyl chloride in the CCV marginally exceeds the DoD acceptance criteria, biased low, on analytical batch 410-99306; data is reported
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Review Questions

Method: SW8270D (Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			temperature of the cooler at receipt time was 0.4°C
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		LCS recovery low in batch 410-99300 for butyl benzyl phthalate, diethyl phthalate, and dimethyl phthalate; sample S76304-0221 was re-prepped within hold time with similar recoveries; initial results were reported and flagged
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?			•	

Appendix D3

GeoTesting Express Laboratory Report

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Transmittal

TO:

Brendan McGuinness
AECOM
3101 Wilson Blvd., Suite 900
Arlington, VA 22201

DATE: 1/20/2021	GTX NO: 312957
RE: Camp Hero RI	

COPIES	DATE	DESCRIPTION
	1/20/2021	**January 2021 Laboratory Test Report**

REMARKS:

SIGNED: Marty Molino

Marty Molino, Laboratory Manager

CC:

APPROVED BY : Joe T

Joe Tomei, Director of Testing Services

GeoTesting
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January 20, 2021

Brendan McGuinness
AECOM
3101 Wilson Blvd., Suite 900
Arlington, VA 22201

RE: Camp Hero RI, Montauk, NY (GTX-312957)

Dear Brendan:

Enclosed are the test results you requested for the above referenced project. GeoTesting Express, Inc. (GTX) received 24 samples from you on 12/12/2020. Please refer to your attached test request for sample identifications.

GTX performed the following tests on these samples:

24 ASTM D2216 - Moisture Content
24 ASTM D6913/D7928 - Grain Size Analysis - Sieve and Hydrometer

A copy of your test request is attached.

The results presented in this report apply only to the items tested. This report shall not be reproduced except in full, without written approval from GeoTesting Express. The remainder of these samples will be retained for a period of sixty (60) days and will then be discarded unless otherwise notified by you. Please call me if you have any questions or require additional information. Thank you for allowing GeoTesting Express the opportunity of providing you with testing services. We look forward to working with you again in the future.

Respectfully yours,

Marty Molino

Marty Molino
Laboratory Manager

GeoTesting
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Geotechnical Test Report 1/20/2021

GTX-312957
Camp Hero RI

Montauk, NY

Client Project No.: 60443903

Prepared for:

AECOM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	---	Sample Type:	---	Tested By:	twh
Sample ID:	---	Test Date:	01/04/21	Checked By:	MCM
Depth :	---	Test Id:	318342		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
CH-MW044	CH-MW044D-SB-14-15	14-15	Moist, brown clayey sand	13.2
CH-MW044	CH-MW044D-SB-27-29	27-29	Moist, grayish brown clayey sand	10.8
CH-MW044	CH-MW044D-SB-37-39	37-39	Moist, gray clayey sand	10.3
CH-MW044	CH-MW044D-SB-46-47	46-47	Moist, gray clayey sand	10.9
CH-MW044	CH-MW044D-SB-58-59	58-59	Moist, gray clayey sand	10.0
CH-MW044	CH-MW044D-SB-63-64	63-64	Moist, gray clayey sand	11.9
CH-MW044	CH-MW044D-SB-70-72	70-72	Moist, grayish brown silty sand	10.6
CH-MW044	CH-MW044D-SB-85-86	85-86	Moist, gray clay with sand	23.7
CH-MW044	CH-MW044D-SB-96-97	96-97	Moist, dark gray clay	24.9
CH-MW044	CH-1W044D-SB-108-10	108-109	Moist, gray clay with sand	21.3

Notes: Temperature of Drying : 110° Celsius

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	---	Sample Type:	---	Tested By:	twh
Sample ID:	---	Test Date:	01/04/21	Checked By:	MCM
Depth :	---	Test Id:	318346		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
CH-MW044	CH- 1W044D-SB-115-11	115-116	Moist, gray sand with silt	17.1
CH-MW044	CH- 1W044D-SB-123-12	123-125	Moist, gray sand	15.4
CH-MW044	CH- 1W044D-SB-136-13	136-138	Moist, grayish brown sand with silt and gravel	6.9
CH-MW044	CH- 1W044D-SB-157-15	157-159	Moist, gray sand with silt	13.2

Notes: Temperature of Drying : 110° Celsius

GeoTesting EXPRESS

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	---	Sample Type:	---	Tested By:	twh
Sample ID:	---	Test Date:	01/04/21	Checked By:	MCM
Depth :	---	Test Id:	318356		

Moisture Content of Soil and Rock - ASTM D2216

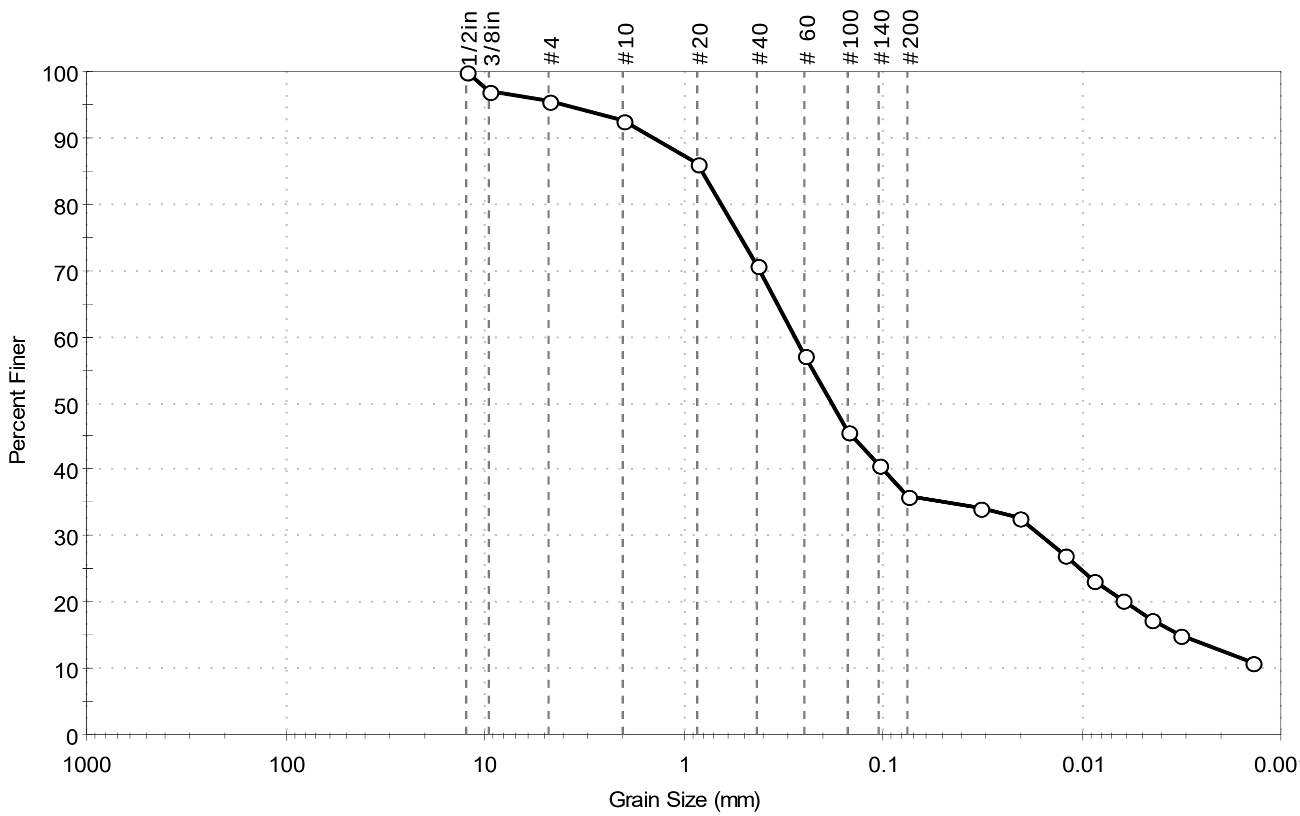
Boring ID	Sample ID	Depth	Description	Moisture Content,%
CH-MW045D	CH-MW045D-SB-00-10	00-10	Moist, dark yellowish brown clayey sand with gravel	12.2
CH-MW045D	CH-MW045D-SB-10-30	10-30	Moist, dark gray clayey sand	10.8
CH-MW045D	CH-MW045D-SB-30-50	30-50	Moist, gray clayey sand	10.0
CH-MW045D	CH-MW045D-SB-40-50	40-50	Moist, grayish brown silty sand	10.7
CH-MW045D	CH-MW045D-SB-50-60	50-60	Moist, grayish brown sandy clay	20.7
CH-MW045D	CH-MW045D-SB-60-70	60-70	Moist, grayish brown sandy silt	27.4
CH-MW045D	CH-MW045D-SB-72-80	72-80	Moist, dark grayish brown clay	23.9
CH-MW045D	CH-MW045D-SB-80-85	80-85	Moist, grayish brown sandy clay	22.5
CH-MW045D	CH-MW045D-SB-90-100	90-100	Moist, gray sand with silt	16.4
CH-MW045D	CH-MW045D-SB-132-134	132-134	Moist, grayish brown sand with silt	18.1

Notes: Temperature of Drying : 110° Celsius

GeoTesting EXPRESS

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW044D-SB-14-15	Test Date:	01/05/21	Checked By:	MCM
Depth :	14-15	Test Id:	318357		
Test Comment:	---				
Visual Description:	Moist, brown clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.6	59.3	36.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1/2in	12.50	100		
3/8in	9.50	97		
#4	4.75	95		
#10	2.00	93		
#20	0.85	86		
#40	0.42	71		
# 60	0.25	57		
#100	0.15	46		
#140	0.11	41		
#200	0.075	36		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0328	34		
---	0.0207	33		
---	0.0122	27		
---	0.0088	23		
---	0.0063	20		
---	0.0045	17		
---	0.0032	15		
---	0.0014	11		

Coefficients

D_{85} = 0.8025 mm
D_{30} = 0.0159 mm
D_{60} = 0.2791 mm
D_{15} = 0.0031 mm
D_{50} = 0.1813 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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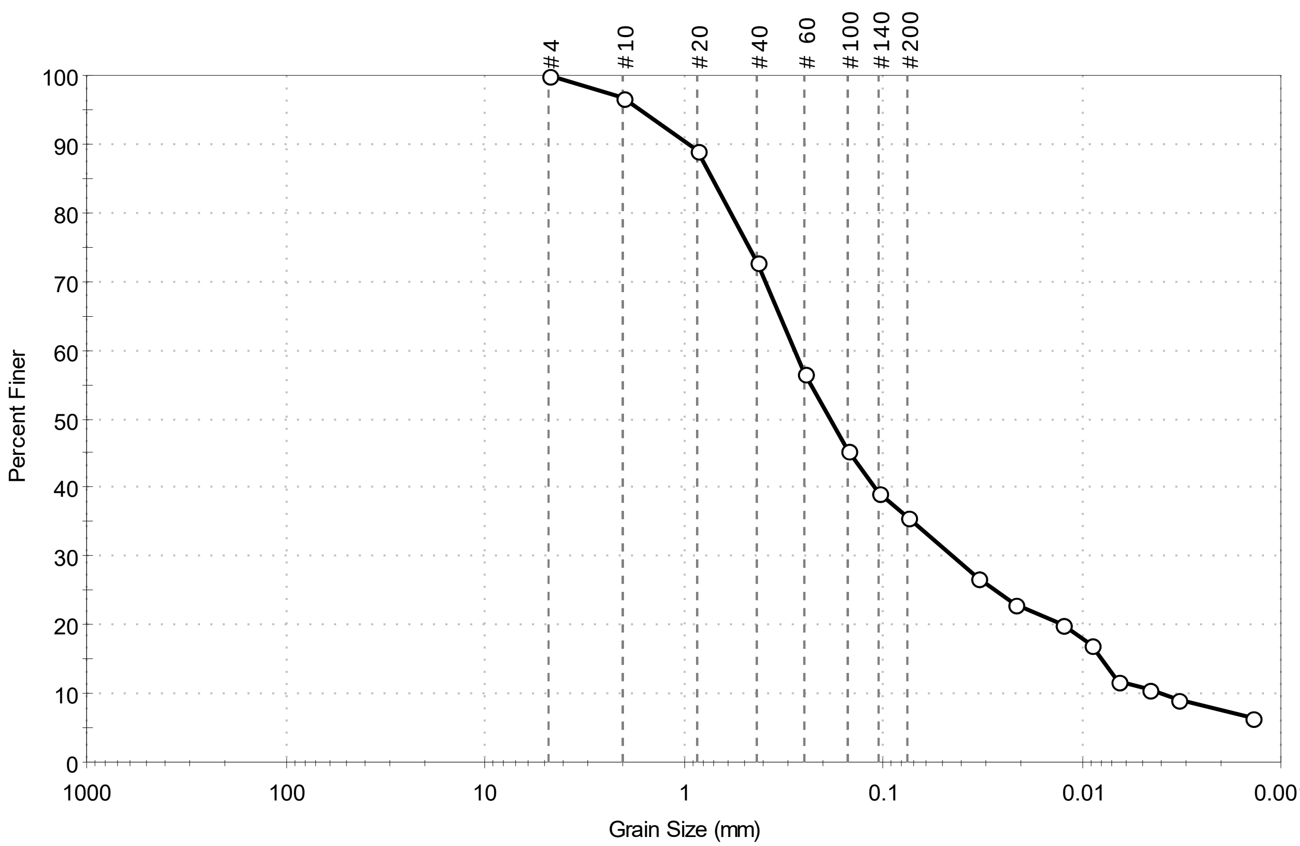
Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW044D-SB-27-29	Test Date:	01/05/21	Checked By:	MCM
Depth :	27-29	Test Id:	318358		

Test Comment: ---
Visual Description: Moist, grayish brown clayey sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	64.2	35.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	97		
#20	0.85	89		
#40	0.42	73		
# 60	0.25	57		
#100	0.15	45		
#140	0.11	39		
#200	0.075	36		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0333	27		
---	0.0216	23		
---	0.0125	20		
---	0.0090	17		
---	0.0065	12		
---	0.0046	11		
---	0.0033	9		
---	0.0014	7		

Coefficients

D_{85} = 0.7140 mm	D_{30} = 0.0447 mm
D_{60} = 0.2787 mm	D_{15} = 0.0080 mm
D_{50} = 0.1851 mm	D_{10} = 0.0040 mm
C_u = 69.675	C_c = 1.792

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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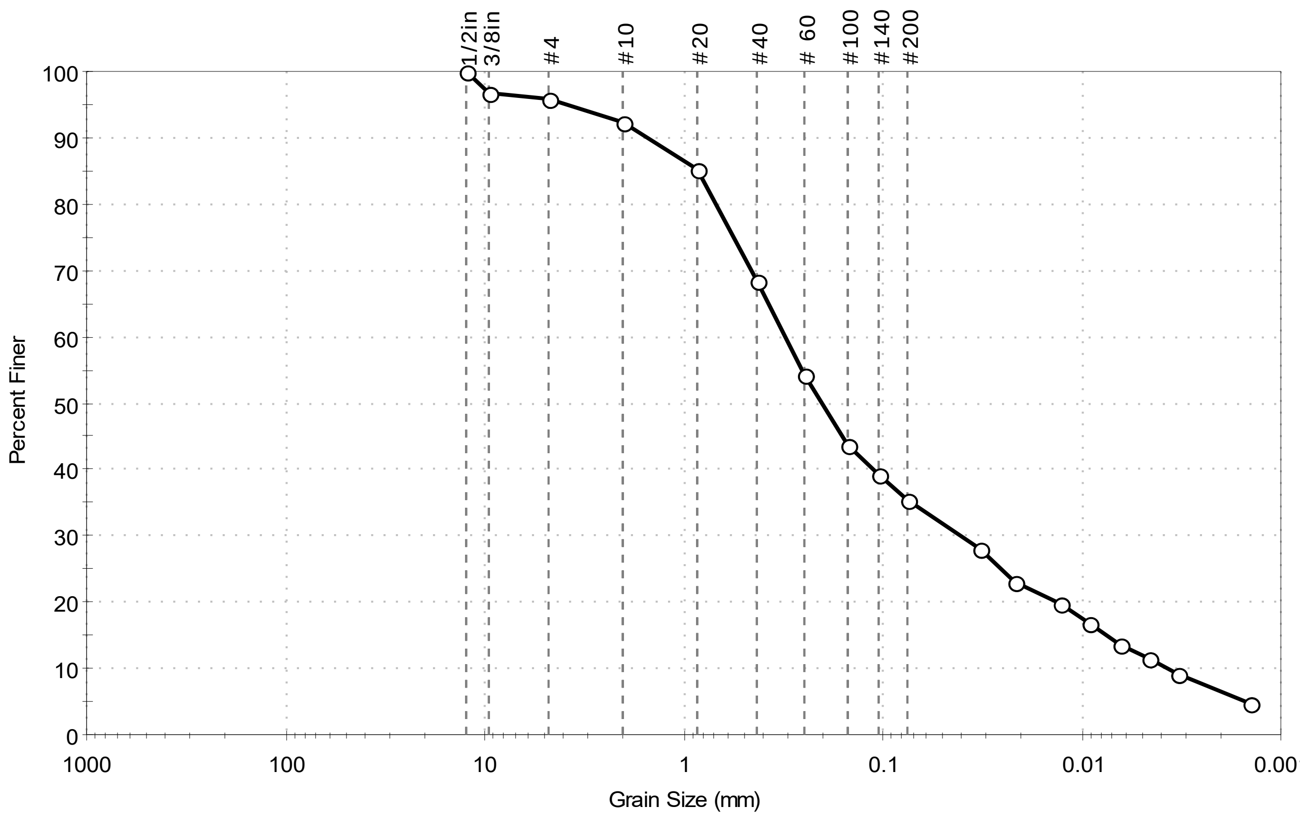
Client:	AECOM		
Project:	Camp Hero RI		
Location:	Montauk, NY	Project No:	GTX-312957
Boring ID: CH-MW044	Sample Type: bag	Tested By:	twh
Sample ID: CH-MW044D-SB-37-39	Test Date: 01/05/21	Checked By:	MCM
Depth : 37-39	Test Id: 318359		

Test Comment: ---

Visual Description: Moist, gray clayey sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.1	60.5	35.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1/2in	12.50	100		
3/8in	9.50	97		
#4	4.75	96		
#10	2.00	92		
#20	0.85	85		
#40	0.42	68		
# 60	0.25	54		
#100	0.15	44		
#140	0.11	39		
#200	0.075	35		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0324	28		
---	0.0220	23		
---	0.0127	20		
---	0.0091	17		
---	0.0065	13		
---	0.0046	11		
---	0.0033	9		
---	0.0014	5		

Coefficients

D_{85} = 0.8379 mm D_{30} = 0.0410 mm

D_{60} = 0.3099 mm D_{15} = 0.0076 mm

D_{50} = 0.2031 mm D_{10} = 0.0038 mm

C_u = 81.553 C_c = 1.427

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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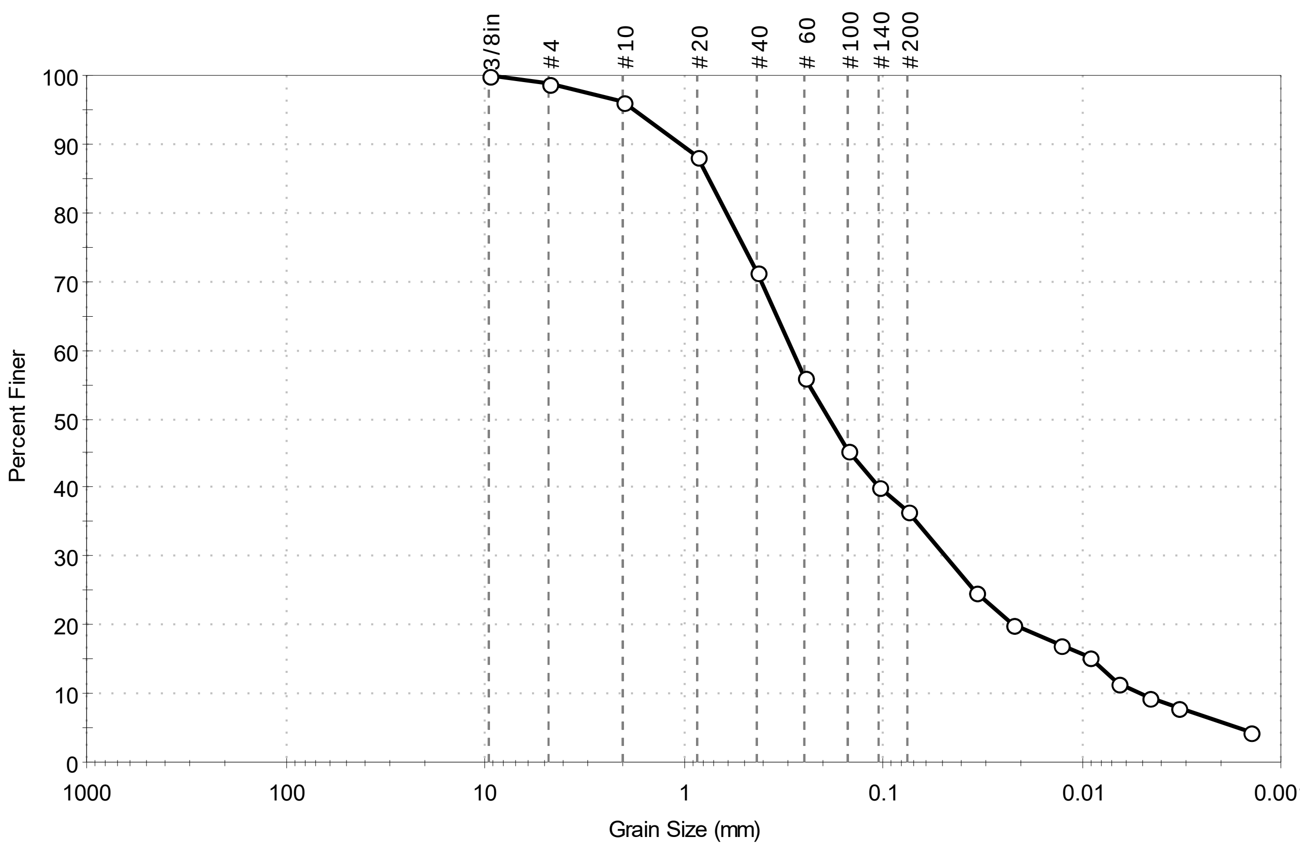
GeoTesting EXPRESS

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW044D-SB-46-47	Test Date:	01/05/21	Checked By:	MCM
Depth :	46-47	Test Id:	318360		
Test Comment:	---				
Visual Description:	Moist, gray clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	1.1	62.3	36.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8in	9.50	100		
#4	4.75	99		
#10	2.00	96		
#20	0.85	88		
#40	0.42	71		
# 60	0.25	56		
#100	0.15	45		
#140	0.11	40		
#200	0.075	37		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0339	25		
---	0.0221	20		
---	0.0128	17		
---	0.0091	15		
---	0.0065	12		
---	0.0046	10		
---	0.0033	8		
---	0.0014	5		

Coefficients

D_{85} = 0.7465 mm
D_{30} = 0.0482 mm
D_{60} = 0.2874 mm
D_{15} = 0.0088 mm
D_{50} = 0.1875 mm
D_{10} = 0.0050 mm
C_u = 57.480
C_c = 1.617

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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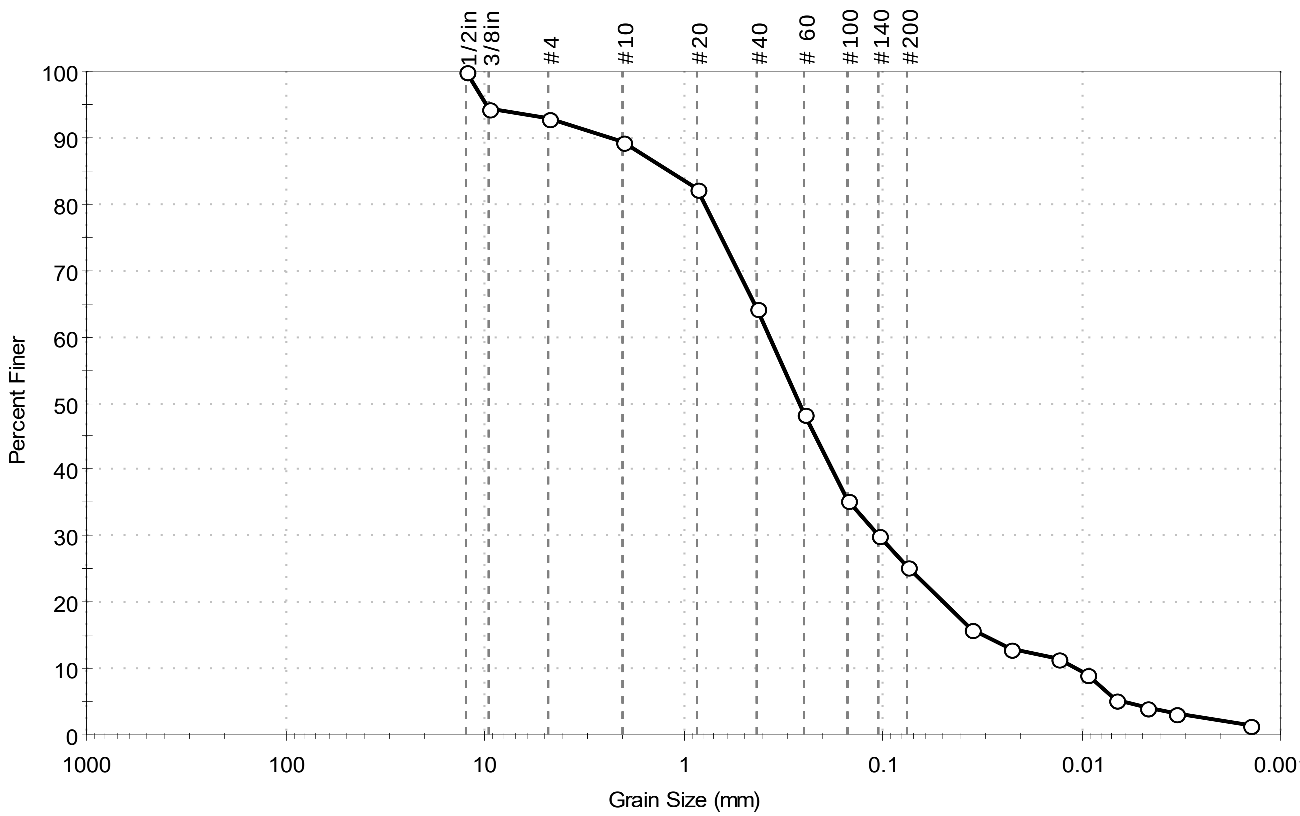
Client: AECOM			
Project: Camp Hero RI			
Location: Montauk, NY		Project No:	GTX-312957
Boring ID: CH-MW044	Sample Type: bag	Tested By:	twh
Sample ID: CH-MW044D-SB-58-59	Test Date: 01/05/21	Checked By:	MCM
Depth : 58-59	Test Id: 318361		

Test Comment: ---
Visual Description: Moist, gray clayey sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	7.0	67.7	25.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1/2in	12.50	100		
3/8in	9.50	94		
#4	4.75	93		
#10	2.00	89		
#20	0.85	82		
#40	0.42	64		
# 60	0.25	49		
#100	0.15	35		
#140	0.11	30		
#200	0.075	25		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0356	16		
---	0.0228	13		
---	0.0131	11		
---	0.0093	9		
---	0.0067	5		
---	0.0047	4		
---	0.0033	3		
---	0.0014	1		

Coefficients

D_{85} = 1.1694 mm | D_{30} = 0.1062 mm
D_{60} = 0.3670 mm | D_{15} = 0.0310 mm
D_{50} = 0.2627 mm | D_{10} = 0.0107 mm
C_u = 34.299 | C_c = 2.872

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

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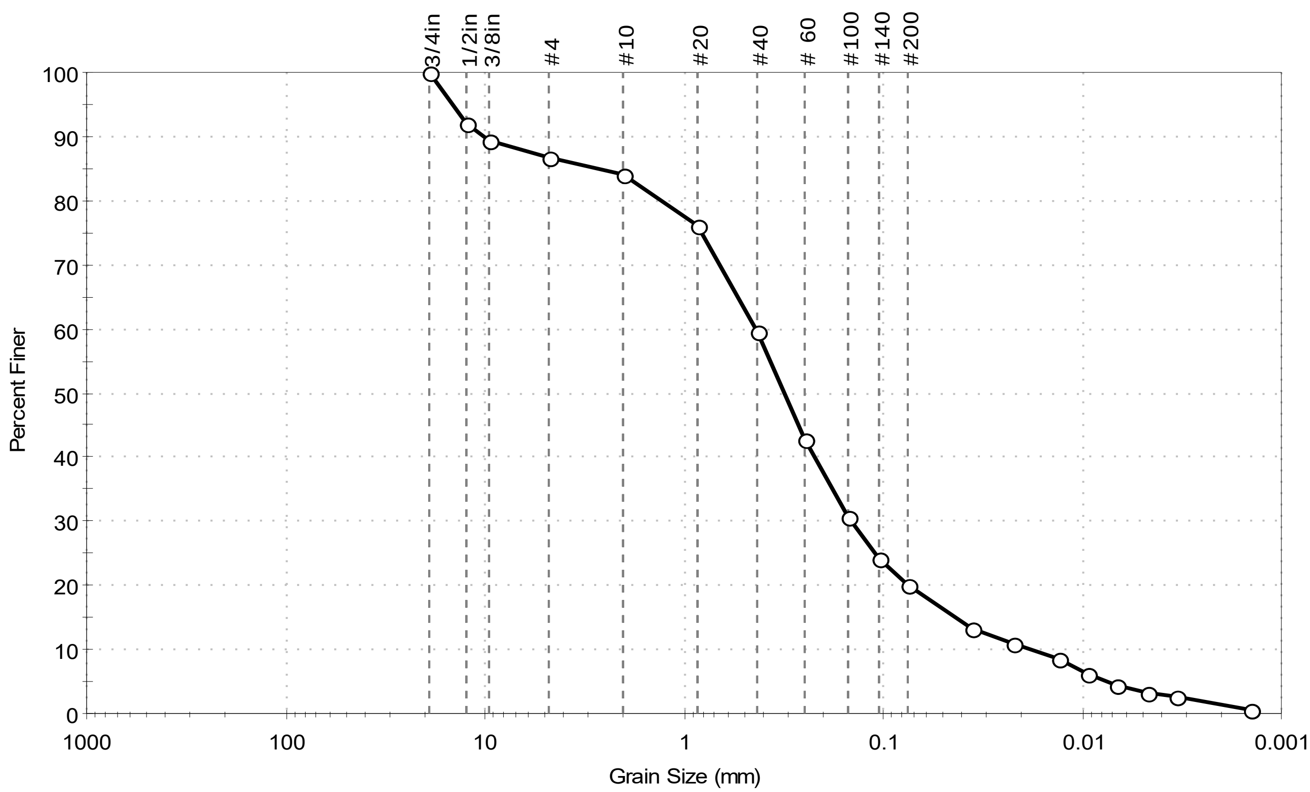
Client:	AECOM		
Project:	Camp Hero RI		
Location:	Montauk, NY	Project No:	GTX-312957
Boring ID: CH-MW044	Sample Type: bag	Tested By:	twh
Sample ID: CH-MW044D-SB-63-64	Test Date: 01/05/21	Checked By:	MCM
Depth : 63-64	Test Id: 318362		
Test Comment:	---		
Visual Description:	Moist, gray clayey sand		
Sample Comment:	---		

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	13.2	66.7	20.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4in	19.00	100		
1/2in	12.50	92		
3/8in	9.50	89		
#4	4.75	87		
#10	2.00	84		
#20	0.85	76		
#40	0.42	60		
# 60	0.25	43		
#100	0.15	31		
#140	0.11	24		
#200	0.075	20		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0360	13		
---	0.0224	11		
---	0.0132	8		
---	0.0094	6		
---	0.0067	5		
---	0.0047	3		
---	0.0034	3		
---	0.0014	1		

Coefficients

D_{85} = 2.7608 mm | D_{30} = 0.1451 mm
D_{60} = 0.4332 mm | D_{15} = 0.0438 mm
D_{50} = 0.3140 mm | D_{10} = 0.0187 mm
C_u = 23.166 | C_c = 2.599

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

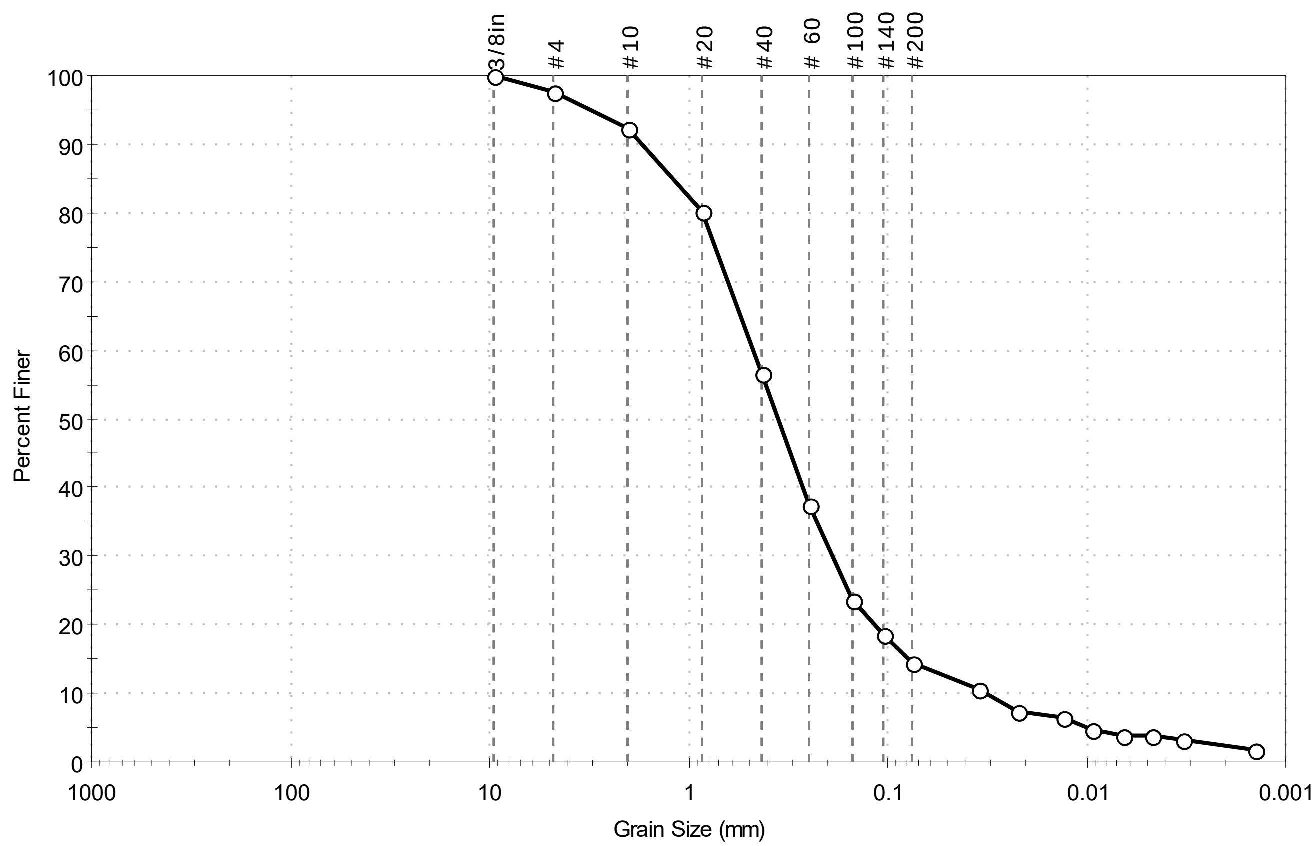
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:48 AM

Client:	AECOM		
Project:	Camp Hero RI		
Location:	Montauk, NY	Project No:	GTX-312957
Boring ID: CH-MW044	Sample Type: bag	Tested By:	twh
Sample ID: CH-MW044D-SB-70-72	Test Date: 01/05/21	Checked By:	MCM
Depth : 70-72	Test Id: 318363		
Test Comment:	---		
Visual Description:	Moist, grayish brown silty sand		
Sample Comment:	---		

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	2.4	83.1	14.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8in	9.50	100		
#4	4.75	98		
#10	2.00	92		
#20	0.85	80		
#40	0.42	57		
# 60	0.25	38		
#100	0.15	24		
#140	0.11	19		
#200	0.075	14		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0346	11		
---	0.0221	7		
---	0.0131	7		
---	0.0094	5		
---	0.0066	4		
---	0.0047	4		
---	0.0033	3		
---	0.0014	2		

Coefficients

D_{85} = 1.1886 mm | D_{30} = 0.1893 mm

D_{60} = 0.4702 mm | D_{15} = 0.0786 mm

D_{50} = 0.3539 mm | D_{10} = 0.0317 mm

C_u = 14.833 | C_c = 2.404

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

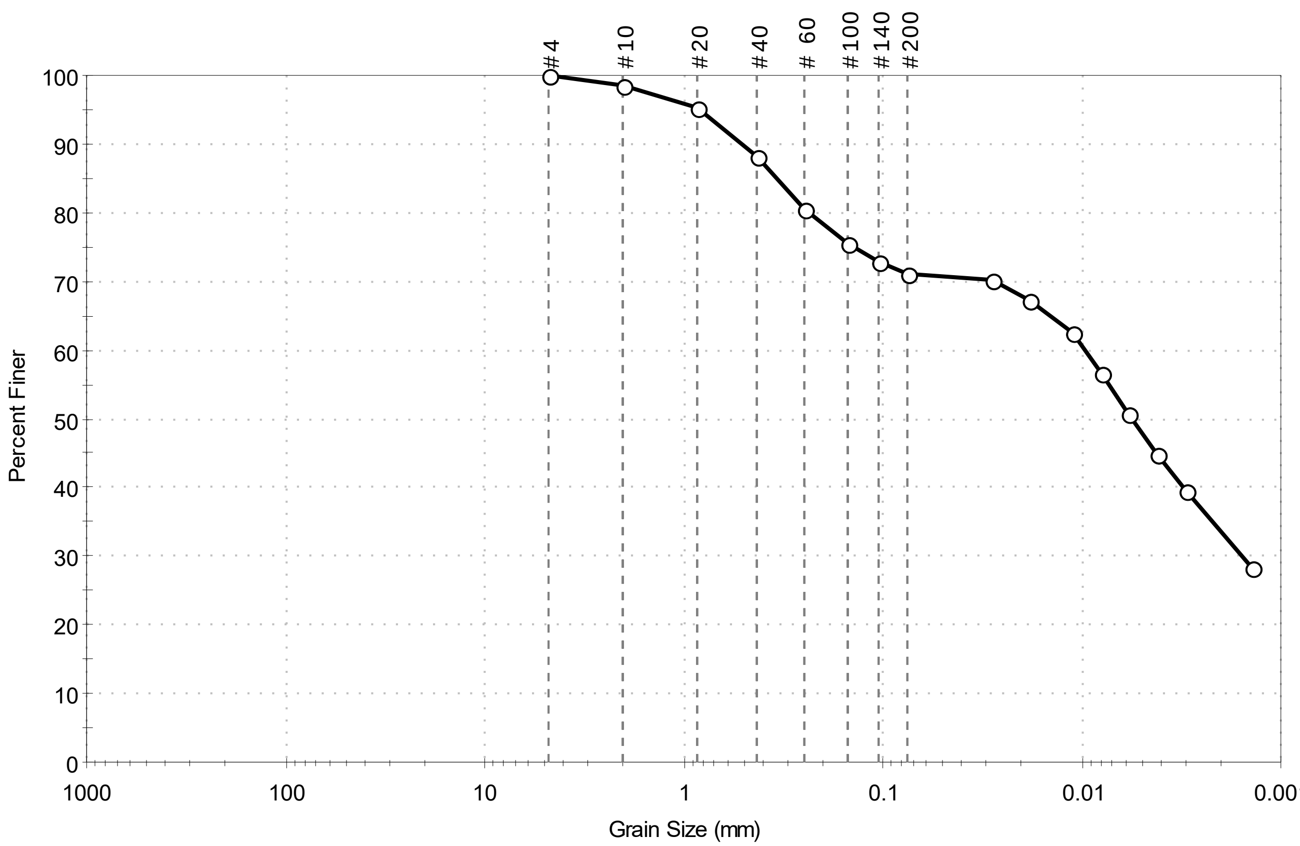
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:49 AM

Client:	AECOM		
Project:	Camp Hero RI		
Location:	Montauk, NY	Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type: bag	Tested By: twh
Sample ID:	CH-MW044D-SB-85-86	Test Date: 01/06/21	Checked By: MCM
Depth :	85-86	Test Id: 318364	
Test Comment:	---		
Visual Description:	Moist, gray clay with sand		
Sample Comment:	---		

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	28.9	71.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	95		
#40	0.42	88		
# 60	0.25	81		
#100	0.15	75		
#140	0.11	73		
#200	0.075	71		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0280	70		
---	0.0184	67		
---	0.0111	62		
---	0.0080	57		
---	0.0058	51		
---	0.0042	45		
---	0.0030	39		
---	0.0014	28		

Coefficients

D_{85} =0.3419 mm D_{30} =0.0016 mm
D_{60} =0.0097 mm D_{15} =N/A
D_{50} =0.0056 mm D_{10} =N/A
C_u =N/A C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

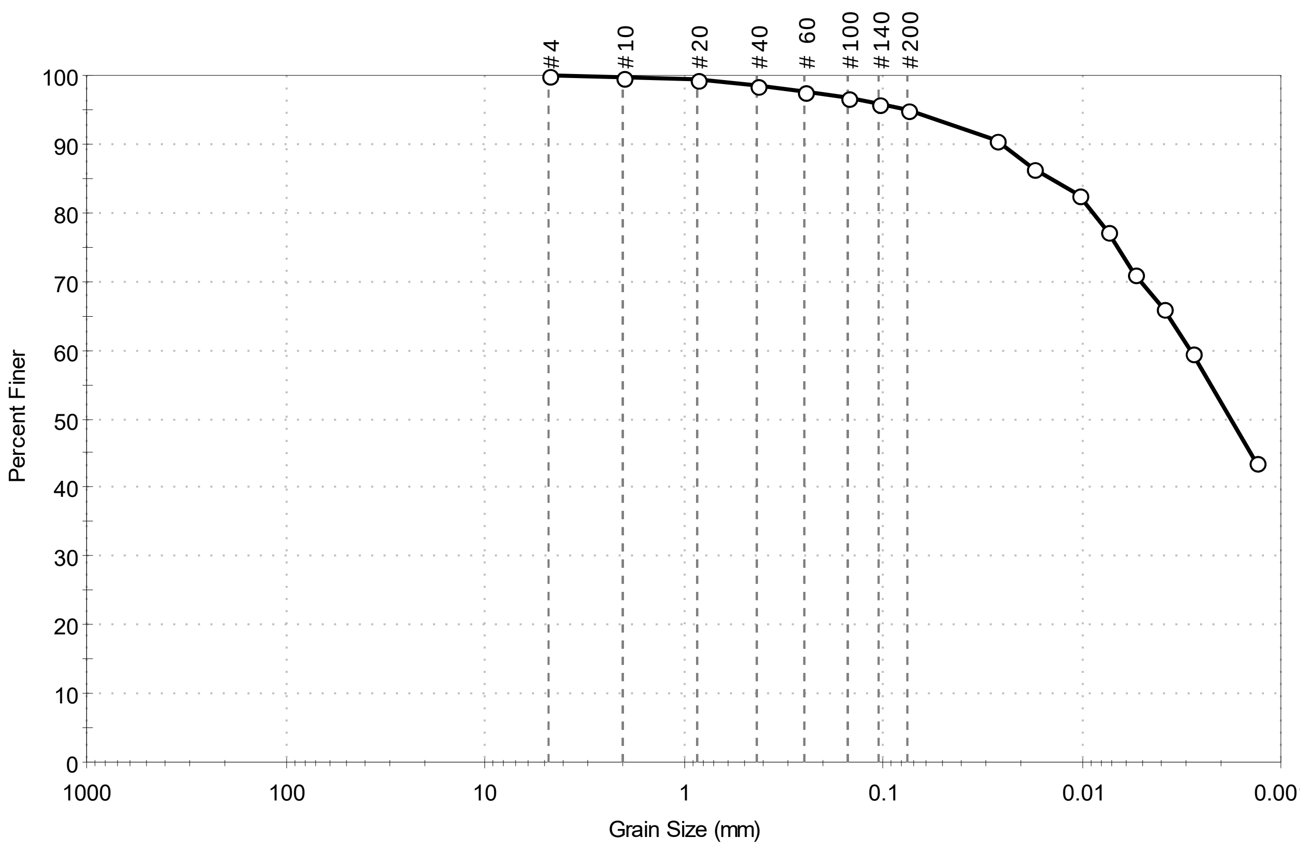
Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:50 AM

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW044D-SB-96-97	Test Date:	01/06/21	Checked By:	MCM
Depth :	96-97	Test Id:	318365		
Test Comment:	---				
Visual Description:	Moist, dark gray clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
–	0.0	5.0	95.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
# 60	0.25	98		
#100	0.15	97		
#140	0.11	96		
#200	0.075	95		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0267	91		
---	0.0175	87		
---	0.0103	82		
---	0.0074	77		
---	0.0054	71		
---	0.0039	66		
---	0.0028	59		
---	0.0013	44		

Coefficients

D_{85} = 0.0144 mm — D_{30} = N/A

D_{60} = 0.0029 mm — D_{15} = N/A

D_{50} = 0.0018 mm — D_{10} = N/A

C_u = N/A — C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

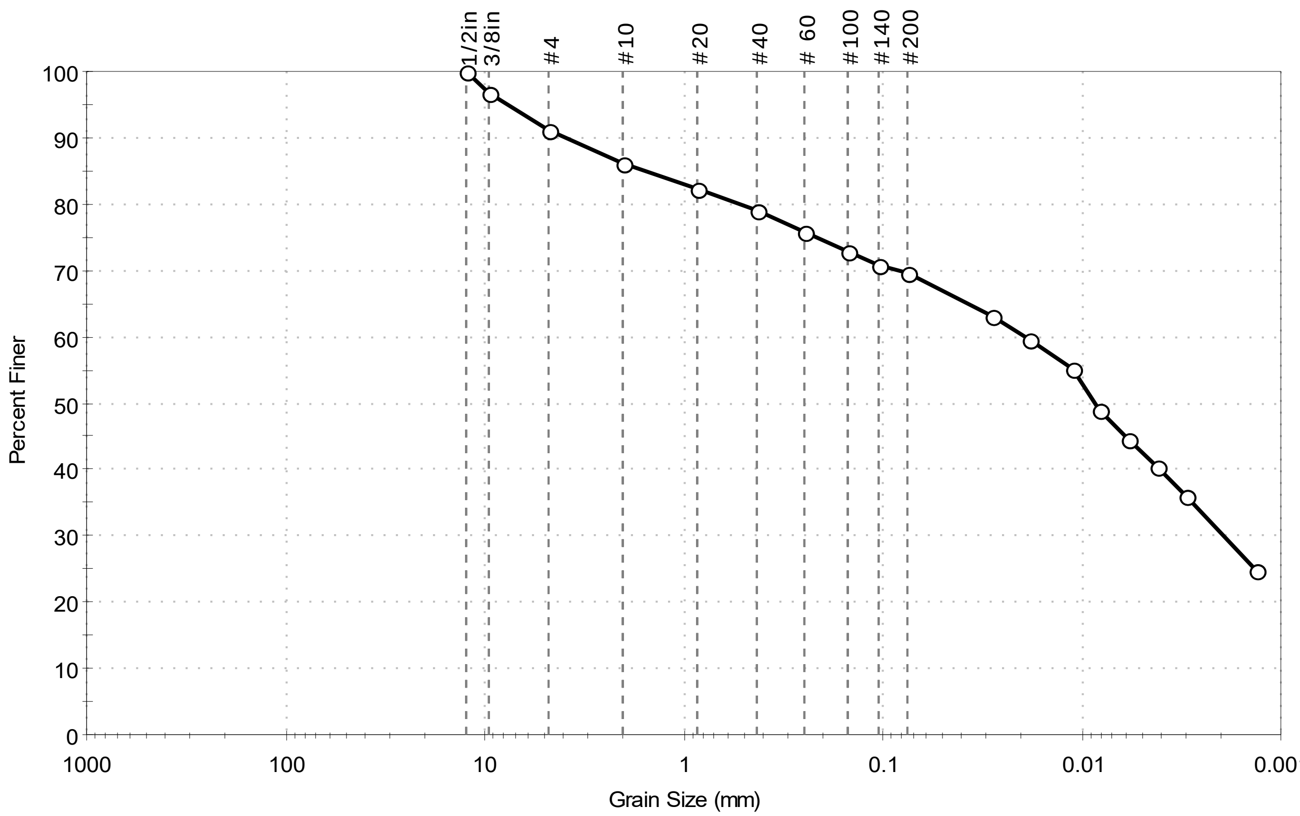
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:50 AM

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW044D-SB-108-109	Test Date:	01/05/21	Checked By:	MCM
Depth :	108-109	Test Id:	318366		
Test Comment:	---				
Visual Description:	Moist, gray clay with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	8.9	21.6	69.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1/2in	12.50	100		
3/8in	9.50	97		
#4	4.75	91		
#10	2.00	86		
#20	0.85	82		
#40	0.42	79		
# 60	0.25	76		
#100	0.15	73		
#140	0.11	71		
#200	0.075	70		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0283	63		
---	0.0185	60		
---	0.0111	55		
---	0.0081	49		
---	0.0058	44		
---	0.0042	40		
---	0.0030	36		
---	0.0013	25		

Coefficients

D_{85} = 1.5312 mm — D_{30} = 0.0019 mm

D_{60} = 0.0194 mm — D_{15} = N/A

D_{50} = 0.0086 mm — D_{10} = N/A

C_u = N/A — C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

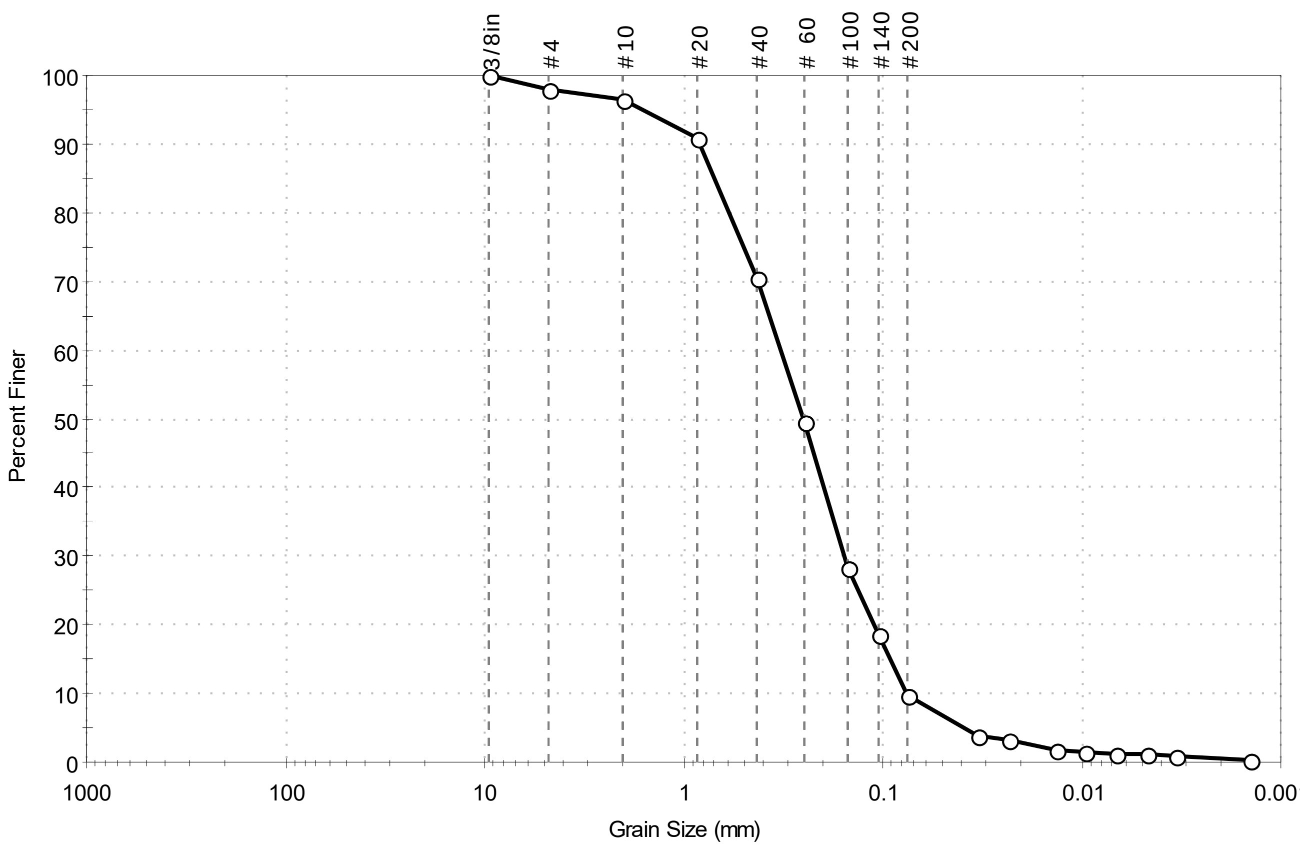
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:51 AM

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW044D-SB-115-116	Test Date:	01/05/21	Checked By:	MCM
Depth :	115-116	Test Id:	318367		
Test Comment:	---				
Visual Description:	Moist, gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	2.1	88.1	9.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8in	9.50	100		
#4	4.75	98		
#10	2.00	97		
#20	0.85	91		
#40	0.42	71		
# 60	0.25	50		
#100	0.15	28		
#140	0.11	19		
#200	0.075	9.8		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0333	4		
---	0.0233	3		
---	0.0135	2		
---	0.0096	1		
---	0.0068	1		
---	0.0048	1		
---	0.0034	1		
---	0.0014	0		

Coefficients

D_{85} = 0.6944 mm
D_{30} = 0.1565 mm
D_{60} = 0.3250 mm
D_{15} = 0.0919 mm
D_{50} = 0.2520 mm
D_{10} = 0.0755 mm
C_u = 4.305
C_c = 0.998

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

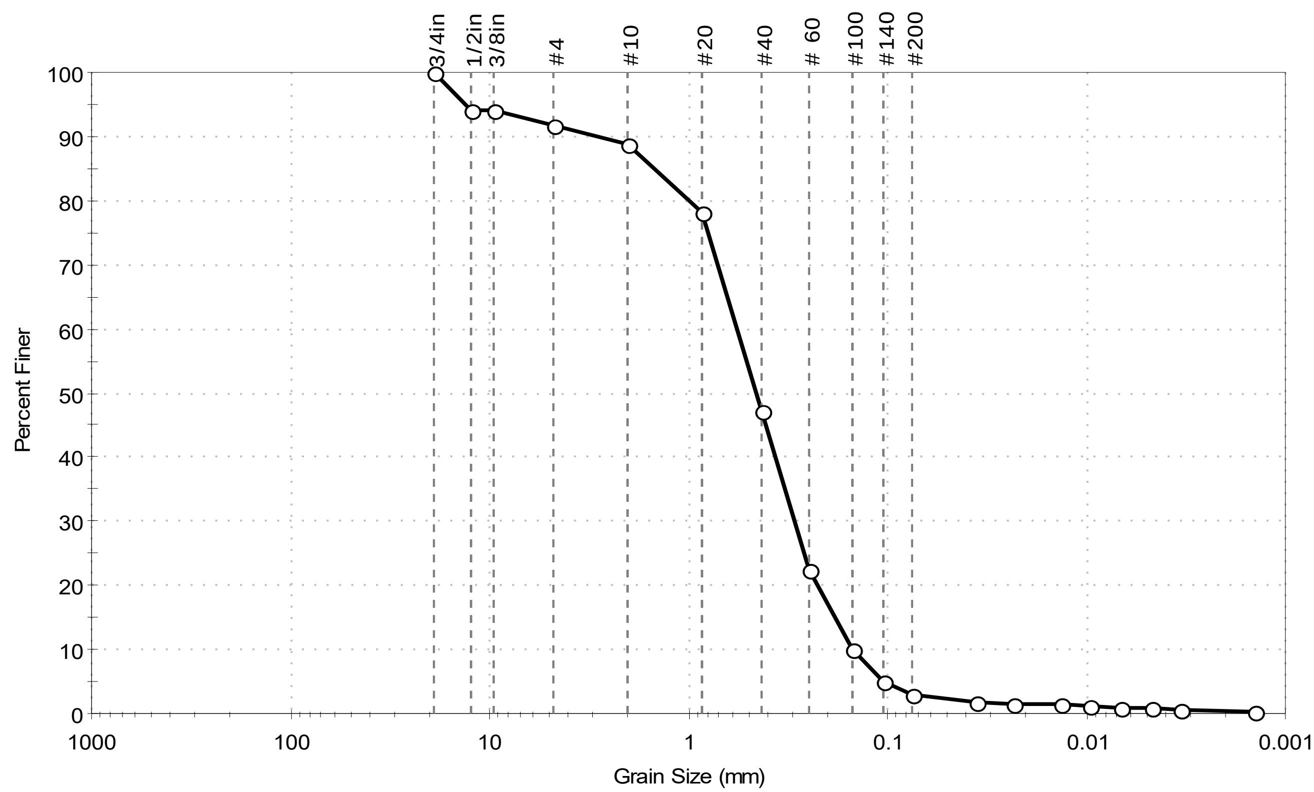
Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:52 AM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW044D-SB-123-125	Test Date:	01/05/21	Checked By:	MCM
Depth :	123-125	Test Id:	318368		
Test Comment:	---				
Visual Description:	Moist, gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	8.3	88.8	2.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4in	19.00	100		
1/2in	12.50	94		
3/8in	9.50	94		
#4	4.75	92		
#10	2.00	89		
#20	0.85	78		
#40	0.42	47		
# 60	0.25	22		
#100	0.15	10		
#140	0.11	5		
#200	0.075	2.9		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0358	2		
---	0.0236	2		
---	0.0136	1		
---	0.0095	1		
---	0.0068	1		
---	0.0048	1		
---	0.0034	1		
---	0.0014	0		

Coefficients

D_{85} = 1.4628 mm	D_{30} = 0.2946 mm
D_{60} = 0.5655 mm	D_{15} = 0.1840 mm
D_{50} = 0.4520 mm	D_{10} = 0.1485 mm
C_u = 3.808	C_c = 1.033

Classification

ASTM Poorly graded SAND (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

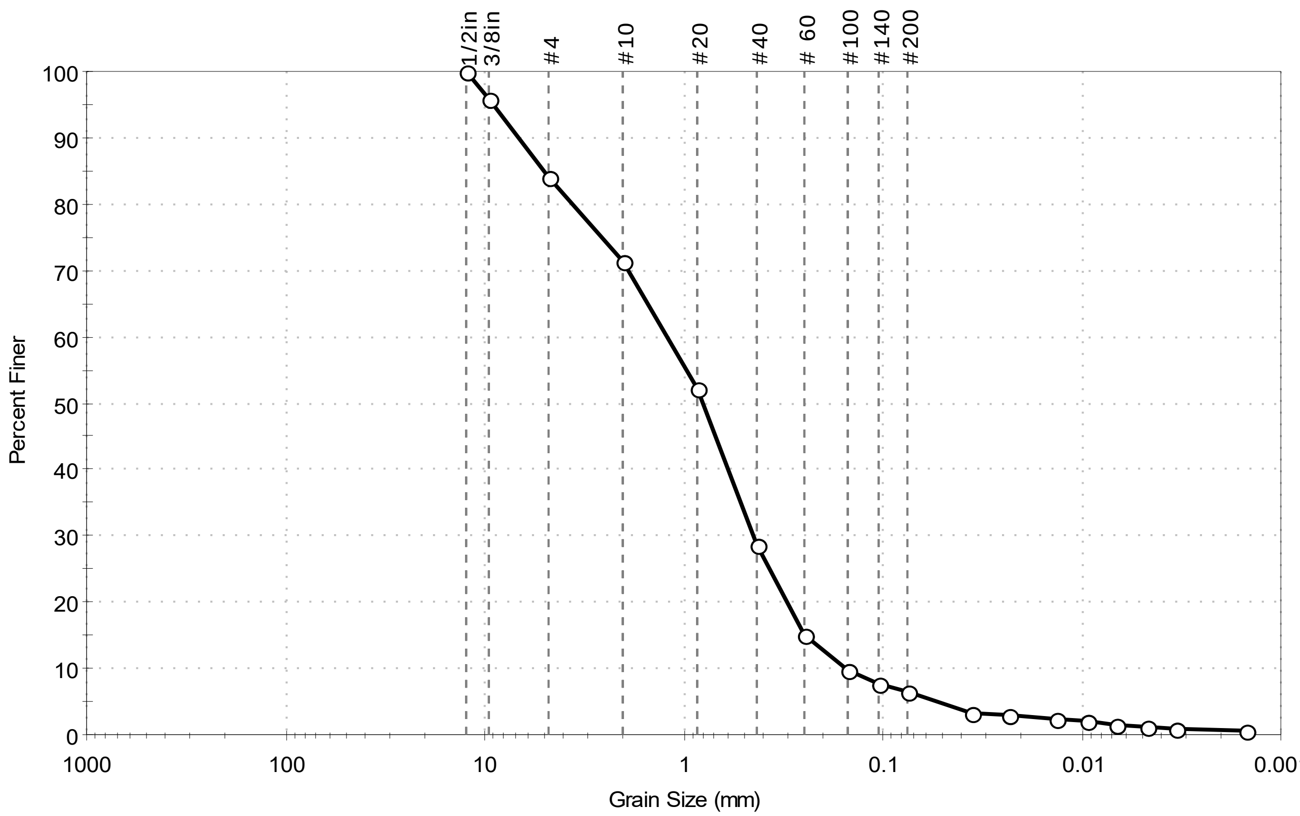
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:53 AM

Client:	AECOM
Project:	Camp Hero RI
Location:	Montauk, NY
Project No:	GTX-312957
Boring ID:	CH-MW044
Sample Type:	bag
Tested By:	twh
Sample ID:	CH-MW044D-SB-136-138
Test Date:	01/06/21
Checked By:	MCM
Depth :	136-138
Test Id:	318369
Test Comment:	---
Visual Description:	Moist, grayish brown sand with silt and gravel
Sample Comment:	---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	15.8	77.8	6.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1/2in	12.50	100		
3/8in	9.50	96		
#4	4.75	84		
#10	2.00	71		
#20	0.85	52		
#40	0.42	29		
# 60	0.25	15		
#100	0.15	10		
#140	0.11	8		
#200	0.075	6.4		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0355	3		
---	0.0232	3		
---	0.0134	2		
---	0.0095	2		
---	0.0067	1		
---	0.0048	1		
---	0.0034	1		
---	0.0015	1		

Coefficients

D_{85} =4.9821 mm
D_{30} =0.4429 mm
D_{60} =1.2046 mm
D_{15} =0.2505 mm
D_{50} =0.7982 mm
D_{10} =0.1556 mm
C_u =7.742
C_c =1.047

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

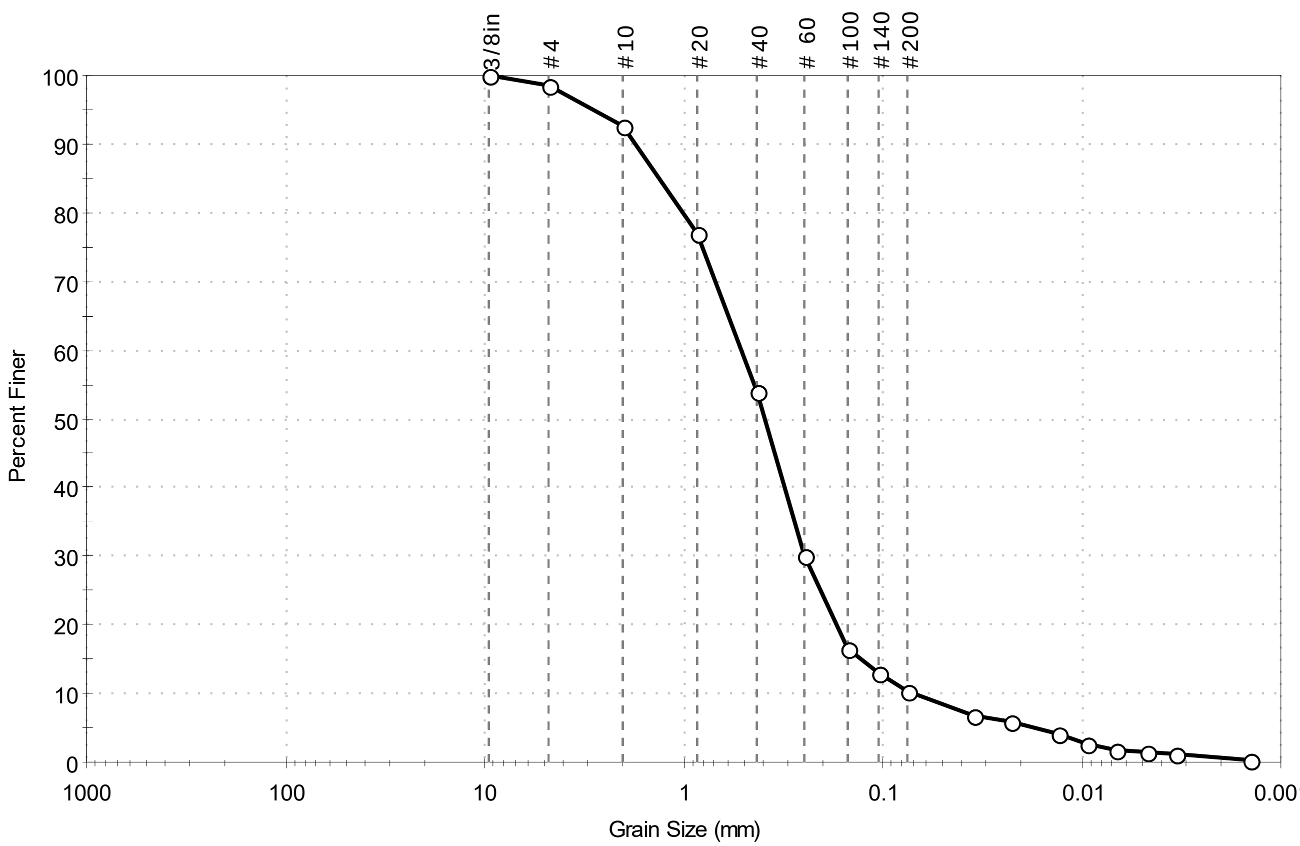
Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:54 AM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW044	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW044D-SB-157-159	Test Date:	01/05/21	Checked By:	MCM
Depth :	157-159	Test Id:	318370		
Test Comment:	---				
Visual Description:	Moist, gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	1.6	88.0	10.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8in	9.50	100		
#4	4.75	98		
#10	2.00	93		
#20	0.85	77		
#40	0.42	54		
# 60	0.25	30		
#100	0.15	17		
#140	0.11	13		
#200	0.075	10		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0347	7		
---	0.0229	6		
---	0.0133	4		
---	0.0095	3		
---	0.0067	2		
---	0.0047	1		
---	0.0034	1		
---	0.0014	0		

Coefficients

D_{85} = 1.3213 mm D_{30} = 0.2484 mm

D_{60} = 0.5114 mm D_{15} = 0.1290 mm

D_{50} = 0.3899 mm D_{10} = 0.0689 mm

C_u = 7.422 C_c = 1.751

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:55 AM

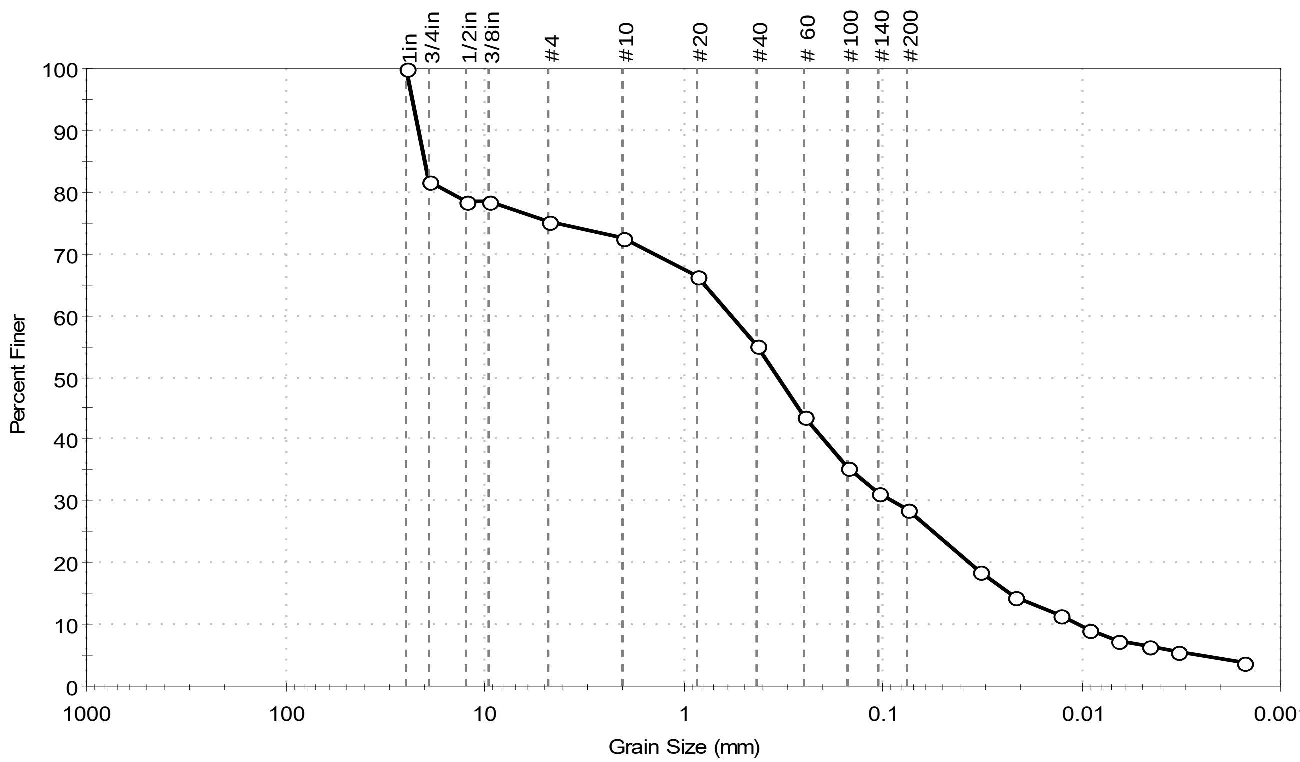
Client:	AECOM					
Project:	Camp Hero RI					
Location:	Montauk, NY				Project No:	GTX-312957
Boring ID:	CH-MW045D	Sample Type:	bag		Tested By:	twh
Sample ID:	CH-MW045D-SB-00-10	Test Date:	12/30/20		Checked By:	MCM
Depth :	00-10	Test Id:	318371			

Test Comment: ---

Visual Description: Moist, dark yellowish brown clayey sand with gravel

Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	24.8	46.6	28.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1in	25.00	100		
3/4in	19.00	82		
1/2in	12.50	79		
3/8in	9.50	79		
#4	4.75	75		
#10	2.00	73		
#20	0.85	66		
#40	0.42	55		
# 60	0.25	44		
#100	0.15	35		
#140	0.11	31		
#200	0.075	29		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0328	19		
---	0.0218	14		
---	0.0127	12		
---	0.0091	9		
---	0.0065	7		
---	0.0046	6		
---	0.0033	6		
---	0.0015	4		

Coefficients

D_{85} = 19.9310 mm | D_{30} = 0.0894 mm

D_{60} = 0.5722 mm | D_{15} = 0.0231 mm

D_{50} = 0.3348 mm | D_{10} = 0.0101 mm

C_u = 56.653 | C_c = 1.383

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

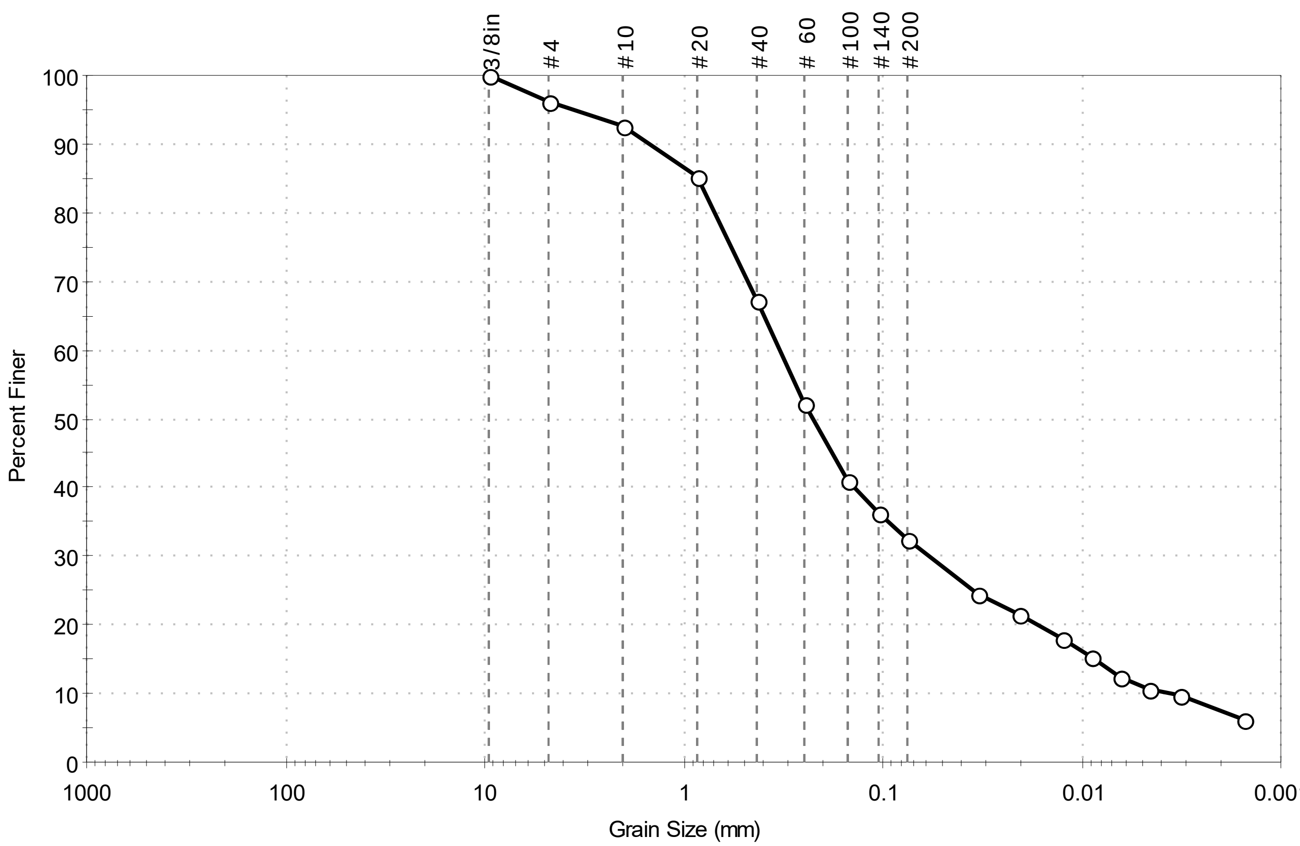
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:56 AM

Client: AECOM			
Project: Camp Hero RI			
Location: Montauk, NY		Project No:	GTX-312957
Boring ID: CH-MW045D	Sample Type: bag	Tested By:	twh
Sample ID: CH-MW045D-SB-10-30	Test Date: 12/30/20	Checked By:	MCM
Depth : 10-30	Test Id: 318372		
Test Comment: ---			
Visual Description: Moist, dark gray clayey sand			
Sample Comment: ---			

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.7	63.8	32.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8in	9.50	100		
#4	4.75	96		
#10	2.00	93		
#20	0.85	85		
#40	0.42	67		
# 60	0.25	52		
#100	0.15	41		
#140	0.11	36		
#200	0.075	32		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0331	24		
---	0.0208	21		
---	0.0125	18		
---	0.0089	15		
---	0.0064	12		
---	0.0046	11		
---	0.0032	10		
---	0.0015	6		

Coefficients

D_{85} =0.8405 mm	D_{30} =0.0584 mm
D_{60} =0.3284 mm	D_{15} =0.0085 mm
D_{50} =0.2248 mm	D_{10} =0.0036 mm
C_u =91.222	C_c =2.885

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

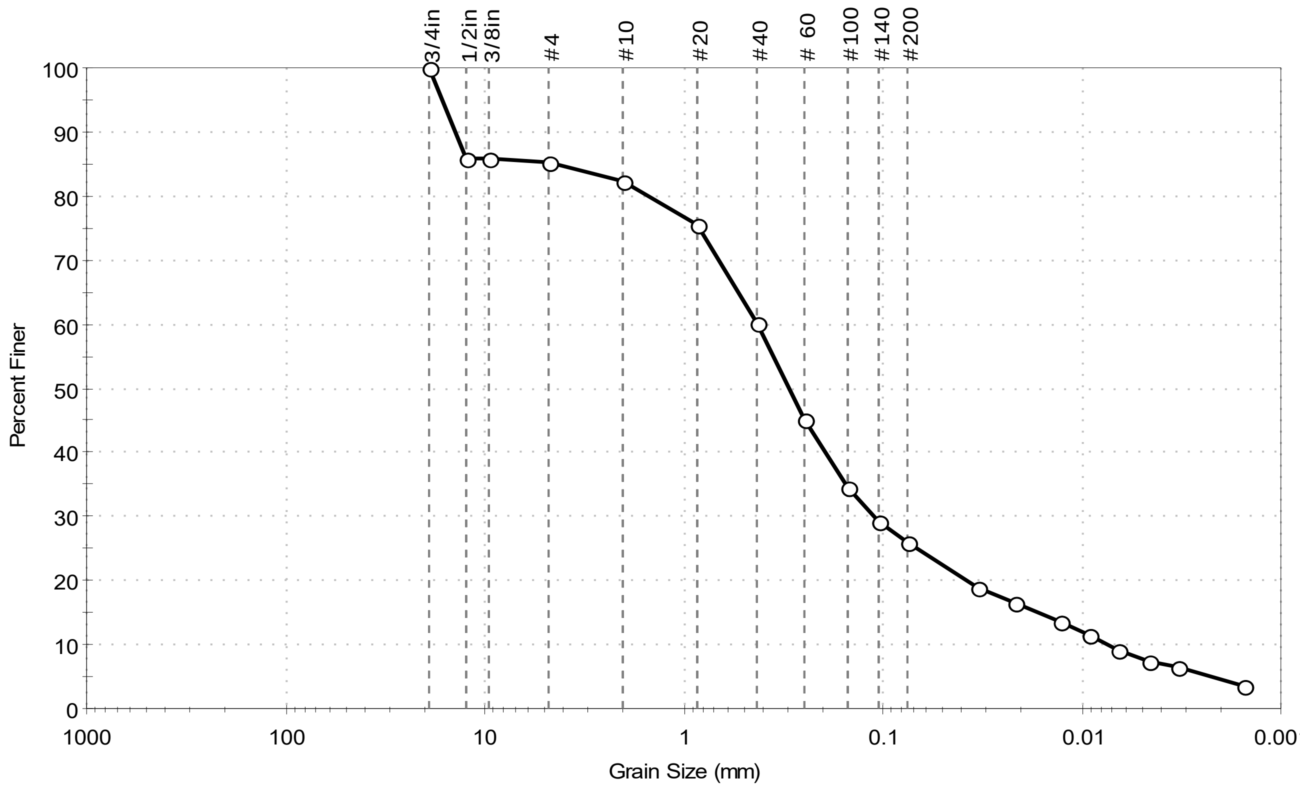
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Camp Hero RI				
Location:	Montauk, NY			Project No:	GTX-312957
Boring ID:	CH-MW045D	Sample Type:	bag	Tested By:	twh
Sample ID:	CH-MW045D-SB-30-50	Test Date:	12/30/20	Checked By:	MCM
Depth :	30-50	Test Id:	318373		

Test Comment: ---
Visual Description: Moist, gray clayey sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	14.9	59.3	25.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4in	19.00	100		
1/2in	12.50	86		
3/8in	9.50	86		
#4	4.75	85		
#10	2.00	82		
#20	0.85	75		
#40	0.42	60		
# 60	0.25	45		
#100	0.15	35		
#140	0.11	29		
#200	0.075	26		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0336	19		
---	0.0219	17		
---	0.0128	14		
---	0.0091	11		
---	0.0065	9		
---	0.0046	7		
---	0.0033	6		
---	0.0015	4		

Coefficients

D_{85} = 4.5450 mm
D_{30} = 0.1118 mm
D_{60} = 0.4221 mm
D_{15} = 0.0164 mm
D_{50} = 0.2972 mm
D_{10} = 0.0074 mm
C_u = 57.041
C_c = 4.002

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

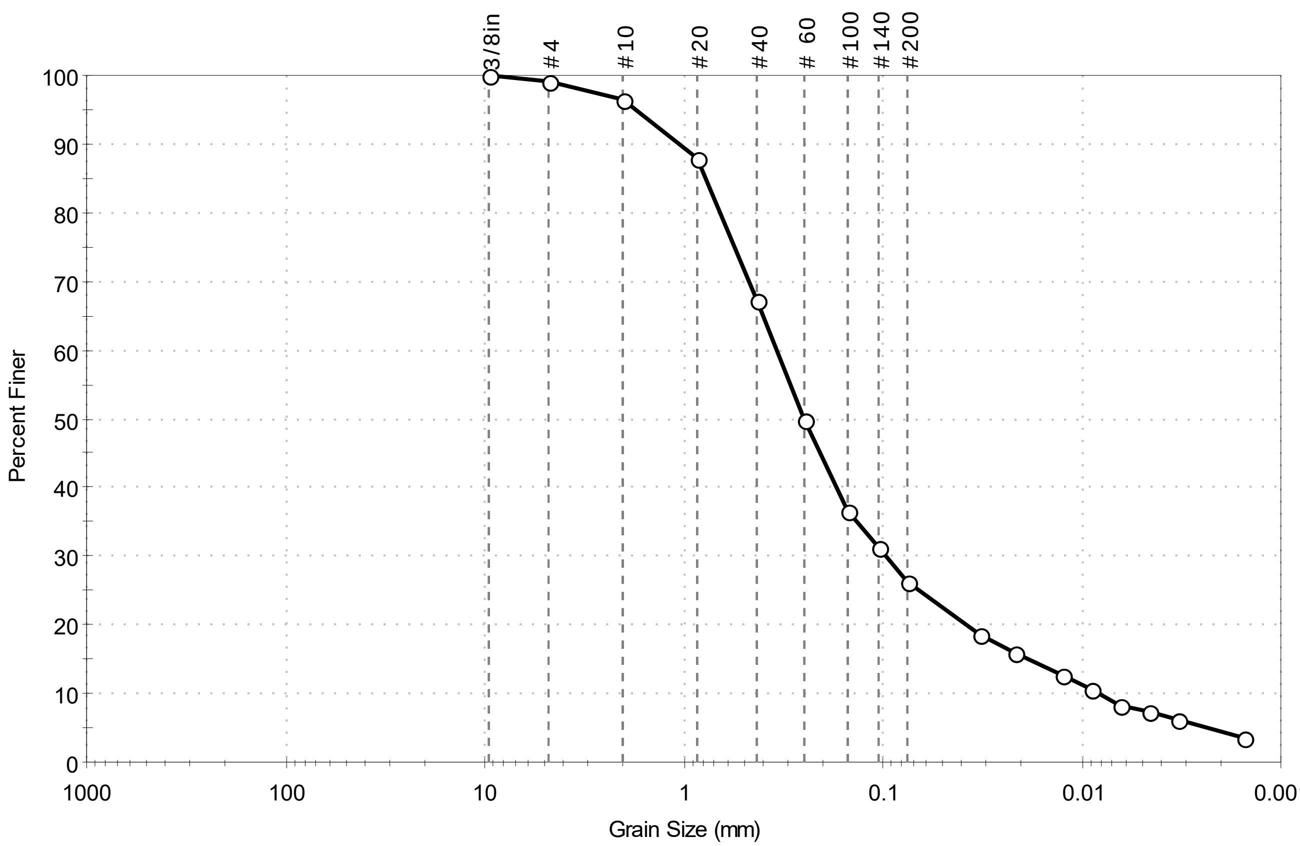
Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:58 AM

GeoTesting EXPRESS

Client:	AECOM		
Project:	Camp Hero RI		
Location:	Montauk, NY	Project No:	GTX-312957
Boring ID:	CH-MW045D	Sample Type: bag	Tested By: twh
Sample ID:	CH-MW045D-SB-40-50	Test Date: 12/30/20	Checked By: MCM
Depth :	40-50	Test Id: 318374	
Test Comment:	---		
Visual Description:	Moist, grayish brown silty sand		
Sample Comment:	---		

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.9	72.9	26.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8in	9.50	100		
#4	4.75	99		
#10	2.00	96		
#20	0.85	88		
#40	0.42	67		
# 60	0.25	50		
#100	0.15	37		
#140	0.11	31		
#200	0.075	26		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0326	19		
---	0.0215	16		
---	0.0126	13		
---	0.0090	11		
---	0.0065	8		
---	0.0046	7		
---	0.0033	6		
---	0.0015	3		

Coefficients

D_{85} = 0.7731 mm
D_{30} = 0.0979 mm
D_{60} = 0.3404 mm
D_{15} = 0.0186 mm
D_{50} = 0.2509 mm
D_{10} = 0.0081 mm
C_u = 42.025
C_c = 3.476

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

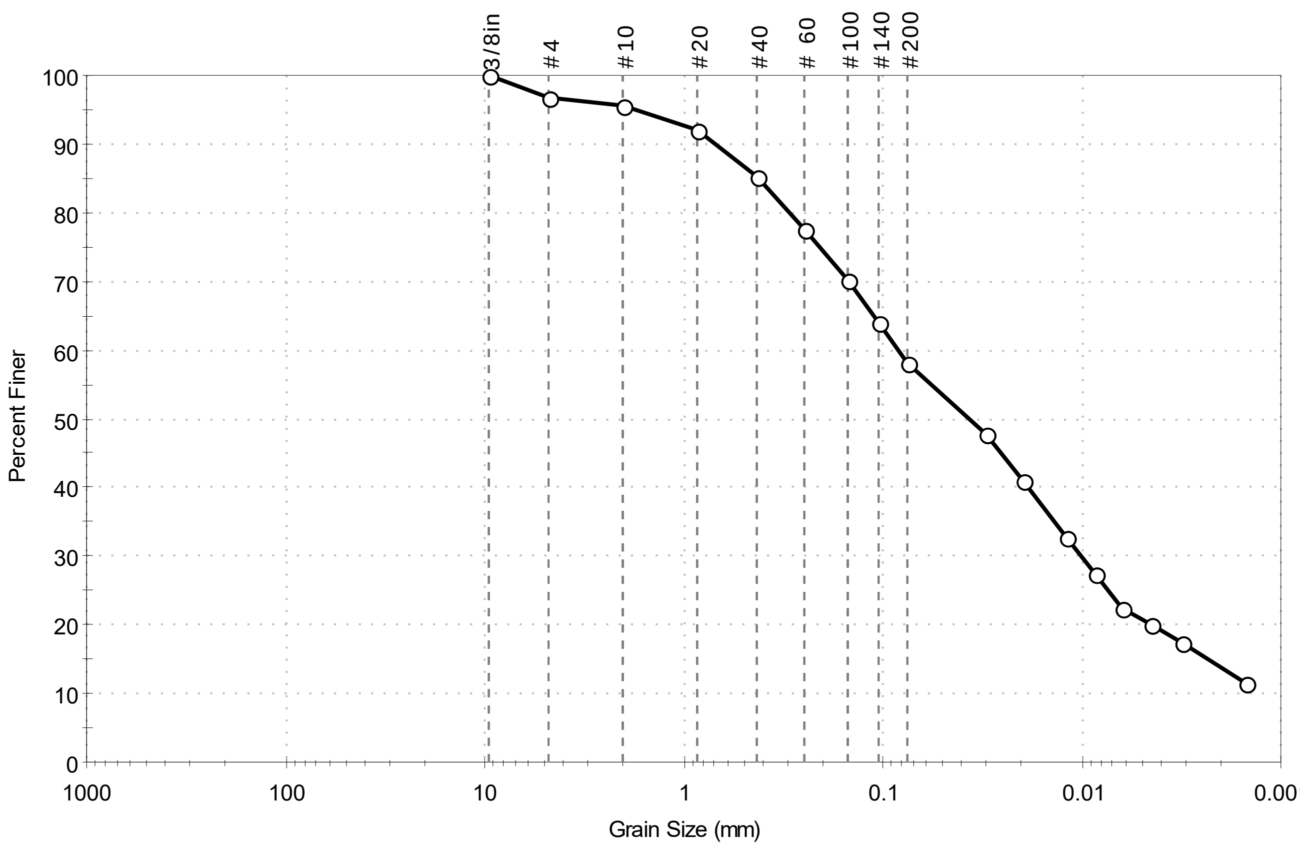
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:46:59 AM

Client: AECOM			
Project: Camp Hero RI			
Location: Montauk, NY		Project No:	GTX-312957
Boring ID: CH-MW045D	Sample Type: bag	Tested By:	twh
Sample ID: CH-MW045D-SB-50-60	Test Date: 12/30/20	Checked By:	MCM
Depth : 50-60	Test Id: 318375		
Test Comment: ---			
Visual Description: Moist, grayish brown sandy clay			
Sample Comment: ---			

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.1	38.7	58.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8in	9.50	100		
#4	4.75	97		
#10	2.00	96		
#20	0.85	92		
#40	0.42	85		
# 60	0.25	78		
#100	0.15	70		
#140	0.11	64		
#200	0.075	58		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0306	48		
---	0.0196	41		
---	0.0119	33		
---	0.0086	28		
---	0.0062	22		
---	0.0044	20		
---	0.0032	17		
---	0.0015	11		

Coefficients

D_{85} =0.4169 mm | D_{30} =0.0100 mm
D_{60} =0.0836 mm | D_{15} =0.0024 mm
D_{50} =0.0374 mm | D_{10} =N/A
C_u =N/A | C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

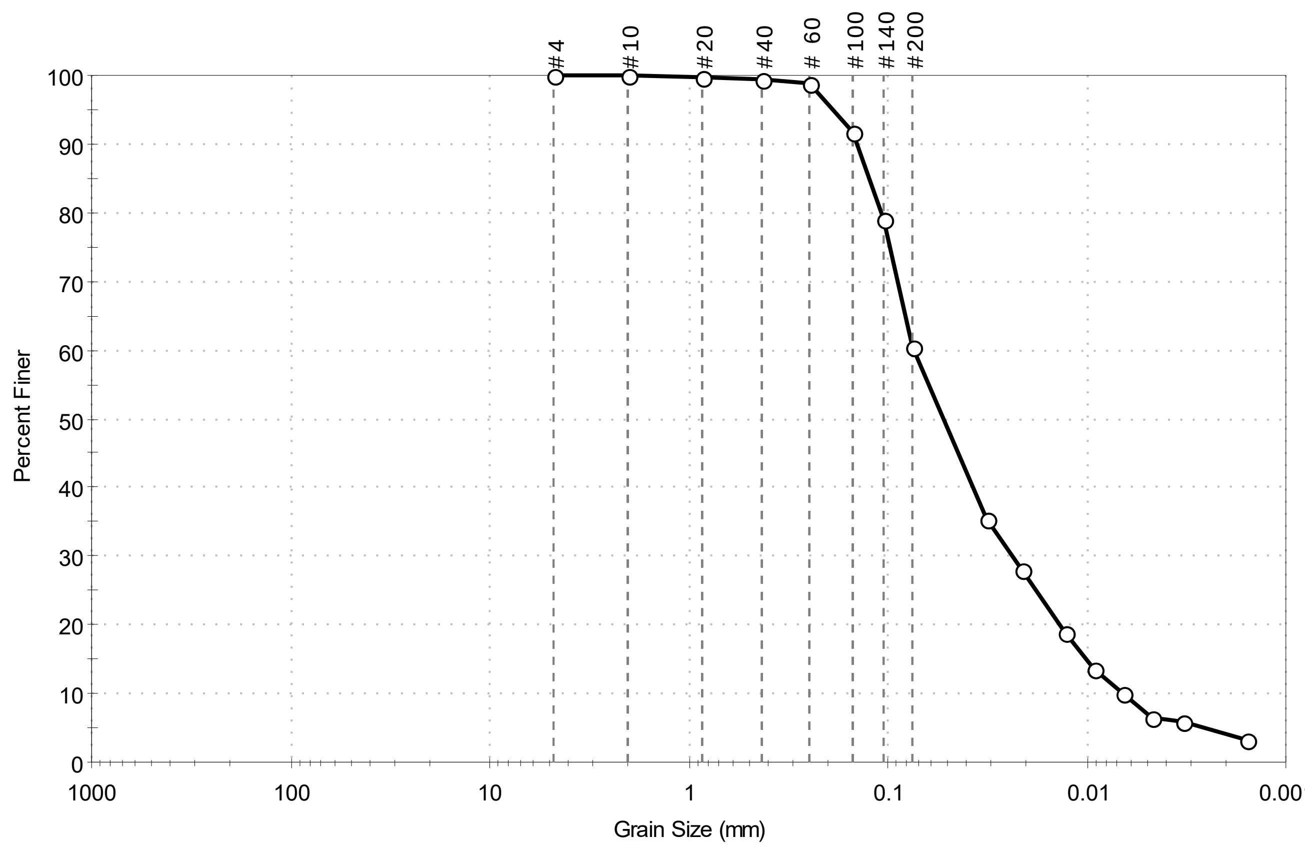
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:47:00 AM

Client:	AECOM
Project:	Camp Hero RI
Location:	Montauk, NY
Project No:	GTX-312957
Boring ID:	CH-MW045D
Sample Type:	bag
Tested By:	twh
Sample ID:	CH-MW045D-SB-60-70
Test Date:	12/30/20
Checked By:	MCM
Depth :	60-70
Test Id:	318376
Test Comment:	---
Visual Description:	Moist, grayish brown sandy silt
Sample Comment:	---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	39.5	60.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
# 60	0.25	99		
#100	0.15	92		
#140	0.11	79		
#200	0.075	60		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0315	35		
---	0.0210	28		
---	0.0127	19		
---	0.0091	14		
---	0.0066	10		
---	0.0047	6		
---	0.0033	6		
---	0.0016	3		

Coefficients

D_{85} = 0.1250 mm　　D_{30} = 0.0232 mm

D_{60} = 0.0737 mm　　D_{15} = 0.0100 mm

D_{50} = 0.0521 mm　　D_{10} = 0.0065 mm

C_u = 11.338　　C_c = 1.124

Classification

ASTM　N/A

AASHTO　Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

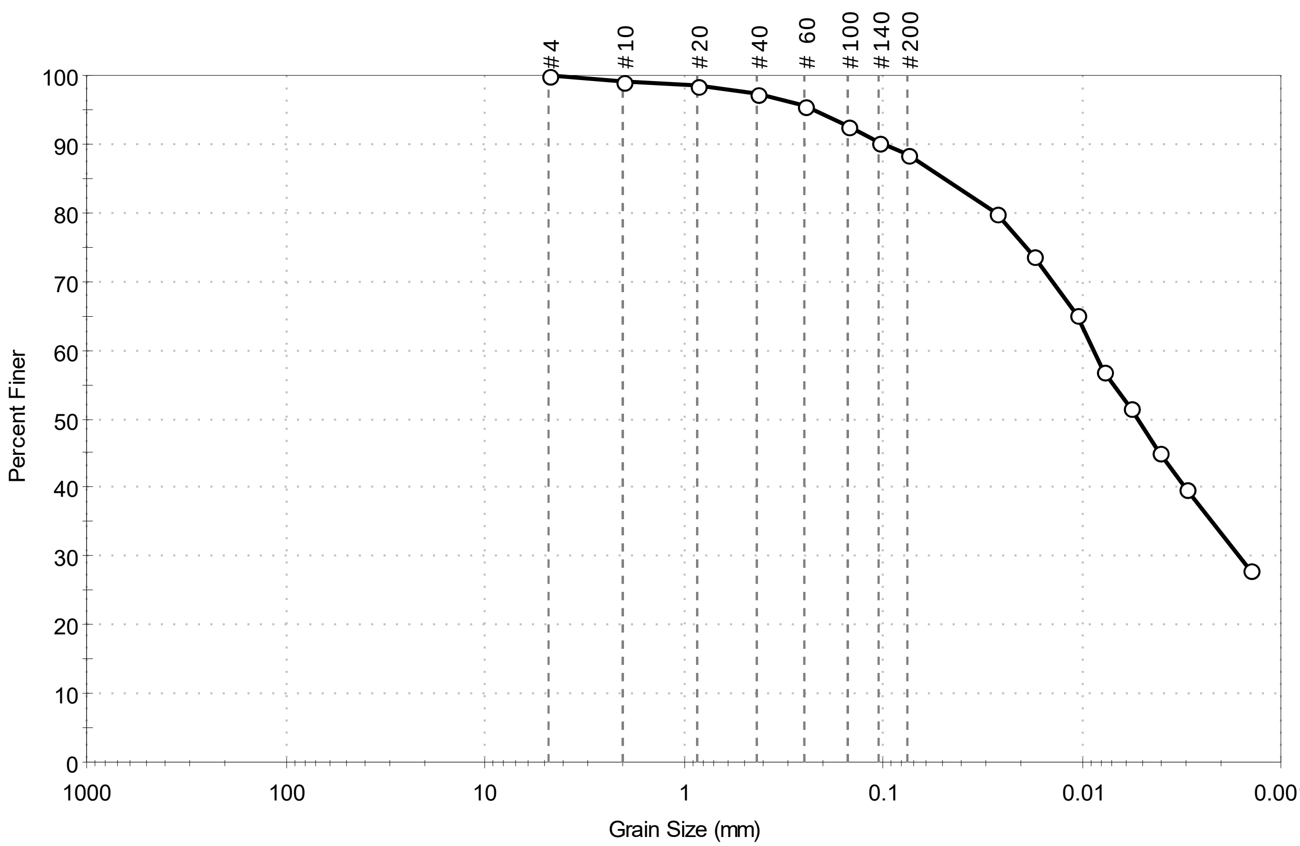
Separation of Sample: #200 Sieve

printed 1/6/2021 8:47:01 AM

Client:	AECOM			
Project:	Camp Hero RI			
Location:	Montauk, NY		Project No:	GTX-312957
Boring ID:	CH-MW045D	Sample Type: bag	Tested By:	twh
Sample ID:	CH-MW045D-SB-72-80	Test Date: 12/30/20	Checked By:	MCM
Depth :	72-80	Test Id: 318377		

Test Comment: ---
Visual Description: Moist, dark grayish brown clay
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	11.4	88.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	97		
# 60	0.25	96		
#100	0.15	93		
#140	0.11	90		
#200	0.075	89		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0267	80		
---	0.0177	74		
---	0.0107	65		
---	0.0079	57		
---	0.0057	52		
---	0.0041	45		
---	0.0030	40		
---	0.0014	28		

Coefficients

D_{85} = 0.0485 mm	D_{30} = 0.0016 mm
D_{60} = 0.0088 mm	D_{15} = N/A
D_{50} = 0.0053 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

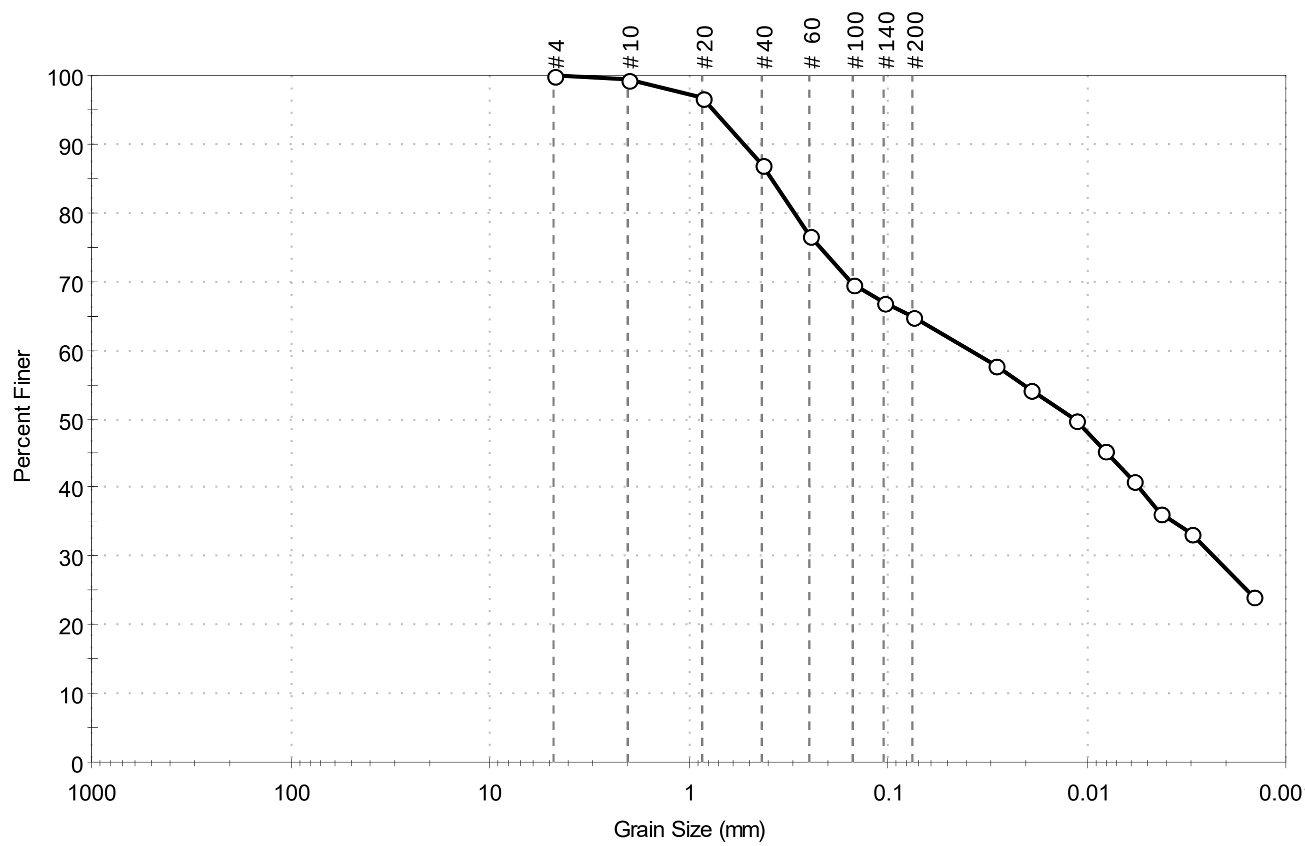
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:47:01 AM

Client:	AECOM		
Project:	Camp Hero RI		
Location:	Montauk, NY	Project No:	GTX-312957
Boring ID: CH-MW045D	Sample Type: bag	Tested By:	twh
Sample ID: CH-MW045D-SB-80-85	Test Date: 12/30/20	Checked By:	MCM
Depth : 80-85	Test Id: 318378		
Test Comment:	---		
Visual Description:	Moist, grayish brown sandy clay		
Sample Comment:	---		

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	35.1	64.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	97		
#40	0.42	87		
# 60	0.25	77		
#100	0.15	69		
#140	0.11	67		
#200	0.075	65		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0291	58		
---	0.0193	54		
---	0.0114	50		
---	0.0082	45		
---	0.0059	41		
---	0.0043	36		
---	0.0030	33		
---	0.0015	24		

Coefficients

D_{85} =0.3838 mm
D_{30} =0.0023 mm
D_{60} =0.0391 mm
D_{15} =N/A
D_{50} =0.0117 mm
D_{10} =N/A
C_u =N/A
C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

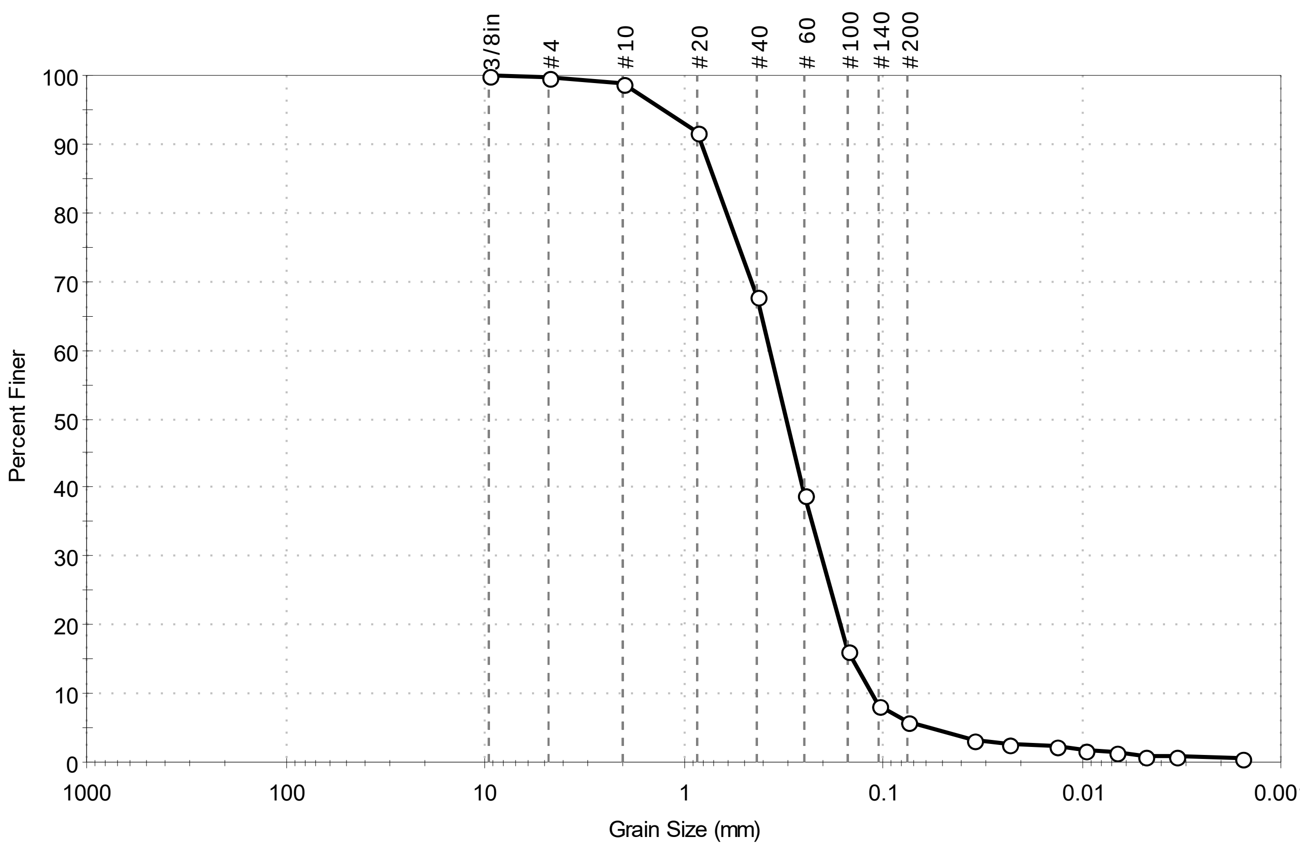
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client: AECOM			
Project: Camp Hero RI			
Location: Montauk, NY		Project No:	GTX-312957
Boring ID: CH-MW045D	Sample Type: bag	Tested By:	twh
Sample ID: CH-MW045D-SB-90-100	Test Date: 12/30/20	Checked By:	MCM
Depth : 90-100	Test Id: 318379		

Test Comment: ---
Visual Description: Moist, gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.3	93.7	6.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	92		
#40	0.42	68		
# 60	0.25	39		
#100	0.15	16		
#140	0.11	8		
#200	0.075	6.0		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0353	3		
---	0.0235	3		
---	0.0135	2		
---	0.0095	2		
---	0.0068	1		
---	0.0048	1		
---	0.0034	1		
---	0.0016	1		

Coefficients

D_{85} =0.7013 mm D_{30} =0.2044 mm
D_{60} =0.3680 mm D_{15} =0.1426 mm
D_{50} =0.3061 mm D_{10} =0.1147 mm
C_u =3.208 C_c =0.990

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

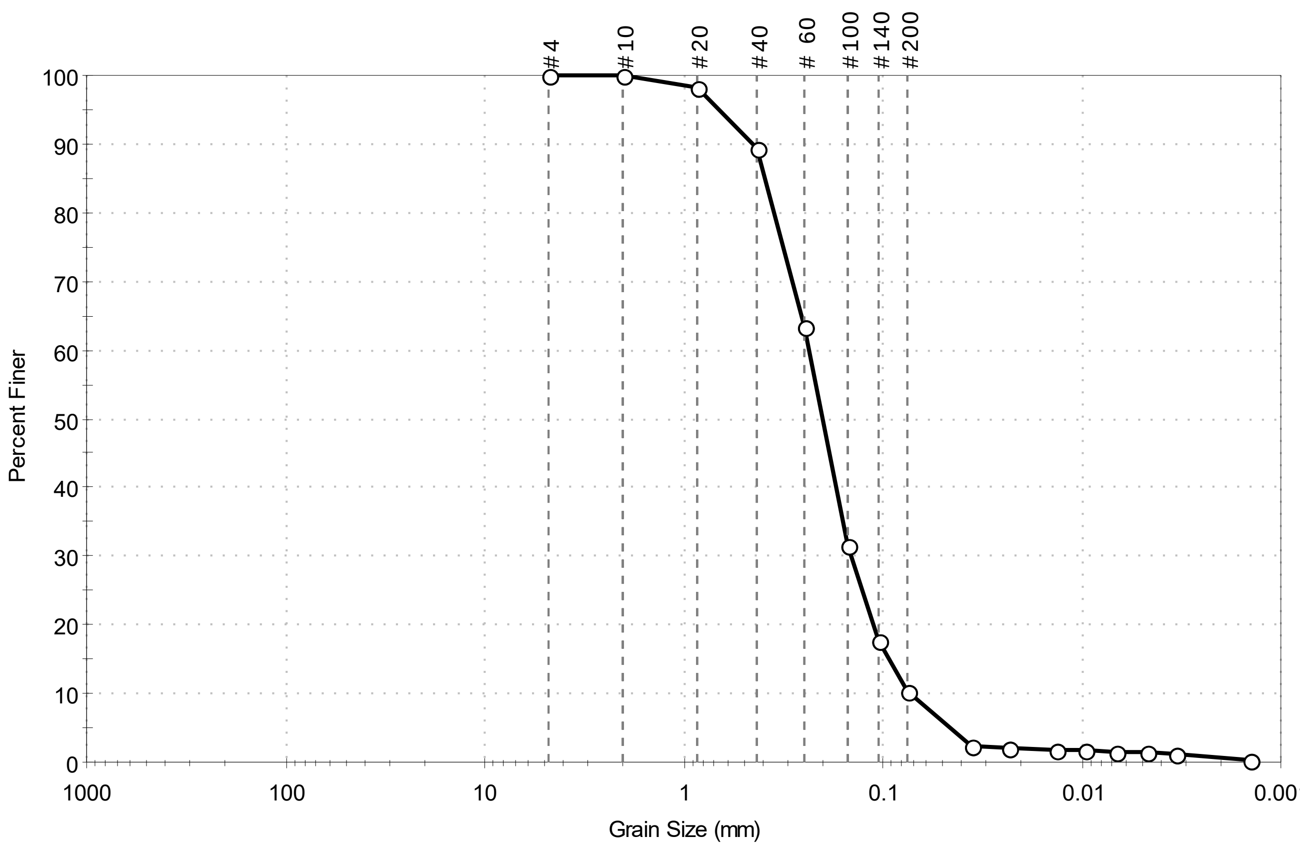
Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

printed 1/6/2021 8:47:03 AM

Client:	AECOM
Project:	Camp Hero RI
Location:	Montauk, NY
Project No:	GTX-312957
Boring ID:	CH-MW045D
Sample Type:	bag
Tested By:	twh
Sample ID:	CH-MW045D-SB-132-134
Test Date:	01/05/21
Checked By:	MCM
Depth :	132-134
Test Id:	318380
Test Comment:	---
Visual Description:	Moist, grayish brown sand with silt
Sample Comment:	---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	89.6	10.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	98		
#40	0.42	89		
# 60	0.25	63		
#100	0.15	32		
#140	0.11	18		
#200	0.075	10		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0361	2		
---	0.0235	2		
---	0.0134	2		
---	0.0095	2		
---	0.0067	1		
---	0.0048	1		
---	0.0034	1		
---	0.0014	0		

Coefficients

D_{85} = 0.3886 mm
D_{30} = 0.1441 mm
D_{60} = 0.2364 mm
D_{15} = 0.0933 mm
D_{50} = 0.2014 mm
D_{10} = 0.0723 mm
C_u = 3.270
C_c = 1.215

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/6/2021 8:47:04 AM

GeoTesting EXPRESS

SOIL CHAIN OF CUSTODY & TEST REQUEST

JWP Grain Size ASTM D 6913 and 7928 (Sieve & hydrometer)
moisture ASTM D 2216

GeoTesting Express, Inc.
125 Nagog Park
Acton, MA 01720
800 434 1062 Toll Free
978 635 0266 Fax

2358 Perimeter Park Drive, Suite 320
Atlanta, GA 30341
770 645 6575 Tel
770 645 6570 Fax

www.geotesting.com

CLIENT		INVOICE (complete if different from Client)	
Company: AECOM		Company:	
Address: 3101 Wilson Blvd		Address:	
City, State, Zip: Arlington, VA 22201		City, State, Zip:	
Contact: Devon Chicoine	Phone: 703-682-9069	Contact:	Phone:
E-mail: Devon.Chicoine@aecom.com	Cell:	E-mail:	Cell:

PROJECT		
Project Name: Camp Hero RI	Client Project #: 60443903	Purchase Order#:
Project Location: Montauk, NY	GTX Sales Order #:	Requested Turnaround: Standard
On-site Contact: Brendan McGuinness	E-mail: Brendan.McGuinness@aecom.com	Phone:703-~~682-1564~~ 618 2280

SOIL Boring ID	Sample ID	Depth	Atterberg Limits (ASTM D 4318)	USCS – Classification (ASTM D 2487)	Grain Size (ASTM D ~~422~~ 6913+7928) (Sieve Only) (Sieve & Hydrometer) please circle one	Density (ASTM D 2937) (ASTM D 7263) please circle one	Moisture Content (ASTM D 2216)	Organic Content (ASTM D 2974)	pH (ASTM D 4972)	Specific Gravity (ASTM D 854)	Electrical Resistivity (ASTM G 57)	Proctor Compaction (Standard – ASTM D 698) (Modified – ASTM D 1557) please circle one	California Bearing Ratio * (ASTM D 1883)	Direct Shear* (ASTM D 3080)	Triaxial Shear* (UU – ASTM D 2850) (CU – ASTM D 4767) (CD – ASTM D7181) Please circle one	Incremental Consolidation* (ASTM D 2435)	Permeability/ Hydraulic Conductivity* (Fixed Wall – ASTM D 2434) (Flexible Wall – ASTM D 5084) Please circle one	Unconfined Compression (ASTM D 2166)	Other:	Other:
CH-MW045D	CH-MW045D-SB	-00-10			✓		✓													
↓	CH-MW045D-SB-10	-30			✓		✓													
	CH-MW045D-SB-30	-50			✓		✓													
	CH-MW045D-SB	-40-50			✓		✓													
	CH-MW045D-SB	-50-60			✓		✓													
	CH-MW045D-SB	-60-70			✓		✓													
	CH-MW045D-SB	-72-80			✓		✓													
	CH-MW045D-SB	-80-85			✓		✓													
	CH-MW045D-SB	-90-100			✓		✓													
↓	CH-MW045D-SB	-132-134			✓		✓													

*Specify Test Conditions (Undisturbed or Remolded, Density and moisture, Test Normal Loads, Test Confining Stresses, etc.): ~~Grain size by sieve analysis only~~
Grain size via ASTM D6913 + 7928. Depths = last two #'s in sample ID.

AUTHORIZE BY SIGNING AND DATING:
SIGNATURE: [signature] PRINT NAME: Jack Hollingsworth DATE: 12/4/20

For GTX Use Only
Incoming Sample Inspection Performed ☐
Adverse conditions:

Relinquished By:	DATE: 12/4/20 TIME: 1600	Received By:	DATE: TIME:
Relinquished By: Brendan McGuinness	DATE: 12/6/20 TIME: 1600	Received By: [signature]	DATE: 12/9/2020 TIME: 10 am

[signature] 12/9/2020 3pm

GeoTesting
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SOIL CHAIN OF CUSTODY & TEST REQUEST

GeoTesting Express, Inc.
125 Nagog Park
Acton, MA 01720
800 434 1062 Toll Free
978 635 0266 Fax

2358 Perimeter Park Drive, Suite 320
Atlanta, GA 30341
770 645 6575 Tel
770 645 6570 Fax

www.geotesting.com

CLIENT	
Company: AECOM	
Address: 3101 Wilson Blvd	
City, State, Zip: Arlington, VA 22201	
Contact: Devon Chicoine	Phone: 703-682-9069
E-mail: Devon.Chicoine@aecom.com	Cell:

INVOICE (complete if different from Client)	
Company:	
Address:	
City, State, Zip:	
Contact:	Phone:
E-mail:	Cell:

PROJECT		
Project Name: Camp Hero RI	Client Project #: 60443903	Purchase Order#:
Project Location: Montauk, NY	GTX Sales Order #:	Requested Turnaround: Standard
On-site Contact: Brendan McGuinness	E-mail: Brendan.McGuinness@aecom.com	Phone:703-682-1564

SOIL

Boring ID	Sample ID	Depth	Atterberg Limits (ASTM D 4318)	USCS – Classification (ASTM D 2487)	Grain Size (~~ASTM D 422~~ 6913 + 7928) (Sieve Only) (Sieve & Hydrometer) please circle one	Density (ASTM D 2937) (ASTM D 7263) please circle one	Moisture Content (ASTM D 2216)	Organic Content (ASTM D 2974)	pH (ASTM D 4972)	Specific Gravity (ASTM D 854)	Electrical Resistivity (ASTM G 57)	Proctor Compaction (Standard – ASTM D 698) (Modified – ASTM D 1557) please circle one	California Bearing Ratio * (ASTM D 1883)	Direct Shear* (ASTM D 3080)	Triaxial Shear* (UU – ASTM D 2850) (CU – ASTM D 4767) (CD – ASTM D7181) Please circle one	Incremental Consolidation* (ASTM D 2435)	Permeability/ Hydraulic Conductivity* (Fixed Wall – ASTM D 2434) (Flexible Wall – ASTM D 5084) Please circle one	Unconfined Compression (ASTM D 2166)	Other:	Other:
CH-MW044	CH-MW044D-SB-	14-15			✓		✓													
	CH-MW044D-SB-	27-29			✓		✓													
	CH-MW044D-SB	-37-39			✓		✓													
	CH-MW044D-SB	-46-47			✓		✓													
	CH-MW044D-SB-	58-59			✓		✓													
	CH-MW044D-SB-	63-64			✓		✓													
	CH-MW044D-SB-	70-72			✓		✓													
	CH-MW044D-SB-	85-86			✓		✓													
	CH-MW044D-SB-	96-97			✓		✓													
	CH-MW044D-SB-	108-109			✓		✓													
	CH-MW044D-SB-	115-116			✓		✓													

*Specify Test Conditions (Undisturbed or Remolded, Density and moisture, Test Normal Loads, Test Confining Stresses, etc.): ~~Grain size by sieve analysis only~~

Grain size via ASTM D6913 + 7928.
Depths = last two numbers in sample IDs

Page 1 of 2

AUTHORIZE BY SIGNING AND DATING:

SIGNATURE: PRINT NAME: Jack Hollingsworth DATE: 12/6/20

For GTX Use Only
Incoming Sample Inspection Performed ☐
Adverse conditions:

Relinquished By:	DATE: 12/6/20 TIME: 1200	Received By:	DATE: 12/9/2020 TIME: 10 am
Relinquished By:	DATE: 12/9/2020 TIME: 3pm	Received By:	DATE: TIME:

GeoTesting EXPRESS

SOIL CHAIN OF CUSTODY & TEST REQUEST

GeoTesting Express, Inc.
125 Nagog Park
Acton, MA 01720
800 434 1062 Toll Free
978 635 0266 Fax

2358 Perimeter Park Drive, Suite 320
Atlanta, GA 30341
770 645 6575 Tel
770 645 6570 Fax

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CLIENT		INVOICE (complete if different from Client)	
Company: AECOM		Company:	
Address: 3101 Wilson Blvd		Address:	
City, State, Zip: Arlington, VA 22201		City, State, Zip:	
Contact: Devon Chicoine	Phone: 703-682-9069	Contact:	Phone:
E-mail: Devon.Chicoine@aecom.com	Cell:	E-mail:	Cell:

PROJECT		
Project Name: Camp Hero RI	Client Project #: 60443903	Purchase Order#:
Project Location: Montauk, NY	GTX Sales Order #:	Requested Turnaround: Standard
On-site Contact: Brendan McGuinness	E-mail: Brendan.McGuinness@aecom.com	Phone:703-682-1564

Boring ID	Sample ID	Depth	Atterberg Limits (ASTM D 4318)	USCS – Classification (ASTM D 2487)	Grain Size (ASTM D 422) 6913 + 7928 (Sieve Only) (Sieve & Hydrometer) please circle one	Density (ASTM D 2937) (ASTM D 7263) please circle one	Moisture Content (ASTM D 2216)	Organic Content (ASTM D 2974)	pH (ASTM D 4972)	Specific Gravity (ASTM D 854)	Electrical Resistivity (ASTM G 57)	Proctor Compaction (Standard – ASTM D 698) (Modified – ASTM D 1557) please circle one	California Bearing Ratio * (ASTM D 1883)	Direct Shear* (ASTM D 3080)	Triaxial Shear* (UU – ASTM D 2850) (CU – ASTM D 4767) (CD – ASTM D7181) Please circle one	Incremental Consolidation* (ASTM D 2435)	Permeability/ Hydraulic Conductivity* (Fixed Wall – ASTM D 2434) (Flexible Wall – ASTM D 5084) Please circle one	Unconfined Compression (ASTM D 2166)	Other:	Other:
CH-MW044	CH-MW044D-SB-123-125				✓		✓													
	CH-MW044D-SB-136-138				✓		✓													
	CH-MW044D-SB-157-159				✓		✓													

*Specify Test Conditions (Undisturbed or Remolded, Density and moisture, Test Normal Loads, Test Confining Stresses, etc.): ~~Grain size by sieve analysis only~~

Page 2 of 2

Grain Size via ASTM D 6913 + 7928
Depth = last two #s on sample ID

AUTHORIZE BY SIGNING AND DATING:

SIGNATURE: PRINT NAME: Jack Hollingsworth DATE: 12/6/20

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Incoming Sample Inspection Performed ☐
Adverse conditions:

Relinquished By:	DATE: 12/6/20 TIME: 1300	Received By:	DATE: 12/9/2020 TIME: 10am
Relinquished By:	DATE: 12/9/2020 TIME: 3pm	Received By:	DATE: TIME:

GeoTesting
EXPRESS

WARRANTY and LIABILITY

GeoTesting Express (GTX) warrants that all tests it performs are run in general accordance with the specified test procedures and accepted industry practice. GTX will correct or repeat any test that does not comply with this warranty. GTX has no specific knowledge as to conditioning, origin, sampling procedure or intended use of the material.

GTX may report engineering parameters that require us to interpret the test data. Such parameters are determined using accepted engineering procedures. However, GTX does not warrant that these parameters accurately reflect the true engineering properties of the *in situ* material. Responsibility for interpretation and use of the test data and these parameters for engineering and/or construction purposes rests solely with the user and not with GTX or any of its employees.

GTX's liability will be limited to correcting or repeating a test which fails our warranty. GTX's liability for damages to the Purchaser of testing services for any cause whatsoever shall be limited to the amount GTX received for the testing services. GTX will not be liable for any damages, or for any lost benefits or other consequential damages resulting from the use of these test results, even if GTX has been advised of the possibility of such damages. GTX will not be responsible for any liability of the Purchaser to any third party.

Commonly Used Symbols

A	pore pressure parameter for $\Delta\sigma_1 - \Delta\sigma_3$
B	pore pressure parameter for $\Delta\sigma_3$
CIU	isotropically consolidated undrained triaxial shear test
CR	compression ratio for one dimensional consolidation
C_c	coefficient of curvature, $(D_{30})^2 / (D_{10} \times D_{60})$
C_u	coefficient of uniformity, D_{60}/D_{10}
C_c	compression index for one dimensional consolidation
C_α	coefficient of secondary compression
c_v	coefficient of consolidation
c	cohesion intercept for total stresses
c'	cohesion intercept for effective stresses
D	diameter of specimen
D_{10}	diameter at which 10% of soil is finer
D_{15}	diameter at which 15% of soil is finer
D_{30}	diameter at which 30% of soil is finer
D_{50}	diameter at which 50% of soil is finer
D_{60}	diameter at which 60% of soil is finer
D_{85}	diameter at which 85% of soil is finer
d_{50}	displacement for 50% consolidation
d_{90}	displacement for 90% consolidation
d_{100}	displacement for 100% consolidation
E	Young's modulus
e	void ratio
e_c	void ratio after consolidation
e_o	initial void ratio
G	shear modulus
G_s	specific gravity of soil particles
H	height of specimen
PI	plasticity index
i	gradient
K_o	lateral stress ratio for one dimensional strain
k	permeability
LI	Liquidity Index
m_v	coefficient of volume change
n	porosity
PI	plasticity index
P_c	preconsolidation pressure
p	$(\sigma_1 + \sigma_3) / 2$, $(\sigma_v + \sigma_h) / 2$
p'	$(\sigma'_1 + \sigma'_3) / 2$, $(\sigma'_v + \sigma'_h) / 2$
p'_c	p' at consolidation
Q	quantity of flow
q	$(\sigma_1 - \sigma_3) / 2$
q_f	q at failure
q_o, q_i	initial q
q_c	q at consolidation
S	degree of saturation
SL	shrinkage limit
s_u	undrained shear strength
T	time factor for consolidation

T	temperature
t	time
U, UC	unconfined compression test
UU, Q	unconsolidated undrained triaxial test
u_a	pore gas pressure
u_e	excess pore water pressure
u, u_w	pore water pressure
V	total volume
V_g	volume of gas
V_s	volume of solids
V_v	volume of voids
V_w	volume of water
V_o	initial volume
v	velocity
W	total weight
W_s	weight of solids
W_w	weight of water
w	water content
w_c	water content at consolidation
w_f	final water content
w_l	liquid limit
w_n	natural water content
w_p	plastic limit
w_s	shrinkage limit
w_o, w_i	initial water content
α	slope of q_f versus p_f
α'	slope of q_f versus p_f'
γ_t	total unit weight
γ_d	dry unit weight
γ_s	unit weight of solids
γ_w	unit weight of water
ε	strain
ε_{vol}	volume strain
ε_h, ε_v	horizontal strain, vertical strain
μ	Poisson's ratio, also viscosity
σ	normal stress
σ'	effective normal stress
σ_c, σ'_c	consolidation stress in isotropic stress system
σ_h, σ'_h	horizontal normal stress
σ_v, σ'_v	vertical normal stress
σ_1	major principal stress
σ_2	intermediate principal stress
σ_3	minor principal stress
τ	shear stress
φ	friction angle based on total stresses
φ'	friction angle based on effective stresses
φ'_r	residual friction angle
φ_{ult}	φ for ultimate strength

Appendix E

Evaluation of Analytical Data

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Appendix E

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LIST OF ATTACHMENTS

ACRONYMS AND ABBREIVATIONS

%	percent
ATSDR	Agency for Toxic Substances and Disease Registry
BaP	benzo(a)pyrene
Cr^{3+}	trivalent chromium
Cr^{6+}	hexavalent chromium
HHSE	Human Health Screening Evaluation
HMW	high molecular weight
KM	Kaplan-Meier
LMW	low molecular weight
LOD	limit of detection
LOQ	limit of quantitation
MCL	maximum contaminant level
MDL	method detection limit
ND	non-detect
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PAST	Paleontological STatistics
RI	remedial investigation
SVOC	semivolatile organic compound
TEF	toxicity equivalence factors
TEQ	toxicity equivalence
UCL	upper confidence limit
µg/L	microgram per liter
UGA	Upper Glacial Aquifer
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

1.0 INTRODUCTION

This appendix documents the significant components of the analytical data evaluation conducted as part of the Camp Hero Phase IV Remedial Investigation (RI). The purposes of conducting the data evaluation were to summarize the groundwater data collected at the site in December 2020 and February 2021 and to support various aspects of Human Health Screening Evaluation (HHSE) for the Phase IV RI.

1.1 Evaluation of Analytical Data Organization

This appendix is organized into the following sections:

- **Section 1.0**: Introduction – Describes the purpose, scope, and objectives of the evaluation of analytical data.
- **Section 2.0**: Data Handling and Evaluation – Describes the datasets and how they were used in subsequent statistical evaluations.
- **Section 3.0**: Summary Statistics – Calculates summary statistics of the Phase IV groundwater analytical results.
- **Section 4.0**: Polycyclic aromatic hydrocarbon (PAH)/polychlorinated biphenyl (PCB) Totals Calculation Results – Describes how PAH/PCB totals were calculated for the purpose of the HHSE.
- **Section 5.0**: Handling of Speciated Chromium Results – Discusses how speciated chromium concentrations were calculated and the rationale.
- **Section 6.0**: Statistical Comparison between the December 2020 and February 2021 Events – Discusses whether data from the two sampling events could be combined based on a statistical paired analysis. A brief discussion of the statistical comparison results is also included.
- **Section 7.0**: Statistical Comparison of Iron and Manganese Concentrations between Offsite and Onsite Wells – Describes how the hypothesis testing was performed to compare the iron and manganese concentrations between the groups of offsite and onsite wells. A brief discussion of the statistical comparison results is also included.

The following attachments are included in this appendix:

- **Attachment A** contains the references for the Evaluation of Analytical Data appendix.
- **Attachment B** contains the summary statistics of the groundwater data.
- **Attachment C** contains the PAH/PCB totals calculation results.
- **Attachment D** contains the summary of the paired analysis results to compare December 2020 and February 2021 data.

- **Attachment E** contains the summary of the hypothesis testing results to compare offsite and onsite data of iron and manganese.

2.0 DATA HANDLING AND EVALUATION

This section describes the Phase IV RI groundwater datasets and how they were handled for the subsequent data and statistical evaluation.

2.1 Phase IV RI Groundwater Datasets

As part of the Phase IV RI field investigation, two rounds (December 2020 and February 2021) of groundwater samples were collected from a total of 14 Upper Glacial Aquifer (UGA) wells: seven onsite UGA wells, including the four newly-installed permanent monitoring wells, and seven offsite UGA wells, as summarized on **Table 2-5** in **Appendix B**. **Figure 2-1** in **Appendix A** displays the locations of the groundwater wells.

The Phase IV activities are documented in Field Documentation (**Appendix C**), and the laboratory analytical data reports are provided in Analytical Results and Validation (**Appendix D**). Groundwater samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), PCBs, and metals, including hexavalent chromium (Cr^{6+}) and mercury. Both total (unfiltered) and dissolved (filtered) samples were collected for metals (including Cr^{6+} and mercury). The full analytical results of the groundwater samples are provided in **Appendix B2**.

2.2 Data Evaluation and Handling

Groundwater samples were analyzed using the following United States Environmental Protection Agency (USEPA) methods:

- SW6020B (all other metals), SW7470A (mercury), and E218.6 (Cr^{6+}), for both filtered (dissolved) and unfiltered (total) fractions
- SW8260C (VOCs)
- BNASIM (PAHs) and SW8270D (all other SVOCs)
- SW8082A (PCBs)

All validated, qualified data were considered usable for this study, and there were no unusable or rejected ("R" qualified) samples.

The limit of quantitation (LOQ) is the lowest concentration of a substance that produces a quantitative result within specified limits of precision and bias. The LOQ is typically larger than the limit of detection (LOD) but may be equal to the LOD, depending upon the acceptance limits for precision and bias; therefore, the following is true:

$$\text{Method Detection Limit (MDL)} < \text{LOD} \leq \text{LOQ}$$

Quantitative results can only be achieved at or above the LOQ. Measurements between the MDL and the LOQ assure the presence of the analyte with confidence, but their numeric values are estimates

("J" qualified). Data reported as non-detects (NDs) (i.e., "U" qualified) are considered censored data below the LOD.

No "B" qualified results (blank contamination) were identified in the background datasets. However, "J" qualified results (estimated values) were identified and carried forward as detected results.

When a sample consisted of a normal/duplicate pair, the following data processing was performed to ensure reasonable data independence:

- When both normal and duplicate pairs were detected, the average of the pairs was taken.
- When both normal and duplicate pairs were NDs, the sample with the lower LOD was taken.
- When of the normal and duplicate pairs was ND and the other was detected, the detected result was taken.

3.0 Summary Statistics

Attachment B presents the summary statistics for the groundwater samples collected from both rounds of sampling. The summary statistics include number of samples, detection rate, mean, standard deviation, minimum and maximum detected values, and the minimum and maximum of the LOD of NDs. The summary statistics are grouped by Location Group (i.e., Offsite "Local Conditions") and Onsite) and by analyte.

Many of the metals were detected in one of more samples, except Cr^{6+} (further discussed in **Section 5.0**). For the onsite wells, the following metals were 100 percent (%) NDs for both total and dissolved fractions: beryllium, cadmium, selenium, and thallium; for the offsite wells, these metals were detected in either or both total and dissolved fractions.

PCBs were 100% NDs for the onsite wells, but they were detected in the form of Aroclor 1260 in two samples from the offsite wells.

SVOCs and VOCs were mostly NDs or 100% NDs for both onsite and offsite wells, with the exception of these four SVOCs: 1,4-dioxane, fluoranthene, phenanthrene, and pyrene, as well as five VOCs: 2-butanone (methyl ethyl ketone, acetone, carbon disulfide, chloroform, and *o*-xylene, where three or more samples from the onsite wells were reported to have detected results.

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4.0 PAH/PCB Totals Calculation Results

Total PAH, total benzo(a)pyrene (BaP) toxicity equivalence (TEQ), and total PCB concentrations were derived for each sample to support the HHSE.

4.1 Polycyclic Aromatic Hydrocarbon Summation Concentrations

PAHs constitute a class of organic substances made up of carbon and hydrogen atoms grouped into at least two condensed aromatic ring structures. The low molecular weight (LMW) PAHs are composed of fewer than four rings, and the high molecular weight (HMW) PAHs are composed of four or more rings. The bioavailability of PAHs in soil is influenced by organic carbon quality and quantity, aging and weather, microbial action, methylation/hydroxylation, adsorption/desorption hysteresis, and ultraviolet light interaction (Fairbrother, 2005). The USEPA has grouped the PAHs into LMW and HMW categories as a means to address the differences in physical and chemical properties of individual PAHs that influence toxicity and environmental fate (USEPA, 2007). The following table presents the LMW and HMW PAHs categories and the molecular weight of each individual PAH.

LMW PAHs	CAS No.	Molecular Weight	HMW PAHs	CAS No.	Molecular Weight
1-Methylnaphthalene	90-12-0	142.2	Benzo(a)anthracene	56-55-3	228.3
2-Methylnaphthalene	91-57-6	142.2	Benzo(a)pyrene	50-32-8	252.3
Acenaphthene	83-32-9	154.2	Benzo(b)fluoranthene	205-99-2	252.3
Acenaphthylene	208-96-8	152.2	Benzo(g,h,i)perylene	191-24-2	276.3
Anthracene	120-12-7	178.2	Benzo(k)fluoranthene	207-08-9	252.3
Fluoranthene	206-44-0	202.3	Chrysene	218-01-9	228.3
Fluorene	86-73-7	166.2	Dibenz(a,h)anthracene	53-70-3	278.4
Naphthalene	91-20-3	128.2	Indeno(1,2,3-cd)pyrene	193-39-5	276.3
Phenanthrene	85-01-8	178.2	Pyrene	129-00-0	202.3

No. = number

Source: USEPA, 2007 and Agency for Toxic Substances and Disease Registry (ATSDR), 1995

To derive the total PAH concentration, the concentrations of all PAHs listed above were summed for each sample. For data sets with NDs, the LOD was applied, and the concentration values were summed using the Kaplan-Meier (KM) method (Helsel, 2009). This approach addressed the issue of summing a data set containing NDs (i.e., censored values). The KM method required at least two distinct detected results; if this condition was not met (i.e., only one distinct detected result or all results were NDs), a simple sum of detected result and LOD of NDs was used to represent the total concentration. Thus, each sample had representative total PAH concentration values.

BaP TEQ concentrations were also derived for each sample to support the HHSE. Carcinogenic PAHs exhibit similar toxicological properties but differ from BaP in the degree of toxicity. TEQ factors (TEFs) were applied to adjust the measured concentration of the carcinogenic PAHs in relation to BaP, which is the most toxic. The following table presents the carcinogenic PAHs and their corresponding TEFs (USEPA, 1993).

Carcinogenic PAHs	TEFs
Benzo(a)anthracene	0.1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.01
Chrysene	0.001
Dibenz(a,h)anthracene	1
Indeno(1,2,3-cd)pyrene	0.1

Source: USEPA, 1993

The individual carcinogenic PAH concentrations were multiplied by the TEF, then the TEF-multiplied concentrations were summed for each sample. When one or more of the carcinogenic PAHs were NDs, similar to the total PAH summation, the LOD was applied, and the TEF-multiplied concentrations were summed using the KM method (Helsel, 2009). The PAH summation results of each sample are provided in **Attachment C**.

4.2 Polychlorinated Biphenyl Summation Concentrations

Similar to the total PAH concentrations, the summation of aroclor concentrations (Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260, Aroclor 1262, and Aroclor 1268) was also performed to represent the total PCB concentration of each sample for the HHSE. The KM method (Helsel, 2009) was also used for the summation process, when feasible. The PCB summation results of each sample are provided in **Attachment C**.

4.3 Summations Using Kaplan-Meier Method

The KM method is a non-parametric statistical method and does not require assumptions of normality (Kaplan and Meier, 1958). The KM method is currently the recommended method used in USEPA ProUCL software (USEPA, 2016) for calculating the 95% upper confidence limit (UCL) for data sets with one or more censored results (Singh and Maichle, 2015a; Singh and Singh, 2015b). In the application of summing a group of related compounds, the KM mean was estimated from a set data (consisting of detected and ND values) coming from a given sample. This KM mean was then multiplied by the number of compounds (mean × *n*) to compute the sum for the sample.

In this calculation process, the KM method (as encoded in the ProUCL software) was used to sum the total PAH and PCB concentrations and calculate the weighted sum of BaP TEQ, with the incorporation of the Efron's bias correction; the minimum result (if it is a censored value) was re-coded as a detected result (USEPA, 2010). This bias correction has been implemented by the latest version of the ProUCL software (Version 5.1.002). The KM method was used with the ProUCL software whenever feasible (i.e., when there were five or more components to the sum and at least two distinct detected results). To safeguard against a potential biased-high estimate of the KM mean, if the KM summation result in a total concentration was greater than a simple summation (or weighted-summation) of detected concentrations and full censoring concentrations (i.e., LOD) of the ND data, the simple sum was used to establish an upper bound of the total concentration value.

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5.0 Handling of Speciated Chromium Results

The original laboratory calculated the concentration for trivalent chromium (Cr^{3+}) by subtracting Cr^{6+} concentration from total chromium concentration. If the Cr^{6+} results were suspect because the LOD was not sensitive enough to capture Cr^{6+}detections (i.e., LOD exceeded the risk-based screening criteria), then both sets of speciated chromium results (Cr^{3+} and Cr^{6+}) were suspect and had a high level of uncertainty associated with them.

During the second round of sampling (February 2021), in addition to the original laboratory, groundwater samples were also sent to a second laboratory (non-Department of Defense), where Cr^{6+} was able to be analzyed using a lower LOD to correct for the results from the first round of sampling. In place of the Cr^{3+} concentrations reported by the laboratory in the first and second rounds, Cr^{3+} concentrations were calculated by taking the difference between total chromium and Cr^{6+} concentrations (February 2021 event only). If both the total chromium and Cr^{6+} results were NDs, the difference between the LODs was used for the risk calculation of Cr^{3+}.

To verify that such data handling of speciated chromium results was reasonable, the data collected from the second round of sampling were used to generate ratios of Cr^{6+} to total chromium, similar to what was presented in the *Final Remedial Investigation Report* (AECOM-Tidewater JV, 2019), as follows:

$$\text{Ratio (unitless)} = \frac{Cr^{6+}\ Concentration\ \left({}^{ug}/_{L}\right)\ from\ the\ second\ lab}{Total\ Cr\ Concentration\ \left({}^{ug}/_{L}\right)\ from\ the\ original\ lab}$$

Only samples where detected results were reported for Cr^{6+} (from the second laboratory) were used to calculate this ratio. The average ratio, based on 17 pairs of samples, was 0.24, which is in line with the average ratio of 0.3 calculated for the *Final Remedial Investigation Report* (AECOM-Tidewater JV, 2019).

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6.0 Statistical Comparison between the December 2020 and February 2021 Events

6.1 Purpose of Event Comparison

Tw0 samples were collected from each groundwater well during two separate sampling events that occurred approximately 3 months apart (December 2020 and February 2021). The datasets for each event were evaluated, on a chemical-by-chemical basis, to determine if they were statistically similar enough to combine into a larger and more robust dataset, rather than keeping them separate for the purpose of HHSE. The increase in the sample size would benefit the efficiency and reliability of the HHSE's screening and risk calculation. The objectives of assessing the similarities between the two events were to determine whether or not there were substantial seasonal effects or differences in concentrations of each chemical collected and to determine if the overall event-to-event concentrations were statistically similar (i.e., no systematic bias between the two events).

6.2 Approach and Methodology

The statistical comparison of two paired datasets was used for this evaluation. Typically, this method is used to compare two datasets where each data point could be "paired" with another data point. In this context, the reported concentration value from a given well and a given chemical for the December 2020 event was "paired" with the concentration value from the same well and same chemical from the February 2021 event. The paired differences were then calculated and statistically tested to determine whether they were significantly above or below zero, at the 95% confidence level. The statistical test was conducted separately for each chemical, with the following conditions:

- The test was not conducted for chemicals where both events were 100% NDs.
- For metals, the test was conducted for dissolved fraction only.
- The test was conducted for both actual concentration differences (absolute differences), as well as for percentage concentration differences.
- The parametric *t*-test and the non-parametric Wilcoxon Signed-Rank test, 2-sided was used (USEPA, 2006).

6.3 Event Comparison Results

Attachment D summarizes the results of statistical comparison between the two events. Of the 112 chemicals under this statistical evaluation, 61 chemicals were 100% NDs for both events. Of the remainder of 51 chemicals, only dissolved nickel showed significant differences between the two events, where the February 2021 event consistently showed lower concentrations across the 14 wells sampled. The average dissolved nickel concentrations for the December 2020 and February 2021 events were 3.82 micrograms per liter (µg/L) and 1.34 µg/L, respectively, and it appeared that the magnitude of differences (i.e., practical differences) was not large.

Based on this statistical evaluation, data from these two events were assessed to be similar, with no systematic, consistent differences. As such, it is reasonable to combine the data from these two events for the HHSE.

7.0 Statistical Comparison of Iron and Manganese Concentrations between Offsite and Onsite Wells

7.1 Purpose of Iron and Manganese Population Comparison

Two heavy metals, iron and manganese consistently exceeded New York State drinking water maximum contaminant levels (MCLs) in groundwater during the Phase IV RI; a federal MCL has not been established for these two constituents, as they are considered essential nutrients. As a result, the HHSE identified iron and manganese as onsite groundwater chemicals of concern in the UGA because both inorganics contributed to target organ endpoint hazard indices that were above the USEPA cumulative non-cancer threshold of 1 and were detected above New York State MCLs. Therefore, iron and manganese were selected for additional statistical evaluation due to their elevated number of detections and concentrations compared to other detected constituents. Both compounds have commercial uses, but it is highly unlikely that iron and manganese found in deep groundwater originated from Camp Hero Formerly Used Defense Site activities.

This subsection describes the statistical methodology used to compare the offsite ("local condition") and onsite population concentrations for iron and manganese. The main objective of this statistical analysis was to assess whether iron and manganese detected in groundwater from onsite wells had a site concentration significantly higher than the offsite concentration. The statistical population comparison was performed to support the HHSE.

7.2 Approach and Methodology

The comparison of two independent datasets was used for this evaluation. Typically, this method was used to compare the investigation area (i.e., onsite wells) to the corresponding offsite area as part of the evaluation to determine if iron and manganese concentrations were present at levels significantly greater than the local condition levels. This population-to-population comparison evaluated whether the mean site values were statistically greater than the mean local condition values. This statistical analysis was performed separately for each of the sampling events.

7.2.1 Methods of Hypothesis Testing

Hypothesis testing refers to a category of statistical analysis methods used to choose between two competing statements or hypotheses. One is called the null hypothesis, denoted by H_0, and the other is called the alternative hypothesis, denoted by H_A. The null hypothesis is the baseline condition that is assumed to be true in the absence of any data. If the data provide sufficiently strong evidence contrary to the null hypothesis, the null hypothesis is rejected, and the alternative hypothesis is accepted. If the data do not provide sufficiently strong evidence, the null hypothesis cannot be rejected.

For this study, the hypothesis testing methods used were those described in the USEPA guidance document *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites*

(USEPA, 2002) and those recommended by environmental statistics expert Dr. Dennis Helsel (Helsel, 2017). For the comparison between the onsite and offsite UGA groundwater, the hypothesis testing was conducted as follows:

> Null hypothesis, H_0: The mean concentration in the onsite wells is less than or equal to the mean concentration in the offsite wells.
>
> Alternative hypothesis, H_A: The mean concentration in the onsite wells is greater than the mean concentration in the offsite wells.

The next section describes the sequence of tests used and the use of test results to draw valid conclusions. This decision process was applied to each of the chemicals to be evaluated for a given sampling event between the onsite and offsite wells.

7.2.2 Selection of the Appropriate Statistical Tests

The first consideration for selecting the appropriate statistical test for the population comparison was based on the percentages of NDs and distributional assumptions within the given pair of datasets. If all values in both datasets for a given chemical were detects, the Shapiro-Wilk W test was used to evaluate the distribution of values (i.e., to determine if normally distributed). If both datasets fit a normal distribution, then the *t*-test was used for the evaluation. Depending on the calculated variances of the datasets, either the form for unequal variances or equal variances was used to compare the two datasets. If one or both datasets were not normally distributed, or if NDs were present in one or both datasets, then the non-parametric permutation test was performed for the comparison.

The statistical comparison tests were performed at 5% significance level (i.e., 95% confidence level), one-sided. If the resulting *p*-value from the test was less than 0.05, then evidence was sufficient to reject the null hypothesis (onsite is not higher than offsite), and the alternative hypothesis would be accepted (onsite is higher than offsite).

The Paleontological STatistics (PAST) Version 3.13 data analysis software (Hammer et al., 2001; Hammer, 2016) was used to compare means for the Student's *t*-test or the permutation test (Monte Carlo, n = 9,999).

7.3 Iron and Manganese Population Comparison Results

The detailed statistical results are summarized in **Attachment E**.

7.3.1 Iron

Both total and dissolved iron were not found to be significantly higher in the onsite wells compared to the offsite wells, and this conclusion was true for both the December 2020 and February 2021 events.

7.3.2 Manganese

Total manganese from the December 2020 event was not found to be significantly higher in the onsite wells compared to the offsite wells. However, dissolved manganese from the December 2020 event, as well as total and dissolved manganese from the February 2021 event, were found to be significantly higher in the onsite wells compared to the offsite wells.

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Attachment A:
References

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Attachment B:
Summary Statistics of Groundwater Data

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Appendix E- Evaluation of Analytical Data, Attachment B

Location Group	Analyte Group	Analyte	No. of Samples	Detection Rate	Mean	Std Dev	Min Detected Value	Max Detected Value	Min LOD of NDs	Max LOD of NDs
Offsite "Local Conditions"	CR (ug/L)	Chromium, Hexavalent	14	0%	-	-	-	-	9	9
Offsite "Local Conditions"	CR (ug/L)	Chromium, Hexavalent (Dissolved)	14	0%	-	-	-	-	9	9
Offsite "Local Conditions"	CR (ug/L)	Chromium, Trivalent	14	14%	15.1	22.7	10	94	9	9
Offsite "Local Conditions"	CR (ug/L)	Chromium, Trivalent (Dissolved)	14	0%	-	-	-	-	9	9
Offsite "Local Conditions"	HG (ug/L)	Mercury	14	14%	0.207	0.075	0.12	0.36	0.16	0.3
Offsite "Local Conditions"	HG (ug/L)	Mercury (Dissolved)	14	14%	0.186	0.069	0.08	0.1	0.16	0.3
Offsite "Local Conditions"	METAL (ug/L)	Aluminum	14	36%	294	660	49	2400	30	35
Offsite "Local Conditions"	METAL (ug/L)	Aluminum (Dissolved)	14	0%	-	-	-	-	30	31
Offsite "Local Conditions"	METAL (ug/L)	Antimony	14	7%	1.38	2.16	8.9	8.9	0.8	0.8
Offsite "Local Conditions"	METAL (ug/L)	Antimony (Dissolved)	14	7%	0.837	0.076	1.1	1.1	0.8	0.82
Offsite "Local Conditions"	METAL (ug/L)	Arsenic	14	29%	31.6	111.8	1	420	1.6	1.6
Offsite "Local Conditions"	METAL (ug/L)	Arsenic (Dissolved)	14	29%	1.56	0.46	0.75	2.8	1.6	1.6
Offsite "Local Conditions"	METAL (ug/L)	Barium	14	100%	149	302	20	1190	-	-
Offsite "Local Conditions"	METAL (ug/L)	Barium (Dissolved)	14	100%	62.2	34.3	20	150	-	-
Offsite "Local Conditions"	METAL (ug/L)	Beryllium	14	14%	0.236	0.037	0.13	0.17	0.25	0.25
Offsite "Local Conditions"	METAL (ug/L)	Beryllium (Dissolved)	14	0%	-	-	-	-	0.25	0.26
Offsite "Local Conditions"	METAL (ug/L)	Cadmium	14	14%	1.71	4.98	0.2	19	0.4	0.4
Offsite "Local Conditions"	METAL (ug/L)	Cadmium (Dissolved)	14	7%	0.394	0.059	0.19	0.19	0.4	0.41
Offsite "Local Conditions"	METAL (ug/L)	Calcium	14	100%	18171	8182	6200	32000	-	-
Offsite "Local Conditions"	METAL (ug/L)	Calcium (Dissolved)	14	100%	16564	7648	5800	31000	-	-
Offsite "Local Conditions"	METAL (ug/L)	Chromium	14	64%	8.71	24.67	0.33	94	0.8	2
Offsite "Local Conditions"	METAL (ug/L)	Chromium (Dissolved)	14	7%	1.17	0.58	1.9	1.9	0.8	2.1
Offsite "Local Conditions"	METAL (ug/L)	Cobalt	14	21%	2.87	8.68	1	33	0.4	0.4
Offsite "Local Conditions"	METAL (ug/L)	Cobalt (Dissolved)	14	14%	0.461	0.141	0.64	0.9	0.4	0.41
Offsite "Local Conditions"	METAL (ug/L)	Copper	14	79%	61.9	116.5	0.85	400	0.8	0.8
Offsite "Local Conditions"	METAL (ug/L)	Copper (Dissolved)	14	57%	41.3	101.3	0.97	380	0.82	0.82
Offsite "Local Conditions"	METAL (ug/L)	Iron	14	86%	76453	274509	30	1030000	40	40
Offsite "Local Conditions"	METAL (ug/L)	Iron (Dissolved)	14	71%	1884	5000	23	18000	41	41
Offsite "Local Conditions"	METAL (ug/L)	Lead	14	93%	57.7	195.3	0.21	735	0.25	0.25
Offsite "Local Conditions"	METAL (ug/L)	Lead (Dissolved)	14	79%	0.678	1.090	0.074	3.7	0.25	0.26
Offsite "Local Conditions"	METAL (ug/L)	Magnesium	14	100%	10746	5366	3100	19000	-	-
Offsite "Local Conditions"	METAL (ug/L)	Magnesium (Dissolved)	14	100%	10054	5480	1250	18000	-	-
Offsite "Local Conditions"	METAL (ug/L)	Manganese	14	93%	2052	7182	1.7	27000	1.6	1.6
Offsite "Local Conditions"	METAL (ug/L)	Manganese (Dissolved)	14	93%	118	139	1.1	390	1.6	1.6
Offsite "Local Conditions"	METAL (ug/L)	Nickel	14	64%	10.8	27.7	0.65	106	1	1.5
Offsite "Local Conditions"	METAL (ug/L)	Nickel (Dissolved)	14	71%	2.74	2.85	0.9	9.3	1	1
Offsite "Local Conditions"	METAL (ug/L)	Potassium	14	100%	2757	847	1700	4300	-	-
Offsite "Local Conditions"	METAL (ug/L)	Potassium (Dissolved)	14	100%	2554	678	1600	3400	-	-
Offsite "Local Conditions"	METAL (ug/L)	Selenium	14	36%	0.703	0.182	0.32	0.78	0.8	0.8
Offsite "Local Conditions"	METAL (ug/L)	Selenium (Dissolved)	14	36%	0.722	0.192	0.36	0.94	0.8	0.82
Offsite "Local Conditions"	METAL (ug/L)	Silver	14	7%	0.406	0.024	0.49	0.49	0.4	0.4
Offsite "Local Conditions"	METAL (ug/L)	Silver (Dissolved)	14	0%	-	-	-	-	0.4	0.41
Offsite "Local Conditions"	METAL (ug/L)	Sodium	14	100%	45679	18354	22000	75000	-	-
Offsite "Local Conditions"	METAL (ug/L)	Sodium (Dissolved)	14	100%	42643	17589	20000	67000	-	-
Offsite "Local Conditions"	METAL (ug/L)	Thallium	14	7%	0.398	0.008	0.37	0.37	0.4	0.4
Offsite "Local Conditions"	METAL (ug/L)	Thallium (Dissolved)	14	0%	-	-	-	-	0.4	0.41
Offsite "Local Conditions"	METAL (ug/L)	Vanadium	14	21%	2.11	1.43	1	5.8	1.6	1.6
Offsite "Local Conditions"	METAL (ug/L)	Vanadium (Dissolved)	14	0%	-	-	-	-	1.6	1.6
Offsite "Local Conditions"	METAL (ug/L)	Zinc	14	57%	5760	21225	11	79500	10	10
Offsite "Local Conditions"	METAL (ug/L)	Zinc (Dissolved)	14	57%	79.6	159.7	6.4	600	10	10
Offsite "Local Conditions"	PCB (ug/L)	PCB, Total	14	14%	0.332	0.103	0.21	0.67	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1016 (Aroclor 1016)	14	0%	-	-	-	-	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1221 (Aroclor 1221)	14	0%	-	-	-	-	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1232 (Aroclor 1232)	14	0%	-	-	-	-	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1242 (Aroclor 1242)	14	0%	-	-	-	-	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1248 (Aroclor 1248)	14	0%	-	-	-	-	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1254 (Aroclor 1254)	14	0%	-	-	-	-	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1260 (Aroclor 1260)	14	14%	0.332	0.103	0.21	0.67	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1262 (Aroclor 1262)	14	0%	-	-	-	-	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	PCB-1268 (Aroclor 1268)	14	0%	-	-	-	-	0.3	0.36
Offsite "Local Conditions"	PCB (ug/L)	Total PCBs Calculated	14	14%	2.84	0.19	2.61	3.15	2.7	3.24
Offsite "Local Conditions"	SVOC (ug/L)	1,4-Dichlorobenzene	14	0%	-	-	-	-	1	1.1
Offsite "Local Conditions"	SVOC (ug/L)	1,4-Dioxane (p-Dioxane)	14	14%	0.198	0.030	0.11	0.15	0.2	0.22
Offsite "Local Conditions"	SVOC (ug/L)	1-Methylnaphthalene	14	0%	-	-	-	-	0.03	0.043
Offsite "Local Conditions"	SVOC (ug/L)	2-Chloronaphthalene	14	0%	-	-	-	-	0.8	0.88
Offsite "Local Conditions"	SVOC (ug/L)	2-Methylnaphthalene	14	7%	0.0504	0.0131	0.024	0.024	0.04	0.064
Offsite "Local Conditions"	SVOC (ug/L)	2-Methylphenol (o-Cresol)	14	0%	-	-	-	-	1	1.1
Offsite "Local Conditions"	SVOC (ug/L)	4-Chloro-3-methylphenol	14	0%	-	-	-	-	2	3.4
Offsite "Local Conditions"	SVOC (ug/L)	4-Chloroaniline	14	0%	-	-	-	-	9.1	9.9
Offsite "Local Conditions"	SVOC (ug/L)	4-Methylphenol (p-Cresol)	14	0%	-	-	-	-	1	1.1
Offsite "Local Conditions"	SVOC (ug/L)	Acenaphthene	14	0%	-	-	-	-	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Acenaphthylene	14	0%	-	-	-	-	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Anthracene	14	0%	-	-	-	-	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Benzaldehyde	14	0%	-	-	-	-	2	9.6
Offsite "Local Conditions"	SVOC (ug/L)	Benzo(a)anthracene	14	7%	0.0314	0.0020	0.038	0.038	0.03	0.032

Appendix E- Evaluation of Analytical Data, Attachment B

Location Group	Analyte Group	Analyte	No. of Samples	Detection Rate	Mean	Std Dev	Min Detected Value	Max Detected Value	Min LOD of NDs	Max LOD of NDs
Offsite "Local Conditions"	SVOC (ug/L)	Benzo(a)pyrene	14	7%	0.0296	0.0048	0.013	0.013	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Benzo(b)fluoranthene	14	7%	0.0318	0.0036	0.044	0.044	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Benzo(g,h,i)perylene	14	7%	0.0313	0.0018	0.037	0.037	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Benzo(k)fluoranthene	14	7%	0.0319	0.0041	0.046	0.046	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Benzoic acid	14	0%	-	-	-	-	24	27
Offsite "Local Conditions"	SVOC (ug/L)	Benzyl butyl phthalate	14	0%	-	-	-	-	4	4.4
Offsite "Local Conditions"	SVOC (ug/L)	Biphenyl (Diphenyl)	14	0%	-	-	-	-	1	9.6
Offsite "Local Conditions"	SVOC (ug/L)	Bis(2-ethylhexyl)phthalate	14	0%	-	-	-	-	4	11
Offsite "Local Conditions"	SVOC (ug/L)	Caprolactam	14	0%	-	-	-	-	6	11
Offsite "Local Conditions"	SVOC (ug/L)	Carbazole	14	0%	-	-	-	-	1	1.1
Offsite "Local Conditions"	SVOC (ug/L)	Chrysene	14	7%	0.0318	0.0036	0.044	0.044	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Dibenz(a,h)anthracene	14	7%	0.0501	0.0111	0.041	0.041	0.04	0.064
Offsite "Local Conditions"	SVOC (ug/L)	Dibenzofuran	14	0%	-	-	-	-	1	1.1
Offsite "Local Conditions"	SVOC (ug/L)	Diethyl phthalate	14	0%	-	-	-	-	4	4.4
Offsite "Local Conditions"	SVOC (ug/L)	Dimethyl phthalate	14	0%	-	-	-	-	4	4.4
Offsite "Local Conditions"	SVOC (ug/L)	Di-n-butyl phthalate	14	0%	-	-	-	-	4	4.4
Offsite "Local Conditions"	SVOC (ug/L)	di-n-Octyl phthalate	14	0%	-	-	-	-	10	11
Offsite "Local Conditions"	SVOC (ug/L)	Fluoranthene	14	14%	0.0299	0.0057	0.011	0.037	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Fluorene	14	0%	-	-	-	-	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Indeno(1,2,3-c,d)pyrene	14	7%	0.0369	0.0055	0.045	0.045	0.03	0.043
Offsite "Local Conditions"	SVOC (ug/L)	Naphthalene	14	14%	0.0664	0.0129	0.072	0.11	0.06	0.065
Offsite "Local Conditions"	SVOC (ug/L)	Phenanthrene	14	0%	-	-	-	-	0.06	0.065
Offsite "Local Conditions"	SVOC (ug/L)	Pyrene	14	7%	0.0307	0.0008	0.029	0.029	0.03	0.032
Offsite "Local Conditions"	SVOC (ug/L)	Total BaP TEQ Calculated	14	7%	0.0900	0.0124	0.0672	0.0672	0.08033	0.10595
Offsite "Local Conditions"	SVOC (ug/L)	Total PAHs Calculated	14	29%	0.652	0.050	0.5184	0.652	0.642	0.704
Offsite "Local Conditions"	VOC (ug/L)	1,1,1,2-Tetrachloroethane	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	1,1,1-Trichloroethane	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	1,1,2,2-Tetrachloroethane	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	1,1,2-Trichloroethane	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	1,1-Dichloroethane	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	1,1-Dichloroethene	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	1,2,3-Trichlorobenzene	14	0%	-	-	-	-	1	1
Offsite "Local Conditions"	VOC (ug/L)	1,2,4-Trimethylbenzene	14	0%	-	-	-	-	2	2
Offsite "Local Conditions"	VOC (ug/L)	1,3,5-Trimethylbenzene	14	0%	-	-	-	-	1	1
Offsite "Local Conditions"	VOC (ug/L)	1,4-Dioxane (p-Dioxane)	14	0%	-	-	-	-	100	100
Offsite "Local Conditions"	VOC (ug/L)	2-Butanone (MEK)	14	7%	0.964	0.136	0.49	0.49	1	1
Offsite "Local Conditions"	VOC (ug/L)	4-Methyl-2-pentanone (MIBK)	14	0%	-	-	-	-	1	1
Offsite "Local Conditions"	VOC (ug/L)	Acetone	14	7%	1.92	0.29	0.9	0.9	2	2
Offsite "Local Conditions"	VOC (ug/L)	Benzene	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Carbon disulfide	14	7%	0.546	0.174	1.15	1.15	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Carbon tetrachloride	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Chloroethane	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Chloroform	14	7%	0.499	0.005	0.48	0.48	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	cis-1,2-Dichloroethene	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Cyclohexane	14	0%	-	-	-	-	2	2
Offsite "Local Conditions"	VOC (ug/L)	Ethylbenzene	14	0%	-	-	-	-	0.8	0.8
Offsite "Local Conditions"	VOC (ug/L)	Isopropylbenzene (Cumene)	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	m,p-Xylene	14	0%	-	-	-	-	2	2
Offsite "Local Conditions"	VOC (ug/L)	Methyl acetate	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Methyl tert-butyl ether (MTBE)	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Methylcyclohexane	14	0%	-	-	-	-	1	1
Offsite "Local Conditions"	VOC (ug/L)	Methylene chloride	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	n-Butylbenzene	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	n-Propylbenzene	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	o-Xylene	14	0%	-	-	-	-	0.8	0.8
Offsite "Local Conditions"	VOC (ug/L)	p-Cymene (p-Isopropyltoluene)	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	sec-Butylbenzene	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	tert-Butylbenzene	14	0%	-	-	-	-	1	1
Offsite "Local Conditions"	VOC (ug/L)	Tetrachloroethene (PCE)	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Toluene	14	7%	0.502	0.008	0.53	0.53	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	trans-1,2-Dichloroethene	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Trichloroethene (TCE)	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Vinyl chloride	14	0%	-	-	-	-	0.5	0.5
Offsite "Local Conditions"	VOC (ug/L)	Xylenes, Total	14	0%	-	-	-	-	2.8	2.8
Onsite	CR (ug/L)	Chromium, Hexavalent	14	0%	-	-	-	-	9	9
Onsite	CR (ug/L)	Chromium, Hexavalent (Dissolved)	14	0%	-	-	-	-	9	9
Onsite	CR (ug/L)	Chromium, Trivalent	14	14%	8.83	0.48	7.3	8.3	9	9
Onsite	CR (ug/L)	Chromium, Trivalent (Dissolved)	14	7%	8.98	0.08	8.7	8.7	9	9
Onsite	HG (ug/L)	Mercury	14	29%	0.168	0.065	0.083	0.15	0.16	0.3
Onsite	HG (ug/L)	Mercury (Dissolved)	14	7%	0.172	0.031	0.09	0.09	0.16	0.2
Onsite	METAL (ug/L)	Aluminum	14	57%	232	493	24.5	1800	30	35
Onsite	METAL (ug/L)	Aluminum (Dissolved)	14	14%	33.4	12.5	22	76	30	31
Onsite	METAL (ug/L)	Antimony	14	0%	-	-	-	-	0.8	0.8
Onsite	METAL (ug/L)	Antimony (Dissolved)	14	14%	0.781	0.102	0.44	0.71	0.8	0.82

Location Group	Analyte Group	Analyte	No. of Samples	Detection Rate	Mean	Std Dev	Min Detected Value	Max Detected Value	Min LOD of NDs	Max LOD of NDs
Onsite	METAL (ug/L)	Arsenic	14	71%	1.71	0.92	0.71	4.1	1.6	1.6
Onsite	METAL (ug/L)	Arsenic (Dissolved)	14	36%	1.50	0.31	0.83	1.9	1.6	1.6
Onsite	METAL (ug/L)	Barium	14	100%	99.5	115.6	4.8	470	-	-
Onsite	METAL (ug/L)	Barium (Dissolved)	14	100%	92.2	107.3	3.7	430	-	-
Onsite	METAL (ug/L)	Beryllium	14	0%	-	-	-	-	0.25	0.25
Onsite	METAL (ug/L)	Beryllium (Dissolved)	14	0%	-	-	-	-	0.25	0.26
Onsite	METAL (ug/L)	Cadmium	14	0%	-	-	-	-	0.4	0.4
Onsite	METAL (ug/L)	Cadmium (Dissolved)	14	0%	-	-	-	-	0.4	0.41
Onsite	METAL (ug/L)	Calcium	14	100%	20014	9975	9200	42000	-	-
Onsite	METAL (ug/L)	Calcium (Dissolved)	14	100%	19443	9753	8700	42000	-	-
Onsite	METAL (ug/L)	Chromium	14	64%	2.27	2.58	0.5	8.3	0.8	2
Onsite	METAL (ug/L)	Chromium (Dissolved)	14	14%	1.49	2.11	2.3	8.7	0.8	0.82
Onsite	METAL (ug/L)	Cobalt	14	100%	0.595	0.511	0.17	2	-	-
Onsite	METAL (ug/L)	Cobalt (Dissolved)	14	71%	0.481	0.527	0.16	2.2	0.41	0.41
Onsite	METAL (ug/L)	Copper	14	64%	3.68	6.01	0.52	20	0.8	0.8
Onsite	METAL (ug/L)	Copper (Dissolved)	14	43%	2.26	5.12	0.44	20	0.8	0.82
Onsite	METAL (ug/L)	Iron	14	100%	9814	12001	2000	45000	-	-
Onsite	METAL (ug/L)	Iron (Dissolved)	14	100%	7416	11647	50	40000	-	-
Onsite	METAL (ug/L)	Lead	14	64%	6.36	11.12	0.087	34	0.25	0.25
Onsite	METAL (ug/L)	Lead (Dissolved)	14	29%	0.584	0.886	0.11	3.5	0.25	0.26
Onsite	METAL (ug/L)	Magnesium	14	100%	11664	12714	990	44000	-	-
Onsite	METAL (ug/L)	Magnesium (Dissolved)	14	100%	11139	12074	950	42000	-	-
Onsite	METAL (ug/L)	Manganese	14	100%	571	350	130	1400	-	-
Onsite	METAL (ug/L)	Manganese (Dissolved)	14	100%	527	329	110	1300	-	-
Onsite	METAL (ug/L)	Nickel	14	71%	2.48	2.48	0.67	9.4	1	1
Onsite	METAL (ug/L)	Nickel (Dissolved)	14	50%	2.45	4.06	0.76	16	1	1.5
Onsite	METAL (ug/L)	Potassium	14	100%	4371	3209	570	11000	-	-
Onsite	METAL (ug/L)	Potassium (Dissolved)	14	100%	4139	3063	540	11000	-	-
Onsite	METAL (ug/L)	Selenium	14	0%	-	-	-	-	0.8	0.8
Onsite	METAL (ug/L)	Selenium (Dissolved)	14	0%	-	-	-	-	0.8	0.82
Onsite	METAL (ug/L)	Silver	14	21%	0.688	1.185	0.21	4.8	0.4	0.4
Onsite	METAL (ug/L)	Silver (Dissolved)	14	7%	2.59	8.18	31	31	0.4	0.41
Onsite	METAL (ug/L)	Sodium	14	100%	101250	157267	3600	500000	-	-
Onsite	METAL (ug/L)	Sodium (Dissolved)	14	100%	95971	148692	3300	460000	-	-
Onsite	METAL (ug/L)	Thallium	14	0%	-	-	-	-	0.4	0.4
Onsite	METAL (ug/L)	Thallium (Dissolved)	14	0%	-	-	-	-	0.4	0.41
Onsite	METAL (ug/L)	Vanadium	14	14%	1.82	0.57	2.9	3.4	1.6	1.6
Onsite	METAL (ug/L)	Vanadium (Dissolved)	14	0%	-	-	-	-	1.6	1.6
Onsite	METAL (ug/L)	Zinc	14	50%	25.7	30.3	8.35	120	10	10
Onsite	METAL (ug/L)	Zinc (Dissolved)	14	29%	12.9	9.1	6.9	41	10	10
Onsite	PCB (ug/L)	PCB, Total	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1016 (Aroclor 1016)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1221 (Aroclor 1221)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1232 (Aroclor 1232)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1242 (Aroclor 1242)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1248 (Aroclor 1248)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1254 (Aroclor 1254)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1260 (Aroclor 1260)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1262 (Aroclor 1262)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	PCB-1268 (Aroclor 1268)	14	0%	-	-	-	-	0.3	0.34
Onsite	PCB (ug/L)	Total PCBs Calculated	14	0%	-	-	-	-	2.7	3.06
Onsite	SVOC (ug/L)	1,4-Dichlorobenzene	14	0%	-	-	-	-	1	1.1
Onsite	SVOC (ug/L)	1,4-Dioxane (p-Dioxane)	14	21%	0.267	0.240	0.18	1.1	0.2	0.22
Onsite	SVOC (ug/L)	1-Methylnaphthalene	14	0%	-	-	-	-	0.03	0.043
Onsite	SVOC (ug/L)	2-Chloronaphthalene	14	0%	-	-	-	-	0.8	0.89
Onsite	SVOC (ug/L)	2-Methylnaphthalene	14	0%	-	-	-	-	0.04	0.067
Onsite	SVOC (ug/L)	2-Methylphenol (o-Cresol)	14	7%	1.09	0.18	1.7	1.7	1	1.1
Onsite	SVOC (ug/L)	4-Chloro-3-methylphenol	14	0%	-	-	-	-	2	3.6
Onsite	SVOC (ug/L)	4-Chloroaniline	14	0%	-	-	-	-	9	10
Onsite	SVOC (ug/L)	4-Methylphenol (p-Cresol)	14	14%	1.34	1.11	0.89	5.2	1	1.1
Onsite	SVOC (ug/L)	Acenaphthene	14	7%	0.0312	0.0014	0.029	0.029	0.03	0.033
Onsite	SVOC (ug/L)	Acenaphthylene	14	0%	-	-	-	-	0.03	0.033
Onsite	SVOC (ug/L)	Anthracene	14	0%	-	-	-	-	0.03	0.033
Onsite	SVOC (ug/L)	Benzaldehyde	14	0%	-	-	-	-	2	10
Onsite	SVOC (ug/L)	Benzo(a)anthracene	14	7%	0.0312	0.0014	0.029	0.029	0.03	0.033
Onsite	SVOC (ug/L)	Benzo(a)pyrene	14	7%	0.0309	0.0021	0.025	0.025	0.03	0.033
Onsite	SVOC (ug/L)	Benzo(b)fluoranthene	14	14%	0.0313	0.0062	0.016	0.047	0.03	0.033
Onsite	SVOC (ug/L)	Benzo(g,h,i)perylene	14	7%	0.0304	0.0035	0.019	0.019	0.03	0.033
Onsite	SVOC (ug/L)	Benzo(k)fluoranthene	14	7%	0.0304	0.0040	0.017	0.017	0.03	0.033
Onsite	SVOC (ug/L)	Benzoic acid	14	0%	-	-	-	-	24	27
Onsite	SVOC (ug/L)	Benzyl butyl phthalate	14	0%	-	-	-	-	4	4.5
Onsite	SVOC (ug/L)	Biphenyl (Diphenyl)	14	0%	-	-	-	-	1	10
Onsite	SVOC (ug/L)	Bis(2-ethylhexyl)phthalate	14	0%	-	-	-	-	4	11
Onsite	SVOC (ug/L)	Caprolactam	14	0%	-	-	-	-	6.1	11
Onsite	SVOC (ug/L)	Carbazole	14	0%	-	-	-	-	1	1.1

Location Group	Analyte Group	Analyte	No. of Samples	Detection Rate	Mean	Std Dev	Min Detected Value	Max Detected Value	Min LOD of NDs	Max LOD of NDs
Onsite	SVOC (ug/L)	Chrysene	14	7%	0.0307	0.0028	0.022	0.022	0.03	0.033
Onsite	SVOC (ug/L)	Dibenz(a,h)anthracene	14	0%	-	-	-	-	0.04	0.067
Onsite	SVOC (ug/L)	Dibenzofuran	14	0%	-	-	-	-	1	1.1
Onsite	SVOC (ug/L)	Diethyl phthalate	14	0%	-	-	-	-	4	4.5
Onsite	SVOC (ug/L)	Dimethyl phthalate	14	0%	-	-	-	-	4	4.5
Onsite	SVOC (ug/L)	Di-n-butyl phthalate	14	0%	-	-	-	-	4	4.5
Onsite	SVOC (ug/L)	di-n-Octyl phthalate	14	0%	-	-	-	-	10	11
Onsite	SVOC (ug/L)	Fluoranthene	14	43%	0.0326	0.0322	0.011	0.14	0.03	0.033
Onsite	SVOC (ug/L)	Fluorene	14	7%	0.0311	0.0015	0.028	0.028	0.03	0.033
Onsite	SVOC (ug/L)	Indeno(1,2,3-c,d)pyrene	14	7%	0.0355	0.0068	0.019	0.019	0.03	0.043
Onsite	SVOC (ug/L)	Naphthalene	14	7%	0.0602	0.0081	0.033	0.033	0.06	0.066
Onsite	SVOC (ug/L)	Phenanthrene	14	36%	0.0622	0.0171	0.036	0.11	0.06	0.065
Onsite	SVOC (ug/L)	Pyrene	14	21%	0.0321	0.0114	0.016	0.068	0.03	0.033
Onsite	SVOC (ug/L)	Total BaP TEQ Calculated	14	14%	0.0835	0.0287	0.00624	0.03948	0.08033	0.10926
Onsite	SVOC (ug/L)	Total PAHs Calculated	14	43%	0.568	0.182	0.2304	0.7164	0.64	0.722
Onsite	VOC (ug/L)	1,1,1,2-Tetrachloroethane	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	1,1,1-Trichloroethane	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	1,1,2,2-Tetrachloroethane	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	1,1,2-Trichloroethane	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	1,1-Dichloroethane	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	1,1-Dichloroethene	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	1,2,3-Trichlorobenzene	14	0%	-	-	-	-	1	1
Onsite	VOC (ug/L)	1,2,4-Trimethylbenzene	14	0%	-	-	-	-	2	2
Onsite	VOC (ug/L)	1,3,5-Trimethylbenzene	14	0%	-	-	-	-	1	1
Onsite	VOC (ug/L)	1,4-Dioxane (p-Dioxane)	14	0%	-	-	-	-	100	100
Onsite	VOC (ug/L)	2-Butanone (MEK)	14	43%	7.84	25.95	0.5	98	1	1
Onsite	VOC (ug/L)	4-Methyl-2-pentanone (MIBK)	14	0%	-	-	-	-	1	1
Onsite	VOC (ug/L)	Acetone	14	57%	5.29	8.18	0.71	28	2	20
Onsite	VOC (ug/L)	Benzene	14	14%	0.472	0.075	0.24	0.37	0.5	0.5
Onsite	VOC (ug/L)	Carbon disulfide	14	36%	2.32	6.02	0.21	23	0.5	0.5
Onsite	VOC (ug/L)	Carbon tetrachloride	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	Chloroethane	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	Chloroform	14	29%	0.622	0.426	0.5	2.1	0.5	0.5
Onsite	VOC (ug/L)	cis-1,2-Dichloroethene	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	Cyclohexane	14	0%	-	-	-	-	2	2
Onsite	VOC (ug/L)	Ethylbenzene	14	0%	-	-	-	-	0.8	0.8
Onsite	VOC (ug/L)	Isopropylbenzene (Cumene)	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	m,p-Xylene	14	0%	-	-	-	-	2	2
Onsite	VOC (ug/L)	Methyl acetate	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	Methyl tert-butyl ether (MTBE)	14	14%	0.600	0.254	1.2	1.2	0.5	0.5
Onsite	VOC (ug/L)	Methylcyclohexane	14	0%	-	-	-	-	1	1
Onsite	VOC (ug/L)	Methylene chloride	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	n-Butylbenzene	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	n-Propylbenzene	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	o-Xylene	14	36%	0.741	0.082	0.62	0.66	0.8	0.8
Onsite	VOC (ug/L)	p-Cymene (p-Isopropyltoluene)	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	sec-Butylbenzene	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	tert-Butylbenzene	14	0%	-	-	-	-	1	1
Onsite	VOC (ug/L)	Tetrachloroethene (PCE)	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	Toluene	14	7%	0.481	0.069	0.24	0.24	0.5	0.5
Onsite	VOC (ug/L)	trans-1,2-Dichloroethene	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	Trichloroethene (TCE)	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	Vinyl chloride	14	0%	-	-	-	-	0.5	0.5
Onsite	VOC (ug/L)	Xylenes, Total	14	0%	-	-	-	-	2.8	2.8

Attachment C:
PAH/PCB Totals Calculation Results

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Appendix E- Evaluation of Analytical Data, Attachment C

Analyte Name (Total)	Client Sample ID	Result (ug/L)
Total BaP TEQ Calculated	CH-MW044D-0221	0.08033
Total BaP TEQ Calculated	CH-MW044D-1220	0.09933
Total BaP TEQ Calculated	CH-MW044S-0221	0.08033
Total BaP TEQ Calculated	CH-MW044S-1220	0.109263
Total BaP TEQ Calculated	CH-MW045D-0221	0.08143
Total BaP TEQ Calculated	CH-MW045D-1220	0.0062405
Total BaP TEQ Calculated	CH-MW045S-0221	0.082641
Total BaP TEQ Calculated	CH-MW045S-1220	0.104952
Total BaP TEQ Calculated	S1202-0221	0.08033
Total BaP TEQ Calculated	S1202-1220	0.09933
Total BaP TEQ Calculated	S17231S-0221	0.082641
Total BaP TEQ Calculated	S17231S-0221D	0.03948
Total BaP TEQ Calculated	S17231S-1220	0.105952
Total BaP TEQ Calculated	S19494-0221	0.086052
Total BaP TEQ Calculated	S19494-1220	0.09933
Total BaP TEQ Calculated	S19495-0221	0.084952
Total BaP TEQ Calculated	S19495-1220	0.108263
Total BaP TEQ Calculated	S3599-0221	0.08033
Total BaP TEQ Calculated	S3599-1220	0.103641
Total BaP TEQ Calculated	S48579-0221	0.086052
Total BaP TEQ Calculated	S48579-1220	0.102641
Total BaP TEQ Calculated	S58922-0221	0.082641
Total BaP TEQ Calculated	S58922-1220	0.102641
Total BaP TEQ Calculated	S70627-0221	0.082641
Total BaP TEQ Calculated	S70627-1220	0.067204
Total BaP TEQ Calculated	S76304-0221	0.082641
Total BaP TEQ Calculated	S76304-1220	0.105952
Total BaP TEQ Calculated	S76304-1220D	0.103641
Total BaP TEQ Calculated	S79269-0221	0.086052
Total BaP TEQ Calculated	S79269-0221D	0.08033
Total BaP TEQ Calculated	S79269-1220	0.105952
Total BaP TEQ Calculated	S79269-1220D	0.106952
Total PAHs Calculated	CH-MW044D-0221	0.621
Total PAHs Calculated	CH-MW044D-1220	0.66
Total PAHs Calculated	CH-MW044S-0221	0.64
Total PAHs Calculated	CH-MW044S-1220	0.2304
Total PAHs Calculated	CH-MW045D-0221	0.3204
Total PAHs Calculated	CH-MW045D-1220	0.4068
Total PAHs Calculated	CH-MW045S-0221	0.658
Total PAHs Calculated	CH-MW045S-1220	0.2448
Total PAHs Calculated	S1202-0221	0.642
Total PAHs Calculated	S1202-1220	0.66
Total PAHs Calculated	S17231S-0221	0.658
Total PAHs Calculated	S17231S-0221D	0.7164
Total PAHs Calculated	S17231S-1220	0.704
Total PAHs Calculated	S19494-0221	0.686

Appendix E- Evaluation of Analytical Data, Attachment C

Analyte Name (Total)	Client Sample ID	Result (ug/L)
Total PAHs Calculated	S19494-1220	0.66
Total PAHs Calculated	S19495-0221	0.68
Total PAHs Calculated	S19495-1220	0.722
Total PAHs Calculated	S3599-0221	0.652
Total PAHs Calculated	S3599-1220	0.686
Total PAHs Calculated	S48579-0221	0.686
Total PAHs Calculated	S48579-1220	0.682
Total PAHs Calculated	S58922-0221	0.64
Total PAHs Calculated	S58922-1220	0.682
Total PAHs Calculated	S70627-0221	0.66
Total PAHs Calculated	S70627-1220	0.5742
Total PAHs Calculated	S76304-0221	0.66
Total PAHs Calculated	S76304-1220	0.704
Total PAHs Calculated	S76304-1220D	0.686
Total PAHs Calculated	S79269-0221	0.5184
Total PAHs Calculated	S79269-0221D	0.64
Total PAHs Calculated	S79269-1220	0.704
Total PAHs Calculated	S79269-1220D	0.708
Total PCBs Calculated	CH-MW044D-0221	2.7
Total PCBs Calculated	CH-MW044D-1220	2.7
Total PCBs Calculated	CH-MW044S-0221	2.7
Total PCBs Calculated	CH-MW044S-1220	2.79
Total PCBs Calculated	CH-MW045D-0221	2.79
Total PCBs Calculated	CH-MW045D-1220	3.06
Total PCBs Calculated	CH-MW045S-0221	2.79
Total PCBs Calculated	CH-MW045S-1220	2.79
Total PCBs Calculated	S1202-0221	2.7
Total PCBs Calculated	S1202-1220	2.61
Total PCBs Calculated	S17231S-0221	2.7
Total PCBs Calculated	S17231S-0221D	2.79
Total PCBs Calculated	S17231S-1220	2.7
Total PCBs Calculated	S19494-0221	2.88
Total PCBs Calculated	S19494-1220	2.97
Total PCBs Calculated	S19495-0221	2.88
Total PCBs Calculated	S19495-1220	2.79
Total PCBs Calculated	S3599-0221	2.79
Total PCBs Calculated	S3599-1220	2.7
Total PCBs Calculated	S48579-0221	2.88
Total PCBs Calculated	S48579-1220	2.7
Total PCBs Calculated	S58922-0221	2.7
Total PCBs Calculated	S58922-1220	2.79
Total PCBs Calculated	S70627-0221	3.06
Total PCBs Calculated	S70627-1220	3.24
Total PCBs Calculated	S76304-0221	3.15
Total PCBs Calculated	S76304-1220	3.24
Total PCBs Calculated	S76304-1220D	2.79

Appendix E- Evaluation of Analytical Data, Attachment C

Analyte Name (Total)	Client Sample ID	Result (ug/L)
Total PCBs Calculated	S79269-0221	2.79
Total PCBs Calculated	S79269-0221D	2.88
Total PCBs Calculated	S79269-1220	2.79
Total PCBs Calculated	S79269-1220D	2.79

Attachment D:
Summary of Paired Analysis Results to Compare December 2020 and February 2021 Data

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Appendix E- Evaluation of Analytical Data, Attachment D

		No. of Samples		Detection Rate		Mean Concentration				Paired Test (Actual Difference), 2-sided			Paired Test (Percent Difference), 2-sided		
Analyte Group	Analyte	Dec 2020	Feb 2021	Dec 2020	Feb 2021	Dec 2020	Feb 2021	Average Actual Difference	Average Percent Difference	t-Test p-value	Wilcoxon Signed-Rank Test p-value	Conclusion	t-Test p-value	Wilcoxon Signed-Rank Test p-value	Conclusion
CR (ug/L)	Chromium, Hexavalent (Dissolved)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
CR (ug/L)	Chromium, Trivalent (Dissolved)	14	14	7%	0%	8.98	9.00	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
HG (ug/L)	Mercury (Dissolved)	14	14	18%	0%	0.180	0.160	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
METAL (ug/L)	Aluminum (Dissolved)	14	14	7%	7%	33.9	30.4	-3.21	-6.0%	0.336	1.000	No Difference	0.336	1.000	No Difference
METAL (ug/L)	Antimony (Dissolved)	14	14	14%	4%	0.825	0.806	-0.0200	-2.1%	0.336	1.000	No Difference	0.336	1.000	No Difference
METAL (ug/L)	Arsenic (Dissolved)	14	14	14%	50%	1.54	1.53	0.131	6.8%	0.182	0.125	No Difference	0.146	0.125	No Difference
METAL (ug/L)	Barium (Dissolved)	14	14	100%	100%	69.9	84.4	14.6	2.4%	0.458	1.000	No Difference	0.842	0.787	No Difference
METAL (ug/L)	Beryllium (Dissolved)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
METAL (ug/L)	Cadmium (Dissolved)	14	14	7%	0%	0.391	0.410	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
METAL (ug/L)	Calcium (Dissolved)	14	14	100%	100%	18200	17807	-393	-0.2%	0.823	0.611	No Difference	0.980	0.682	No Difference
METAL (ug/L)	Chromium (Dissolved)	14	14	7%	14%	1.38	1.00	-0.380	0.6%	0.531	1.000	No Difference	0.968	1.000	No Difference
METAL (ug/L)	Cobalt (Dissolved)	14	14	50%	36%	0.574	0.369	-0.219	-26.4%	0.157	0.094	No Difference	0.095	0.156	No Difference
METAL (ug/L)	Copper (Dissolved)	14	14	54%	43%	33.2	10.4	-22.8	-19.4%	0.364	0.844	No Difference	0.343	0.742	No Difference
METAL (ug/L)	Iron (Dissolved)	14	14	82%	86%	2904	6396	3489	40.7%	0.140	0.148	No Difference	0.168	0.206	No Difference
METAL (ug/L)	Lead (Dissolved)	14	14	64%	43%	0.483	0.779	0.271	18.1%	0.409	0.563	No Difference	0.376	0.438	No Difference
METAL (ug/L)	Magnesium (Dissolved)	14	14	100%	100%	11036	10157	-854	8.0%	0.520	0.987	No Difference	0.618	0.960	No Difference
METAL (ug/L)	Manganese (Dissolved)	14	14	100%	93%	293	352	58.3	7.2%	0.322	0.405	No Difference	0.670	0.636	No Difference
METAL (ug/L)	Nickel (Dissolved)	14	14	79%	43%	3.82	1.34	-2.49	-51.7%	0.048	0.016	Significant Difference	0.009	0.014	Significant Difference
METAL (ug/L)	Potassium (Dissolved)	14	14	100%	100%	3501	3192	-301	-10.4%	0.136	0.153	No Difference	0.036	0.078	No Difference
METAL (ug/L)	Selenium (Dissolved)	14	14	21%	14%	0.758	0.780	-0.0179	-2.2%	0.336	1.000	No Difference	0.336	1.000	No Difference
METAL (ug/L)	Silver (Dissolved)	14	14	7%	0%	2.59	0.41	-2.19	-13.9%	0.336	1.000	No Difference	0.336	1.000	No Difference
METAL (ug/L)	Sodium (Dissolved)	14	14	100%	100%	72736	65879	-6893	-16.3%	0.462	0.292	No Difference	0.104	0.092	No Difference
METAL (ug/L)	Thallium (Dissolved)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
METAL (ug/L)	Vanadium (Dissolved)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
METAL (ug/L)	Zinc (Dissolved)	14	14	46%	36%	63.9	28.6	-35.4	-12.2%	0.321	0.375	No Difference	0.448	0.375	No Difference
PCB (ug/L)	PCB, Total	14	14	7%	7%	0.309	0.337	0.0221	4.3%	0.336	1.000	No Difference	0.336	1.000	No Difference
PCB (ug/L)	PCB-1016 (Aroclor 1016)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
PCB (ug/L)	PCB-1221 (Aroclor 1221)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
PCB (ug/L)	PCB-1232 (Aroclor 1232)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
PCB (ug/L)	PCB-1242 (Aroclor 1242)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
PCB (ug/L)	PCB-1248 (Aroclor 1248)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
PCB (ug/L)	PCB-1254 (Aroclor 1254)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
PCB (ug/L)	PCB-1260 (Aroclor 1260)	14	14	7%	7%	0.309	0.337	0.0221	4.3%	0.336	1.000	No Difference	0.336	1.000	No Difference
PCB (ug/L)	PCB-1262 (Aroclor 1262)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
PCB (ug/L)	PCB-1268 (Aroclor 1268)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	1,4-Dichlorobenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	1,4-Dioxane (p-Dioxane)	14	14	21%	14%	0.265	0.202	-0.0657	-10.3%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	1-Methylnaphthalene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	2-Chloronaphthalene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	2-Methylnaphthalene	14	14	0%	4%	0.0630	0.0405	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
SVOC (ug/L)	2-Methylphenol (o-Cresol)	14	14	7%	7%	1.09	1.04	-0.0500	-3.7%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	4-Chloro-3-methylphenol	14	14	0%	7%	3.36	2.08	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
SVOC (ug/L)	4-Chloroaniline	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	4-Methylphenol (p-Cresol)	14	14	7%	14%	1.03	1.33	0.336	10.4%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	Acenaphthene	14	14	0%	4%	0.0315	0.0308	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
SVOC (ug/L)	Acenaphthylene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-

SVOC (ug/L)	Anthracene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Benzaldehyde	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Benzo(a)anthracene	14	14	7%	4%	0.0320	0.0308	-0.000500	-1.4%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	Benzo(a)pyrene	14	14	7%	4%	0.0302	0.0306	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
SVOC (ug/L)	Benzo(b)fluoranthene	14	14	14%	4%	0.0312	0.0314	-0.000929	-2.5%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	Benzo(g,h,i)perylene	14	14	14%	0%	0.0309	0.0309	-0.000429	-1.3%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	Benzo(k)fluoranthene	14	14	7%	4%	0.0325	0.0304	-0.00107	-2.8%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	Benzoic acid	14	14	0%	7%	25.3	24.9	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
SVOC (ug/L)	Benzyl butyl phthalate	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Biphenyl (Diphenyl)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Bis(2-ethylhexyl)phthalate	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Caprolactam	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Carbazole	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Chrysene	14	14	7%	4%	0.0324	0.0305	-0.000929	-2.5%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	Dibenz(a,h)anthracene	14	14	7%	0%	0.0615	0.0412	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
SVOC (ug/L)	Dibenzofuran	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Diethyl phthalate	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Dimethyl phthalate	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Di-n-butyl phthalate	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	di-n-Octyl phthalate	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
SVOC (ug/L)	Fluoranthene	14	14	29%	25%	0.0278	0.0309	-0.000643	-2.6%	0.189	0.500	No Difference	0.165	0.500	No Difference
SVOC (ug/L)	Fluorene	14	14	0%	4%	0.0315	0.0308	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
SVOC (ug/L)	Indeno(1,2,3-c,d)pyrene	14	14	14%	0%	0.0315	0.0412	-0.000286	-0.7%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	Naphthalene	14	14	7%	11%	0.0606	0.0645	0.00229	2.8%	0.206	0.500	No Difference	0.189	0.500	No Difference
SVOC (ug/L)	Phenanthrene	14	14	21%	11%	0.0596	0.0631	-0.00143	-2.2%	0.336	1.000	No Difference	0.336	1.000	No Difference
SVOC (ug/L)	Pyrene	14	14	14%	11%	0.0305	0.0312	-0.000357	-1.9%	0.336	1.000	No Difference	0.336	1.000	No Difference
VOC (ug/L)	1,1,1,2-Tetrachloroethane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,1,1-Trichloroethane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,1,2,2-Tetrachloroethane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,1,2-Trichloroethane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,1-Dichloroethane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,1-Dichloroethene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,2,3-Trichlorobenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,2,4-Trimethylbenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,3,5-Trimethylbenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	1,4-Dioxane (p-Dioxane)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	2-Butanone (MEK)	14	14	43%	7%	7.84	0.96	-6.94	-14.7%	0.335	0.500	No Difference	0.312	0.500	No Difference
VOC (ug/L)	4-Methyl-2-pentanone (MIBK)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Acetone	14	14	39%	21%	4.21	1.75	-2.42	-29.8%	0.229	0.125	No Difference	0.092	0.125	No Difference
VOC (ug/L)	Benzene	14	14	14%	0%	0.472	0.500	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
VOC (ug/L)	Carbon disulfide	14	14	14%	29%	0.526	2.341	1.79	19.6%	0.286	0.375	No Difference	0.312	0.375	No Difference
VOC (ug/L)	Carbon tetrachloride	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Chloroethane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Chloroform	14	14	29%	7%	0.622	0.499	-0.122	-10.3%	0.303	0.250	No Difference	0.263	0.250	No Difference
VOC (ug/L)	cis-1,2-Dichloroethene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Cyclohexane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Ethylbenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Isopropylbenzene (Cumene)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	m,p-Xylene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Methyl acetate	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-

VOC (ug/L)	Methyl tert-butyl ether (MTBE)	14	14	7%	7%	0.550	0.550	0	0.0%	1.000	1.000	No Difference	1.000	1.000	No Difference
VOC (ug/L)	Methylcyclohexane	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Methylene chloride	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	n-Butylbenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	n-Propylbenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	o-Xylene	14	14	29%	7%	0.753	0.789	0.000714	0.1%	0.336	1.000	No Difference	0.336	1.000	No Difference
VOC (ug/L)	p-Cymene (p-Isopropyltoluene)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	sec-Butylbenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	tert-Butylbenzene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Tetrachloroethene (PCE)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Toluene	14	14	7%	7%	0.481	0.502	0.00214	0.4%	0.336	1.000	No Difference	0.336	1.000	No Difference
VOC (ug/L)	trans-1,2-Dichloroethene	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Trichloroethene (TCE)	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Vinyl chloride	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-
VOC (ug/L)	Xylenes, Total	14	14	0%	0%	-	-	-	-	-	-	-	-	-	-

Attachment E:
Summary of Hypothesis Testing Results to Compare Onsite and Offsite Data of Iron and Manganese

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Appendix E- Evaluation of Analytical Data, Attachment E

						Summary Statistics						Goodness-of Fit Test	Hypothesis Testing		
Analyte Group	Analyte	Location Group	Event	No. of Samples	Detection Rate	Mean	Std Dev	Min Detected Value	Max Detected Value	Min LOD of NDs	Max LOD of NDs	Distribution	Statistical Test	p-value (1-sided)	Onsite Higher Than Offsite?
METAL (ug/L)	Iron	Offsite "Local Conditions"	Dec 2020 Event	7	100%	149215	388403	30	1030000	-	-	Not Normal	Permutation Test	0.536	No
METAL (ug/L)	Iron	Onsite	Dec 2020 Event	7	100%	7029	6743	2000	20000	-	-	Not Normal			
METAL (ug/L)	Iron	Offsite "Local Conditions"	Feb 2021 Event	7	71%	3691	7707	170	21000	40	40	-	Permutation Test	0.099	No
METAL (ug/L)	Iron	Onsite	Feb 2021 Event	7	100%	12600	15763	2900	45000	-	-	Not Normal			
METAL (ug/L)	Iron (Dissolved)	Offsite "Local Conditions"	Dec 2020 Event	7	71%	1117	2642	23	7100	41	41	-	Permutation Test	0.102	No
METAL (ug/L)	Iron (Dissolved)	Onsite	Dec 2020 Event	7	100%	4691	7563	50	20000	-	-	Not Normal			
METAL (ug/L)	Iron (Dissolved)	Offsite "Local Conditions"	Feb 2021 Event	7	71%	2651	6768	61	18000	41	41	-	Permutation Test	0.094	No
METAL (ug/L)	Iron (Dissolved)	Onsite	Feb 2021 Event	7	100%	10140	14813	170	40000	-	-	Not Normal			
METAL (ug/L)	Manganese	Offsite "Local Conditions"	Dec 2020 Event	7	100%	3967	10158	2.1	27000	-	-	Not Normal	Permutation Test	0.501	No
METAL (ug/L)	Manganese	Onsite	Dec 2020 Event	7	100%	523	222	240	940	-	-	Normal			
METAL (ug/L)	Manganese	Offsite "Local Conditions"	Feb 2021 Event	7	86%	138	149	1.7	350	1.6	1.6	-	Permutation Test	0.007	Yes
METAL (ug/L)	Manganese	Onsite	Feb 2021 Event	7	100%	620	459	130	1400	-	-	Normal			
METAL (ug/L)	Manganese (Dissolved)	Offsite "Local Conditions"	Dec 2020 Event	7	100%	105	146	1.2	390	-	-	Not Normal	Permutation Test	0.002	Yes
METAL (ug/L)	Manganese (Dissolved)	Onsite	Dec 2020 Event	7	100%	481	231	180	910	-	-	Normal			
METAL (ug/L)	Manganese (Dissolved)	Offsite "Local Conditions"	Feb 2021 Event	7	86%	131	142	1.1	330	1.6	1.6	-	Permutation Test	0.009	Yes
METAL (ug/L)	Manganese (Dissolved)	Onsite	Feb 2021 Event	7	100%	573	421	110	1300	-	-	Normal			

Appendix F

Human Health Screening Evaluation Tables

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Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location: / Sample Name: / Well Description: / Onsite/Offsite: / Sample Date:	CH-MW044D / CH-MW044D-1220 / CH-MW044 Deep / Onsite / 12/11/2020			CH-MW044D / CH-MW044D-0221 / CH-MW044 Deep / Onsite / 2/22/2021			CH-MW044S / CH-MW044S-1220 / CH-MW044 Shallow / Onsite / 12/11/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	0.61	J	1	1	U	1	0.57	J	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	4.2	J	2	0.82	J	2	5.4	J	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.37	J	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.5	U	0.5	23		0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	2.1		0.5	0.5	U	0.5	0.59	J	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.62	J	0.8	0.8	U	0.8	0.66	J	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	CH-MW044D			CH-MW044D			CH-MW044S		
										Sample Name:	CH-MW044D-1220			CH-MW044D-0221			CH-MW044S-1220		
										Well Description:	CH-MW044 Deep			CH-MW044 Deep			CH-MW044 Shallow		
										Onsite/Offsite:	Onsite			Onsite			Onsite		
										Sample Date:	12/11/2020			2/22/2021			12/11/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1	UJ	1	1	U	1	1.1	UJ	1.1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.2	UJ	0.2	0.2	U	0.2	1.1	J	0.22
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.81	UJ	0.81	0.81	U	0.81	0.88	UJ	0.88
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	UJ	1	1	U	1	1.7	J	1.1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	3.2	UJ	3.2	2	U	2	3.5	UJ	3.5
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.1	UJ	9.1	9.1	U	9.1	9.9	UJ	9.9
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	UJ	1	1	U	1	1.1	UJ	1.1
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	9.1	UJ	9.1	2	U	2	9.9	UJ	9.9
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	24	UJ	24	24	U	24	26	UJ	26
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	9.1	UJ	9.1	1	U	1	9.9	UJ	9.9
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	10	UJ	10	4	U	4	11	UJ	11
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4	UJ	4	4	UJ	4	4.4	UJ	4.4
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	10	UJ	10	6.1	U	6.1	11	UJ	11
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	0.03	UJ	0.03	1	U	1	1.1	UJ	1.1
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1	UJ	1	1	U	1	1.1	UJ	1.1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	UJ	4	4	U	4	4.4	UJ	4.4
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	UJ	4	4	UJ	4	4.4	UJ	4.4
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	UJ	4	4	U	4	4.4	UJ	4.4
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	10	UJ	10	10	U	10	11	UJ	11
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	0.09933	--	0.09933	0.08033	--	0.08033	0.109263	--	0.109263
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	0.66	--	0.66	0.621	--	--	0.2304	--	--
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	2.7	--	2.7	2.7	--	2.7	2.79	--	2.79
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	61		30	30	U	30	780		30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1.9	J	1.6	0.77	J	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	110		1.6	72		1.6	59		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	29000		120	16000		120	25000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.04	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	1.38	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.93		0.4	0.24	J	0.4	0.69		0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.52	J	0.8	0.8	U	0.8	3.2		0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	2000		400	3800		40	2900		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.14	J	0.25	0.25	U	0.25	0.5		0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	20000		25	6600		25	6500		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	620		1.6	610		1.6	470		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.2	U	0.2	0.16	U	0.16	0.11	J	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	5.1		1	1	U	1	4.2		1

Table 1
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Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	CH-MW044D			CH-MW044D			CH-MW044S		
										Sample Name:	CH-MW044D-1220			CH-MW044D-0221			CH-MW044S-1220		
										Well Description:	CH-MW044 Deep			CH-MW044 Deep			CH-MW044 Shallow		
										Onsite/Offsite:	Onsite			Onsite			Onsite		
										Sample Date:	12/11/2020			2/22/2021			12/11/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	6300		160	4600		160	4500		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	4.8		0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	160000		1600	57000		160	27000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	2.9	J	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	10	U	10	25		10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	30	U	30	31	U	31	30	U	30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1.8	J	1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	100		1.6	69		1.6	41		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.26	U	0.26	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	29000		120	16000		120	22000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.04	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	0.8	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.86		0.4	0.41	U	0.41	0.18	J	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	1100		40	2400		41	50		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.25	U	0.25	0.26	U	0.26	0.25	U	0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	19000		25	6400		26	6000		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	600		1.6	580		1.6	380		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.09	J	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	5.2		1	1	U	1	1	J	1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	6000		160	4300		160	4300		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.82	U	0.82	0.8	U	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	160000		1600	49000		330	26000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.41	U	0.41	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	10	U	10	10	U	10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk THQ = Target Hazard Quotient
LOD = Limit of Detection USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter VISL = Vapor Intrusion Screening Level
SL = Screening Level VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

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Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	CH-MW044S			CH-MW045D			CH-MW045D		
										Sample Name:	CH-MW044S-0221			CH-MW045D-1220			CH-MW045D-0221		
										Well Description:	CH-MW044 Shallow			CH-MW045 Deep			CH-MW045 Deep		
										Onsite/Offsite:	Onsite			Onsite			Onsite		
										Sample Date:	2/22/2021			12/12/2020			2/22/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	1	U	1	0.5	J	1	1	U	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	2	U	2	2.1	J	2	2	U	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.24	J	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.37	J	0.5	0.5	U	0.5	3.8	J	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.5	U	0.5	0.52	J	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	**Result**
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	CH-MW044S			CH-MW045D			CH-MW045D		
										Sample Name:	CH-MW044S-0221			CH-MW045D-1220			CH-MW045D-0221		
										Well Description:	CH-MW044 Shallow			CH-MW045 Deep			CH-MW045 Deep		
										Onsite/Offsite:	Onsite			Onsite			Onsite		
										Sample Date:	2/22/2021			12/12/2020			2/22/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1	U	1	1.1	UJ	1.1	1	UJ	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.18	J	0.2	0.19	J	0.22	0.2	U	0.2
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.81	U	0.81	0.89	UJ	0.89	0.81	UJ	0.81
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1	1.1	UJ	1.1	--	--	--
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	2	U	2	3.6	UJ	3.6	--	--	--
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.1	U	9.1	10	UJ	10	9.1	UJ	9.1
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1	1.1	UJ	1.1	--	--	--
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	2	U	2	10	UJ	10	2	UJ	2
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	24	U	24	27	UJ	27	--	--	--
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	1	U	1	10	UJ	10	1	UJ	1
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	4.1	U	4.1	11	UJ	11	4.1	UJ	4.1
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4.1	UJ	4.1	4.5	UJ	4.5	4.1	UJ	4.1
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	6.1	U	6.1	11	UJ	11	6.1	UJ	6.1
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	1	U	1	0.033	UJ	0.033	1	UJ	1
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1	U	1	1.1	UJ	1.1	1	UJ	1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	U	4.1	4.5	UJ	4.5	4.1	UJ	4.1
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	UJ	4.1	4.5	UJ	4.5	4.1	UJ	4.1
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	U	4.1	4.5	UJ	4.5	4.1	UJ	4.1
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	10	U	10	11	UJ	11	10	UJ	10
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	**0.08033**	--	0.08033	0.0062405	--	--	**0.08143**	--	0.08143
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	**0.64**	--	0.64	**0.4068**	--	--	**0.3204**	--	--
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	**2.7**	--	2.7	**3.06**	--	3.06	**2.79**	--	2.79
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	30	U	30	30	U	30	30	U	30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	**1.4**	J	1.6	1.6	U	1.6	**1.2**	J	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	59		1.6	180		1.6	**470**		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	16000		120	42000		120	38000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	0.012	J	0.04	--	--	--	0.02	U	0.04
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.788	--	--	--	--	--	0.69	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.33	J	0.4	**2**		0.4	0.42	J	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.8	U	0.8	2.9		0.8	0.8	U	0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	**4800**		40	**2300**		400	**45000**		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.087	J	0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	6300		25	**44000**		25	35000		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	**670**		1.6	**940**		1.6	**1400**		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16	**0.083**	J	0.2	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1.4	J	1	9.4		1	0.67	J	1

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Camp Hero, Montauk, New York

Detection above Selected Screening Level	**Result**
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	CH-MW044S			CH-MW045D			CH-MW045D		
										Sample Name:	CH-MW044S-0221			CH-MW045D-1220			CH-MW045D-0221		
										Well Description:	CH-MW044 Shallow			CH-MW045 Deep			CH-MW045 Deep		
										Onsite/Offsite:	Onsite			Onsite			Onsite		
										Sample Date:	2/22/2021			12/12/2020			2/22/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	3400		160	11000		160	11000		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.22	J	0.4	0.21	J	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	**27000**		160	**420000**		1600	**500000**		3200
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	37		10	10	U	10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	31	U	31	76		30	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	**0.97**	J	1.6	1.6	U	1.6	**0.83**	J	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	59		1.6	180		1.6	**430**		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.26	U	0.26	0.25	U	0.25	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	15000		120	42000		120	36000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	0.02	U	0.04	--	--	--	0.02	U	0.1
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.8	--	--	--	--	--	0.8	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.28	J	0.41	**2.2**		0.4	0.17	J	0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.82	U	0.82	20		0.8	0.5	J	0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	**4500**		41	**9700**		40	**40000**		41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.26	U	0.26	0.78		0.25	0.26	U	0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	6100		26	**42000**		25	33000		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	**660**		1.6	**910**		1.6	**1300**		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1.2	J	1	16		1	1	U	1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	3200		160	10000		160	11000		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.41	U	0.41	**31**		0.4	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	**25000**		160	**410000**		1600	**460000**		1600
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	41		10	10	U	10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk THQ = Target Hazard Quotient
LOD = Limit of Detection USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter VISL = Vapor Intrusion Screening Level
SL = Screening Level VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

										Sample Location:	CH-MW045S			CH-MW045S			S 1202		
										Sample Name:	CH-MW045S-1220			CH-MW045S-0221			S1202-1220		
										Well Description:	CH-MW045 Shallow			CH-MW045 Shallow			Lighthouse Well (Gift Shop Potable Well)		
Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Onsite/Offsite:	Onsite			Onsite			Offsite		
										Sample Date:	12/9/2020			2/22/2021			12/9/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	1.1	J	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	2	U	2	0.71	J	2	2	U	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.5	U	0.5	0.6	J	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.5	J	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	CH-MW045S			CH-MW045S			S 1202		
										Sample Name:	CH-MW045S-1220			CH-MW045S-0221			S1202-1220		
										Well Description:	CH-MW045 Shallow			CH-MW045 Shallow			Lighthouse Well (Gift Shop Potable Well)		
										Onsite/Offsite:	Onsite			Onsite			Offsite		
										Sample Date:	12/9/2020			2/22/2021			12/9/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1.1	U	1.1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.21	UJ	0.21	0.2	U	0.2	0.11	J	0.2
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.85	U	0.85	0.81	U	0.81	0.81	U	0.81
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1.1	U	1.1	1	UJ	1	1	U	1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	3.4	U	3.4	2	UJ	2	3.2	U	3.2
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.5	U	9.5	9.2	U	9.2	9.1	U	9.1
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1.1	U	1.1	1	UJ	1	1	U	1
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	9.5	U	9.5	2	U	2	9.1	U	9.1
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	25	U	25	24	U	24	24	U	24
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	9.5	U	9.5	1	U	1	9.1	U	9.1
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	11	U	11	4.1	U	4.1	10	U	10
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4.2	U	4.2	4.1	UJ	4.1	4	U	4
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	11	U	11	6.1	U	6.1	10	U	10
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	0.032	UJ	0.032	1	U	1	0.03	UJ	0.03
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1.1	U	1.1	1	U	1	1	U	1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	U	4.2	4.1	U	4.1	4	U	4
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	U	4.2	4.1	UJ	4.1	4	U	4
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	U	4.2	4.1	U	4.1	4	U	4
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	11	U	11	10	U	10	10	U	10
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	0.104952	--	0.104952	0.082641	--	0.082641	0.09933	--	0.09933
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	0.2448	--	--	0.658	--	0.658	0.66	--	0.66
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	2.79	--	2.79	2.79	--	2.79	2.61	--	--
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	1800		30	210		30	30	U	30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.1	J	1.6	2.7		1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	84		1.6	48		1.6	81		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	19000		120	19000		120	18000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.04	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	1.58	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	1.2		0.4	0.32	J	0.4	0.4	U	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	2.9		0.8	0.82	J	0.8	400		0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	2200		40	5200		40	30	J	40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.92		0.25	0.18	J	0.25	3.3		0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	6200		25	6500		25	16000		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	510		1.6	1000		1.6	2.3		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	4.2	J	1	1	U	1	9.9		1

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

										Sample Location:	CH-MW045S			CH-MW045S			S 1202		
										Sample Name:	CH-MW045S-1220			CH-MW045S-0221			S1202-1220		
										Well Description:	CH-MW045 Shallow			CH-MW045 Shallow			Lighthouse Well (Gift Shop Potable Well)		
Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Onsite/Offsite:	Onsite			Onsite			Offsite		
										Sample Date:	12/9/2020			2/22/2021			12/9/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	4200		160	2800		160	2800		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.42	J	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	52000		160	41000		160	71000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	3.4	J	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	15		10	10	U	10	680		10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	31	U	31	31	U	31	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1.9	J	1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	68		1.6	42		1.6	77		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	18000		120	19000		120	17000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.04	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	2.28	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.48	J	0.41	0.16	J	0.41	0.41	U	0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	1.4		0.82	0.86	J	0.82	380		0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	100		41	3100		41	41	U	41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.11	J	0.26	0.26	U	0.26	2.6		0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	5500		26	6000		26	15000		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	470		1.6	860		1.6	1.5	J	1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1	U	1	0.76	J	1	9.1		1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	3400		160	2600		160	2500		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.82	U	0.82	0.82	U	0.82	0.39	J	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	48000		160	35000		160	64000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	8	J	10	10	U	10	600		10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk
THQ = Target Hazard Quotient
LOD = Limit of Detection
USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter
VISL = Vapor Intrusion Screening Level
SL = Screening Level
VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 1202			S 17231S			S 17231S		
										Sample Name:	S1202-0221			S17231S-1220			S17231S-0221 - COMB		
										Well Description:	Lighthouse Well (Gift Shop Potable Well)			Former USAF Supply Well in Pump House			Former USAF Supply Well in Pump House		
										Onsite/Offsite:	Offsite			Onsite			Onsite		
										Sample Date:	2/24/2021			12/10/2020			2/25/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	0.49	J	1	0.96	J	1	1	U	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	2	U	2	1.8	J	2	2	U	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.48	J	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8	0.64	J	0.8	0.64	J	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.53	J	0.5	0.24	J	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	**Result**
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 1202			S 17231S			S 17231S		
										Sample Name:	S1202-0221			S17231S-1220			S17231S-0221 - COMB		
										Well Description:	Lighthouse Well (Gift Shop Potable Well)			Former USAF Supply Well in Pump House			Former USAF Supply Well in Pump House		
										Onsite/Offsite:	Offsite			Onsite			Onsite		
										Sample Date:	2/24/2021			12/10/2020			2/25/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1	U	1	1.1	U	1.1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.2	U	0.2	0.21	U	0.21	0.21		0.2
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.81	U	0.81	0.86	U	0.86	0.82	U	0.82
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1	1.1	U	1.1	1	U	1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	2	U	2	3.4	U	3.4	2	U	2
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.1	U	9.1	9.6	U	9.6	9.2	U	9.2
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1	0.89	J	1.1	5.2		1.05
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	2	U	2	9.6	U	9.6	2	U	2
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	24	U	24	26	U	26	25	U	25
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	1	U	1	9.6	U	9.6	1	U	1
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	4	U	4	11	U	11	4.1	U	4.1
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4	UJ	4	4.3	U	4.3	4.1	UJ	4.1
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	6.1	U	6.1	11	U	11	6.1	U	6.1
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	1	U	1	1.1	U	1.1	1	U	1
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1	U	1	1.1	U	1.1	1	U	1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	U	4	4.3	U	4.3	4.1	UJ	4.1
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	UJ	4	4.3	U	4.3	4.1	UJ	4.1
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	U	4	4.3	U	4.3	4.1	U	4.1
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	10	U	10	11	U	11	10	U	10
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	**0.08033**	--	0.08033	**0.105952**	--	0.105952	**0.03948**	--	--
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	**0.642**	--	0.642	**0.704**	--	0.704	**0.7164**	--	--
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	**2.7**	--	2.7	**2.7**	--	2.7	**2.7**	--	2.7
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	30	U	30	55	J	30	24.5	J	30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1.6	U	1.6	**0.895**	J	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	77		1.6	30		1.6	70.5		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	16000		120	9200		120	16000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	**1.9**		0.1	--	--	--	0.02	U	0.1
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.5	--	--	--	--	--	0.78	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.4	U	0.4	**0.86**		0.4	0.22	J	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	29		0.8	1.3		0.8	0.82	J	0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	40	U	40	**9800**		40	**4500**		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.85		0.25	**26**		0.25	14		0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	13000		25	990		25	8300		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	1.7	J	1.6	**240**		1.6	**170**		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	2.6		1	1.3	J	1	1	U	1

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 1202			S 17231S			S 17231S		
										Sample Name:	S1202-0221			S17231S-1220			S17231S-0221 - COMB		
										Well Description:	Lighthouse Well (Gift Shop Potable Well)			Former USAF Supply Well in Pump House			Former USAF Supply Well in Pump House		
										Onsite/Offsite:	Offsite			Onsite			Onsite		
										Sample Date:	2/24/2021			12/10/2020			2/25/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	2500		160	4600		160	3000		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.37	J	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	66000		160	38000	J	160	32500		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	77		10	31		10	8.35	J	10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	31	U	31	31	U	31	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.82	U	0.82	0.82	U	0.82	0.44	J	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	76		1.6	25		1.6	69.5		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	16000		120	8700		120	16500		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	1.9		0.1	--	--	--	0.054	J	0.1
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0	--	--	--	--	--	0.766	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.41	U	0.41	0.23	J	0.41	0.41	U	0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	45		0.82	0.44	J	0.82	0.82	U	0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	41	U	41	1200		41	810		41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.9		0.26	0.26	U	0.26	0.26	U	0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	13000		26	950		26	8100		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	1.1	J	1.6	180		1.6	150		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	2.4		1	1	U	1	1	U	1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	2500		160	4400		160	3000		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.39	J	0.82	0.82	U	0.82	0.82	U	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	66000		160	37000	J	160	32000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	120		10	10	U	10	10	U	10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk THQ = Target Hazard Quotient
LOD = Limit of Detection USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter VISL = Vapor Intrusion Screening Level
SL = Screening Level VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result (highlighted)
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 19494			S 19494			S 19495		
										Sample Name:	S19494-1220			S19494-0221			S19495-1220		
										Well Description:	USGS Test Well (Behind Barracks Building)			USGS Test Well (Behind Barracks Building)			Former AT&T Building Well		
										Onsite/Offsite:	Onsite			Onsite			Onsite		
										Sample Date:	12/7/2020			2/23/2021			12/8/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	1	U	1	1	U	1	98		1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	2	U	2	2	U	2	28		2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.21	J	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	1.2		0.5	1.2		0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8	0.8	U	0.8	0.62	J	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 19494			S 19494			S 19495		
										Sample Name:	S19494-1220			S19494-0221			S19495-1220		
										Well Description:	USGS Test Well (Behind Barracks Building)			USGS Test Well (Behind Barracks Building)			Former AT&T Building Well		
										Onsite/Offsite:	Onsite			Onsite			Onsite		
										Sample Date:	12/7/2020			2/23/2021			12/8/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1	U	1	1.1	U	1.1	1.1	UJ	1.1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.2	U	0.2	0.22	U	0.22	0.22	U	0.22
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.8	U	0.8	0.87	U	0.87	0.87	U	0.87
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	UJ	1	1.1	U	1.1	1.1	U	1.1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	3.2	UJ	3.2	2.2	U	2.2	3.5	U	3.5
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9	U	9	9.7	UJ	9.7	9.8	U	9.8
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	UJ	1	1.1	U	1.1	1.1	U	1.1
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	9	U	9	2.2	U	2.2	9.8	U	9.8
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	24	UJ	24	26	U	26	26	U	26
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	9	U	9	1.1	U	1.1	9.8	U	9.8
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	10	U	10	4.3	U	4.3	11	U	11
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4	U	4	4.3	UJ	4.3	4.4	U	4.4
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	10	U	10	6.5	U	6.5	11	U	11
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	1	U	1	1.1	U	1.1	0.033	U	0.033
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1	U	1	1.1	U	1.1	1.1	U	1.1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	U	4	4.3	U	4.3	4.4	U	4.4
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	UJ	4	4.3	UJ	4.3	4.4	U	4.4
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	U	4	4.3	U	4.3	4.4	U	4.4
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	10	U	10	11	U	11	11	U	11
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	0.09933	--	0.09933	0.086052	--	0.086052	0.108263	--	0.108263
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	0.66	--	0.66	0.686	--	0.686	0.722	--	0.722
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	2.97	--	2.97	2.88	--	2.88	2.79	--	2.79
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	30	U	30	30	U	30	66		30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	0.71	J	1.6	4.1		1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	99		1.6	99		1.6	7.9		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	14000		120	13000		120	12000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.1	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	0.48	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.29	J	0.4	0.29	J	0.4	0.37	J	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	20		0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	20000		40	22000		40	10000		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	34		0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	8700		25	8900		25	2700		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	350		1.6	360		1.6	530		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.085	J	0.2	0.16	U	0.16	0.15	J	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1.2	J	1	1	U	1	2.5		1

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 19494			S 19494			S 19495		
										Sample Name:	S19494-1220			S19494-0221			S19495-1220		
										Well Description:	USGS Test Well (Behind Barracks Building)			USGS Test Well (Behind Barracks Building)			Former AT&T Building Well		
										Onsite/Offsite:	Onsite			Onsite			Onsite		
										Sample Date:	12/7/2020			2/23/2021			12/8/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	2300		160	2200		160	720		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	26000		160	27000		160	6400		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	10	U	10	120		10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	31	U	31	22	J	31	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.71	J	0.82	0.82	U	0.82	0.82	U	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	99		1.6	99		1.6	5.5		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	14000		120	13000		120	11000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.2	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	0.8	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.32	J	0.41	0.22	J	0.41	0.41	U	0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	20000		41	20000		41	690		41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.26	U	0.26	0.26	U	0.26	1.2		0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	9000		26	8800		26	2600		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	340		1.6	350		1.6	490		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1.8	J	1	1	U	1	0.86	J	1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	2300		160	2200		160	710		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	27000		160	26000		160	5300		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	10	U	10	6.9	J	10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk — THQ = Target Hazard Quotient
LOD = Limit of Detection — USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter — VISL = Vapor Intrusion Screening Level
SL = Screening Level — VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 19495			S 3599			S 3599		
										Sample Name:	S19495-0221			S3599-1220			S3599-0221		
										Well Description:	Former AT&T Building Well			Lighthouse Well (Museum Shower)			Lighthouse Well (Museum Shower)		
										Onsite/Offsite:	Onsite			Offsite			Offsite		
										Sample Date:	2/23/2021			12/9/2020			2/24/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	1	J	2	2	U	2	2	U	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	**Result**
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 19495			S 3599			S 3599		
										Sample Name:	S19495-0221			S3599-1220			S3599-0221		
										Well Description:	Former AT&T Building Well			Lighthouse Well (Museum Shower)			Lighthouse Well (Museum Shower)		
										Onsite/Offsite:	Onsite			Offsite			Offsite		
										Sample Date:	2/23/2021			12/9/2020			2/24/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1.1	U	1.1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.21	U	0.21	0.21	UJ	0.21	0.15	J	0.2
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.85	U	0.85	0.84	U	0.84	0.8	U	0.8
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1.1	U	1.1	1	U	1	1	U	1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	2.1	U	2.1	3.4	U	3.4	2	U	2
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.5	U	9.5	9.4	U	9.4	9.1	U	9.1
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1.1	U	1.1	1	U	1	1	U	1
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	2.1	U	2.1	9.4	U	9.4	2	U	2
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	25	U	25	25	U	25	24	U	24
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	1.1	U	1.1	9.4	U	9.4	1	U	1
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	4.2	U	4.2	10	U	10	4	U	4
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4.2	UJ	4.2	4.2	U	4.2	4	UJ	4
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	6.4	U	6.4	10	U	10	6	U	6
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	1.1	U	1.1	1	U	1	1	U	1
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1.1	U	1.1	1	U	1	1	U	1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	U	4.2	4.2	U	4.2	4	U	4
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	UJ	4.2	4.2	U	4.2	4	UJ	4
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	U	4.2	4.2	U	4.2	4	U	4
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	11	U	11	10	U	10	10	U	10
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	**0.084952**	--	0.084952	**0.103641**	--	0.103641	**0.08033**	--	0.08033
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	**0.68**	--	0.68	**0.686**	--	0.686	**0.652**	--	--
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	**2.88**	--	2.88	**2.7**	--	2.7	**2.79**	--	2.79
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	62	J	30	30	U	30	30	U	30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	**2.7**		1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	4.8	J	1.6	48		1.6	59		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	12000		120	16000		120	19000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	0.026	J	0.1	--	--	--	**0.093**	J	0.1
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.774	--	--	--	--	--	0.707	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.17	J	0.4	0.4	U	0.4	0.4	U	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	15		0.8	**220**		0.8	**100**		0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	**2900**		40	**5700**		40	**1500**		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	12		0.25	5		0.25	4.2		0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	2600		25	14000		25	15000		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	**130**		1.6	**51**		1.6	**53**		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	0.81	J	1	1	U	1	1.5		1

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 19495			S 3599			S 3599		
										Sample Name:	S19495-0221			S3599-1220			S3599-0221		
										Well Description:	Former AT&T Building Well			Lighthouse Well (Museum Shower)			Lighthouse Well (Museum Shower)		
										Onsite/Offsite:	Onsite			Offsite			Offsite		
										Sample Date:	2/23/2021			12/9/2020			2/24/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	570		160	2200		160	2200		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	3600	J	160	48000		160	44000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	53		10	88		10	140		10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	31	U	31	31	U	31	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.1	J	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	3.7		1.6	46		1.6	56		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	12000		120	16000		120	19000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	0.074	J	0.1	--	--	--	0.044	J	0.1
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.746	--	--	--	--	--	0.776	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	1.9		0.82	54		0.82	89		0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	170		41	400		41	61		41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	3.5		0.26	0.41	J	0.26	3.7		0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	2500		26	13000		26	15000		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	110		1.6	42		1.6	52		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1	U	1	2.5	J	1	0.9	J	1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	540		160	2100		160	2200		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.82	U	0.82	0.82	U	0.82	0.82	U	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	3300		160	44000		160	42000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	25		10	150		10	150		10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk
THQ = Target Hazard Quotient
LOD = Limit of Detection
USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter
VISL = Vapor Intrusion Screening Level
SL = Screening Level
VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

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Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 48579			S 48579			S 58922		
										Sample Name:	S48579-1220			S48579-0221			S58922-1220		
										Well Description:	USGS Monitoring Well (Route 27 at Horse Ranch)			USGS Monitoring Well (Route 27 at Horse Ranch)			USGS Monitoring Well (Pocohontas Road)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	12/10/2020			2/23/2021			12/9/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

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Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 48579			S 48579			S 58922		
										Sample Name:	S48579-1220			S48579-0221			S58922-1220		
										Well Description:	USGS Monitoring Well (Route 27 at Horse Ranch)			USGS Monitoring Well (Route 27 at Horse Ranch)			USGS Monitoring Well (Pocohontas Road)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	12/10/2020			2/23/2021			12/9/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1	U	1	1.1	U	1.1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.21	U	0.21	0.22	U	0.22	0.21	UJ	0.21
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.82	U	0.82	0.86	U	0.86	0.82	U	0.82
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1	1.1	U	1.1	1	U	1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	3.3	U	3.3	2.2	U	2.2	3.3	U	3.3
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.2	U	9.2	9.7	U	9.7	9.2	U	9.2
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1	1.1	U	1.1	1	U	1
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	9.2	U	9.2	2.2	U	2.2	9.2	U	9.2
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	25	U	25	26	U	26	25	U	25
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	9.2	U	9.2	1.1	U	1.1	9.2	U	9.2
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	10	U	10	4.3	U	4.3	10	U	10
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4.1	U	4.1	4.3	UJ	4.3	4.1	U	4.1
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	10	U	10	6.5	U	6.5	10	U	10
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	0.031	U	0.031	1.1	U	1.1	1	U	1
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1	U	1	1.1	U	1.1	1	U	1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	U	4.1	4.3	U	4.3	4.1	U	4.1
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	U	4.1	4.3	UJ	4.3	4.1	U	4.1
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	U	4.1	4.3	U	4.3	4.1	U	4.1
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	10	U	10	11	U	11	10	U	10
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	0.102641	--	0.102641	0.086052	--	0.086052	0.102641	--	0.102641
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	0.682	--	0.682	0.686	--	0.686	0.682	--	0.682
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	2.7	--	2.7	2.88	--	2.88	2.79	--	2.79
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	78	J	30	49		30	30	U	30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	28		1.6	20		1.6	83		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	8200		120	6200		120	13000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.04	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	0.31	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.8	U	0.8	0.85	J	0.8	0.9	J	0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	8100		40	21000		40	48	J	40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	3.7		0.25	48		0.25	0.51		0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	5500		25	4200		25	7200		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	220		1.6	350		1.6	2.1		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	0.65	J	1	1	U	1	1	U	1

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 48579			S 48579			S 58922		
										Sample Name:	S48579-1220			S48579-0221			S58922-1220		
										Well Description:	USGS Monitoring Well (Route 27 at Horse Ranch)			USGS Monitoring Well (Route 27 at Horse Ranch)			USGS Monitoring Well (Pocohontas Road)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	12/10/2020			2/23/2021			12/9/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	3500		160	3100		160	1700		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.78	J	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	43000	J	160	43000		160	23000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	11	J	10	10	U	10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	31	U	31	31	U	31	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	1.1	J	0.82	0.82	U	0.82	0.82	U	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	26	J	1.6	20		1.6	75		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.26	U	0.26	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	8100		120	5800		120	12000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.04	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	0.8	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.82	UJ	0.82	0.82	U	0.82	0.82	U	0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	7100		41	18000		41	41	U	41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.078	J	0.26	0.37	J	0.26	0.083	J	0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	5500		26	3900		26	6700		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	220		1.6	330		1.6	1.2	J	1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.2	U	0.2	0.16	U	0.16	0.2	U	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	2.1	J	1	1	U	1	1	U	1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	3400		160	2900		160	1600		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.36	J	0.82	0.82	U	0.82	0.94	J	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	30000	J	160	40000		160	20000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.41	U	0.41	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	10	U	10	10	U	10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk THQ = Target Hazard Quotient
LOD = Limit of Detection USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter VISL = Vapor Intrusion Screening Level
SL = Screening Level VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 58922			S 70627			S 70627		
										Sample Name:	S58922-0221			S70627-1220			S70627-0221		
										Well Description:	USGS Monitoring Well (Pocohontas Road)			USGS Monitoring Well (Route 27 near Lighthouse)			USGS Monitoring Well (Route 27 near Lighthouse)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	2/23/2021			12/12/2020			2/24/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)										
										Sample Location:	S 58922			S 70627			S 70627		
										Sample Name:	S58922-0221			S70627-1220			S70627-0221		
										Well Description:	USGS Monitoring Well (Pocohontas Road)			USGS Monitoring Well (Route 27 near Lighthouse)			USGS Monitoring Well (Route 27 near Lighthouse)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	2/23/2021			12/12/2020			2/24/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1	U	1	1	UJ	1	1.1	U	1.1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.21	U	0.21	0.21	UJ	0.21	0.21	U	0.21
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.82	U	0.82	0.83	UJ	0.83	0.88	U	0.88
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1	1	UJ	1	1.1	U	1.1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	2.1	U	2.1	3.3	UJ	3.3	2.2	U	2.2
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.2	U	9.2	9.3	UJ	9.3	9.9	U	9.9
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1	1	UJ	1	1.1	U	1.1
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	2.1	U	2.1	9.3	UJ	9.3	2.2	U	2.2
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	25	U	25	25	UJ	25	27	U	27
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	1	U	1	9.3	UJ	9.3	1.1	U	1.1
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	4.1	U	4.1	10	UJ	10	4.4	U	4.4
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4.1	UJ	4.1	4.1	UJ	4.1	4.4	UJ	4.4
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	6.2	U	6.2	10	UJ	10	6.6	U	6.6
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	1	U	1	0.031	UJ	0.031	1.1	U	1.1
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1	U	1	1	UJ	1	1.1	U	1.1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	U	4.1	4.1	UJ	4.1	4.4	UJ	4.4
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	UJ	4.1	4.1	UJ	4.1	4.4	UJ	4.4
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.1	U	4.1	4.1	UJ	4.1	4.4	U	4.4
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	10	U	10	10	UJ	10	11	U	11
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	0.082641	--	0.082641	0.067204	--	--	0.082641	--	0.082641
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	0.64	--	--	0.5742	--	--	0.66	--	0.66
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	2.7	--	2.7	3.24	--	3.24	3.06	--	3.06
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	30	U	30	320		30	2400		30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	1	J	1.6	1.8	J	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	55		1.6	170		1.6	140		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.25	U	0.25	0.13	J	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.2	J	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	11000		120	32000		120	30000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	0.38		0.04	--	--	--	0.038	J	0.04
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.03	--	--	--	--	--	9.962	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.4	U	0.4	1		0.4	1.8		0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.8	U	0.8	2.3		0.8	2.7		0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	40	U	40	430		40	2900		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.25	U	0.25	2.1		0.25	3.5		0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	7900		25	19000		25	19000		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	1.6	U	1.6	460		1.6	260		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16	0.2	U	0.2	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1	U	1	11		1	10		1

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	**Result**
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 58922			S 70627			S 70627		
										Sample Name:	S58922-0221			S70627-1220			S70627-0221		
										Well Description:	USGS Monitoring Well (Pocohontas Road)			USGS Monitoring Well (Route 27 near Lighthouse)			USGS Monitoring Well (Route 27 near Lighthouse)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	2/23/2021			12/12/2020			2/24/2021		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	1700		160	3900		160	4300		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.75	J	0.8	0.8	U	0.8	0.32	J	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	**22000**		160	**67000**		160	**75000**		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1	J	1.6	5.1		1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	65		10	14	J	10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	31	U	31	30	U	30	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.82	U	0.82	0.8	U	0.8	0.82	U	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6	**0.75**	J	1.6	**0.79**	J	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	52		1.6	150		1.6	110		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.26	U	0.26	0.25	U	0.25	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.41	U	0.41	0.19	J	0.4	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	11000		120	31000		120	30000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	**0.46**		0.04	--	--	--	**0.049**	J	0.1
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.36	--	--	--	--	--	0.771	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.41	U	0.41	**0.9**		0.4	**0.64**		0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.82	U	0.82	1.2		0.8	0.82	U	0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	41	U	41	23	J	40	120		41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.26	U	0.26	0.074	J	0.25	0.074	J	0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	7600		26	18000		25	18000		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	1.6	U	1.6	**390**		1.6	**210**		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16	**0.08**	J	0.2	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1	U	1	9.3		1	3.7		1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	1600		160	3400		160	3400		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.69	J	0.82	0.8	U	0.8	0.82	U	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	20000		160	**67000**		160	**67000**		820
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.41	U	0.41	0.4	U	0.4	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10	8.6	J	10	6.4	J	10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk
THQ = Target Hazard Quotient
LOD = Limit of Detection
USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter
VISL = Vapor Intrusion Screening Level
SL = Screening Level
VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 76304			S 76304			S 79269		
										Sample Name:	S76304-1220 - COMB			S76304-0221			S79269-1220 - COMB		
										Well Description:	Madison Hill Well Field #1			Madison Hill Well Field #1			Montauk Point State Park Well (Potable)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	12/13/2020			2/27/2021			12/8/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Volatile Organic Compounds (VOCs)																			
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2	2	U	2	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100	100	U	100	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1	1	U	1	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	0.9	J	2	2	U	2	2	U	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	1.15	J	0.5	0.5	U	0.5	0.5	U	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2	2	U	2	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1	1	U	1	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2	2	U	2	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1	1	U	1	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8	2.8	U	2.8	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)																			

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	**Result**
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 76304			S 76304			S 79269		
										Sample Name:	S76304-1220 - COMB			S76304-0221			S79269-1220 - COMB		
										Well Description:	Madison Hill Well Field #1			Madison Hill Well Field #1			Montauk Point State Park Well (Potable)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	12/13/2020			2/27/2021			12/8/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1	UJ	1	1	U	1	**1.1**		1.1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.21	UJ	0.21	0.21	U	0.21	0.215		0.21
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.83	UJ	0.83	0.82	U	0.82	0.86	U	0.86
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	UJ	1	1	U	1	1.1		1.1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	3.3	UJ	3.3	2.1	U	2.1	3.45		3.4
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.4	UJ	9.4	9.2	U	9.2	9.6	U	9.6
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	UJ	1	1	U	1	1.1		1.1
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	9.4	UJ	9.4	2.1	U	2.1	9.6	U	9.6
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	25	UJ	25	25	U	25	26	U	26
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	9.4	UJ	9.4	1	U	1	9.6	U	9.6
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	10	UJ	10	4.1	U	4.1	11	U	11
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4.2	UJ	4.2	4.1	UJ	4.1	4.3		4.3
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	10	UJ	10	6.2	U	6.2	11	U	11
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	0.031	UJ	0.031	1	U	1	1.1	U	1.1
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1	UJ	1	1	U	1	1.1	U	1.1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	UJ	4.2	4.1	UJ	4.1	4.3	U	4.3
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	UJ	4.2	4.1	UJ	4.1	4.3		4.3
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4.2	UJ	4.2	4.1	U	4.1	4.3	U	4.3
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	10	UJ	10	10	U	10	11	U	11
Polycyclic Aromatic Hydrocarbons																			
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	**0.103641**	--	0.103641	**0.082641**	--	0.082641	**0.105952**	--	0.105952
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	**0.686**	--	0.686	**0.66**	--	0.66	**0.704**	--	0.704
Polychlorinated Biphenyls (PCBs)																			
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	**2.79**	--	2.79	**3.15**	--	--	**2.79**	--	2.79
Total Metals (TMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	1000	J	30	30	U	30	30	U	30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	**8.9**		0.8	0.8	U	0.8	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	**420**	J	1.6	**2.9**		1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	**1190**	J	1.6	54		1.6	41		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.17	J	0.25	0.25	U	0.25	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	**19**		0.4	0.4	U	0.4	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	28500		600	27000		120	14500		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.03	J	0.1	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	0.77	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	**33**	J	0.4	0.4	U	0.4	0.4	U	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	**104.5**		0.8	0.8	U	0.8	2		0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	**1030000**	J	600	170		40	195		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	**735**		0.25	0.27	J	0.25	0.21	J	0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	5550	J	130	3100		25	10500		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	**27000**	J	16	**270**		1.6	33.5		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	**0.36**		0.2	0.16	U	0.16	**0.12**	J	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	**106**	J	1	1	U	1	2.55		1

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Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 76304			S 76304			S 79269		
										Sample Name:	S76304-1220 - COMB			S76304-0221			S79269-1220 - COMB		
										Well Description:	Madison Hill Well Field #1			Madison Hill Well Field #1			Montauk Point State Park Well (Potable)		
										Onsite/Offsite:	Offsite			Offsite			Offsite		
										Sample Date:	12/13/2020			2/27/2021			12/8/2020		
										Units	Result	VQ	LOD	Result	VQ	LOD	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	3550		160	3200		160	1950		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.49		0.4	0.4	U	0.4	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	51500		800	26000		160	30500		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.37	J	0.4	0.4	U	0.4	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	5.8		1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	79500	J	150	10	U	10	10	U	10
Dissolved Metals (DMET)																			
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	30	U	30	31	U	31	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8	0.82	U	0.82	0.82	U	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.55	J	1.6	2.8		1.6	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	47		1.6	54		1.6	39.5		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25	0.26	U	0.26	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4	0.41	U	0.41	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	11500		120	26000		120	14500		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	--	--	--	0.02	U	0.1	--	--	--
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	--	--	--	0.8	--	--	--	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.4	U	0.4	0.41	U	0.41	0.41	U	0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	0.97	J	0.8	0.82	U	0.82	1.3		0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	60	J	40	150		41	155		41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.25	U	0.25	0.26	U	0.26	0.15	J	0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	1250		25	3400		26	10000		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	48.5		1.6	290		1.6	33		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.2	U	0.2	0.16	U	0.16	0.1	J	0.2
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	0.92	J	1	1	U	1	1.7		1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	3000		160	3300		160	1900		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8	0.82	U	0.82	0.82	U	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4	0.41	U	0.41	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	50500		160	27000		160	29500		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4	0.41	U	0.41	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6	1.6	U	1.6	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	J	10	10	U	10	10	U	10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk THQ = Target Hazard Quotient
LOD = Limit of Detection USEPA = United States Environmental Protection Agency
ug/L = micrograms per liter VISL = Vapor Intrusion Screening Level
SL = Screening Level VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Sample Location:	S 79269		
										Sample Name:	S79269-0221 - COMB		
										Well Description:	Montauk Point State Park Well (Potable)		
										Onsite/Offsite:	Offsite		
										Sample Date:	2/25/2021		
										Units	Result	VQ	LOD
Volatile Organic Compounds (VOCs)													
1,1,1,2-Tetrachloroethane	630-20-6	5.70E-01	4.80E+01	No MCL	5.00E+00	No MCL	3.71E+00	0.57	RSL_C	ug/L	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	No SL	8.00E+02	2.00E+02	5.00E+00	No MCL	7.42E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	7.60E-02	3.60E+01	No MCL	5.00E+00	No MCL	3.23E+00	0.076	RSL_C	ug/L	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	2.80E-01	4.10E-02	5.00E+00	1.00E+00	No MCL	6.19E-01	0.041	RSL_NC	ug/L	0.5	U	0.5
1,1-Dichloroethane	75-34-3	2.80E+00	3.80E+02	No MCL	5.00E+00	No MCL	7.64E+00	2.8	RSL_C	ug/L	0.5	U	0.5
1,1-Dichloroethene	75-35-4	No SL	2.80E+01	7.00E+00	5.00E+00	No MCL	1.95E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	No SL	7.00E-01	No MCL	5.00E+00	No MCL	No SL	0.7	RSL_NC	ug/L	1	U	1
1,2,4-Trimethylbenzene	95-63-6	No SL	5.60E+00	No MCL	5.00E+00	No MCL	2.48E+01	5	TOGS 1.1.1	ug/L	2	U	2
1,3,5-Trimethylbenzene	108-67-8	No SL	6.00E+00	No MCL	5.00E+00	No MCL	1.75E+01	5	TOGS 1.1.1	ug/L	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	100	U	100
2-Butanone (MEK)	78-93-3	No SL	5.60E+02	No MCL	5.00E+01	No MCL	2.24E+05	50	TOGS 1.1.1	ug/L	1	U	1
4-Isopropyltoluene	99-87-6	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5
4-Methyl-2-Pentanone (MIBK)	108-10-1	No SL	6.30E+02	No MCL	No MCL	No MCL	5.55E+04	630	RSL_NC	ug/L	1	U	1
Acetone	67-64-1	No SL	1.40E+03	No MCL	5.00E+01	No MCL	2.25E+06	50	TOGS 1.1.1	ug/L	2	U	2
Benzene	71-43-2	4.60E-01	3.30E+00	5.00E+00	1.00E+00	No MCL	1.59E+00	0.46	RSL_C	ug/L	0.5	U	0.5
Carbon Disulfide	75-15-0	No SL	8.10E+01	No MCL	6.00E+01	No MCL	1.24E+02	60	TOGS 1.1.1	ug/L	0.5	U	0.5
Carbon Tetrachloride	56-23-5	4.60E-01	4.90E+00	5.00E+00	5.00E+00	No MCL	4.15E-01	0.415	VISL	ug/L	0.5	U	0.5
Chloroethane	75-00-3	No SL	2.10E+03	No MCL	5.00E+00	No MCL	2.30E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5
Chloroform	67-66-3	2.20E-01	9.70E+00	8.00E+01	7.00E+00	No MCL	8.14E-01	0.22	RSL_C	ug/L	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	No SL	3.60E+00	7.00E+01	5.00E+00	No MCL	No SL	3.6	RSL_NC	ug/L	0.5	U	0.5
Cyclohexane	110-82-7	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	2	U	2
Ethylbenzene	100-41-4	1.50E+00	8.10E+01	7.00E+02	5.00E+00	No MCL	3.49E+00	1.5	RSL_C	ug/L	0.8	U	0.8
Isopropylbenzene	98-82-8	No SL	4.50E+01	No MCL	5.00E+00	No MCL	8.87E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5
Methylacetate	79-20-9	No SL	2.00E+03	No MCL	No MCL	No MCL	No SL	2000	RSL_NC	ug/L	0.5	U	0.5
Methylcyclohexane	108-87-2	No SL	1.30E+03	No MCL	No MCL	No MCL	1.02E+02	102	VISL	ug/L	1	U	1
Methyl tert-Butyl Ether (MTBE	1634-04-4	1.40E+01	6.30E+02	No MCL	1.00E+01	1.00E+01	4.50E+02	10	TOGS 1.1.1	ug/L	0.5	U	0.5
Methylene Chloride	75-09-2	1.10E+01	1.10E+01	5.00E+00	5.00E+00	No MCL	4.71E+02	5	Federal MCL	ug/L	0.5	U	0.5
m-Xylene & p-Xylene	108-38-3/106-42-3	No SL	1.90E+01	No MCL	No MCL	No MCL	3.55E+01	19	RSL_NC	ug/L	2	U	2
n-Butylbenzene	104-51-8	No SL	1.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5
n-Propylbenzene	103-65-1	No SL	6.60E+01	No MCL	5.00E+00	No MCL	2.43E+02	5	TOGS 1.1.1	ug/L	0.5	U	0.5
o-Xylene	95-47-6	No SL	1.90E+01	No MCL	5.00E+00	No MCL	4.92E+01	5	TOGS 1.1.1	ug/L	0.8	U	0.8
sec-Butylbenzene	135-98-8	No SL	2.00E+02	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	0.5	U	0.5
tert-Butylbenzene	98-06-6	No SL	6.90E+01	No MCL	5.00E+00	No MCL	No SL	5	TOGS 1.1.1	ug/L	1	U	1
Tetrachloroethene	127-18-4	1.10E+01	4.10E+00	5.00E+00	5.00E+00	No MCL	5.76E+00	4.1	RSL_NC	ug/L	0.5	U	0.5
Toluene	108-88-3	No SL	1.10E+02	1.00E+03	5.00E+00	No MCL	1.92E+03	5	TOGS 1.1.1	ug/L	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	No SL	6.80E+00	1.00E+02	5.00E+00	No MCL	1.09E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5
Trichloroethene	79-01-6	4.90E-01	2.80E-01	5.00E+00	5.00E+00	No MCL	5.18E-01	0.28	RSL_NC	ug/L	0.5	U	0.5
Trichlorotrifluoroethane	76-13-1	No SL	1.00E+03	No MCL	5.00E+00	No MCL	2.42E+01	5	TOGS 1.1.1	ug/L	0.5	U	0.5
Vinyl Chloride	75-01-4	1.90E-02	4.40E+00	2.00E+00	2.00E+00	2.00E+00	1.47E-01	0.019	RSL_C	ug/L	0.5	U	0.5
Xylenes (total)	1330-20-7	No SL	1.90E+01	1.00E+04	No MCL	No MCL	3.85E+01	19	RSL_NC	ug/L	2.8	U	2.8
Semi-Volatile Organic Compounds (SVOCs)													

Table 1
Phase IV Remedial Investigation Groundwater Analytical Results
Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

										Sample Location:	S 79269		
										Sample Name:	S79269-0221 - COMB		
										Well Description:	Montauk Point State Park Well (Potable)		
Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Onsite/Offsite:	Offsite		
										Sample Date:	2/25/2021		
										Units	Result	VQ	LOD
1,4-Dichlorobenzene	106-46-7	4.80E-01	5.70E+01	7.50E+01	3.00E+00	No MCL	2.59E+00	0.48	RSL_C	ug/L	1	U	1
1,4-Dioxane	123-91-1	4.60E-01	5.70E+00	No MCL	No MCL	1.00E+00	2.86E+03	0.46	RSL_C	ug/L	0.2	U	0.2
2-Chloronaphthalene	91-58-7	No SL	7.50E+01	No MCL	1.00E+01	No MCL	No SL	10	TOGS 1.1.1	ug/L	0.81	U	0.81
2-Methylphenol	95-48-7	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1
4-Chloro-3-methylphenol	59-50-7	No SL	1.40E+02	No MCL	No MCL	No MCL	Not Volatile	140	RSL_NC	ug/L	2	U	2
4-Chloroaniline	106-47-8	3.70E-01	7.60E+00	No MCL	5.00E+00	No MCL	Not Volatile	0.37	RSL_C	ug/L	9.1	U	9.1
4-Methylphenol	106-44-5	No SL	9.30E+01	No MCL	No MCL	No MCL	Not Volatile	93	RSL_NC	ug/L	1	U	1
Benzaldehyde	100-52-7	1.90E+01	1.90E+02	No MCL	No MCL	No MCL	No SL	19	RSL_C	ug/L	2	U	2
Benzoic acid	65-85-0	No SL	7.50E+03	No MCL	No MCL	No MCL	Not Volatile	7500	RSL_NC	ug/L	24	U	24
Biphenyl, 1,1'-	92-52-4	3.90E+00	8.30E-02	No MCL	5.00E+00	No MCL	3.31E+00	0.083	RSL_NC	ug/L	1	U	1
bis(2-Ethylhexyl) phthalate	117-81-7	5.60E+00	4.00E+01	6.00E+00	5.00E+00	6.00E+00	Not Volatile	5	TOGS 1.1.1	ug/L	4	U	4
Butyl Benzyl Phthalate	85-68-7	1.60E+01	1.70E+02	No MCL	5.00E+01	No MCL	Not Volatile	16	RSL_C	ug/L	4	UJ	4
Caprolactam	105-60-2	No SL	9.90E+02	No MCL	No MCL	No MCL	Not Volatile	990	RSL_NC	ug/L	6	U	6
Carbazole	86-73-7	No SL	2.90E+01	No MCL	5.00E+01	No MCL	No SL	29	RSL_NC	ug/L	1	U	1
Dibenzofuran	132-64-9	No SL	7.90E-01	No MCL	No MCL	No MCL	No SL	0.79	RSL_NC	ug/L	1	U	1
Diethyl Phthalate	84-66-2	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	UJ	4
Dimethyl Phthalate	131-11-3	No SL	1.50E+03	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	UJ	4
Di-n-butyl phthalate	84-74-2	No SL	9.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	50	TOGS 1.1.1	ug/L	4	U	4
di-n-Octyl Phthalate	117-84-0	No SL	2.00E+01	No MCL	5.00E+01	No MCL	Not Volatile	20	RSL_NC	ug/L	10	U	10
Polycyclic Aromatic Hydrocarbons													
Total BaP TEQ Calculated	50-32-8	2.50E-02	No SL	2.00E-01	No MCL	2.00E-01	Not Volatile	0.025	RSL_C	ug/L	0.08033	--	0.08033
Total PAHs Calculated	50-32-8	No SL	6.00E-01	2.00E-01	No MCL	2.00E-01	Not Volatile	0.2	Federal MCL	ug/L	0.5184	--	--
Polychlorinated Biphenyls (PCBs)													
Total PCBs Calculated	11097-69-1	4.40E-02	No SL	5.00E-01	No MCL	5.00E-01	No SL	0.044	RSL_C	ug/L	2.79	--	2.79
Total Metals (TMET)													
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	30	U	30
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.8	U	0.8
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	42		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.25	U	0.25
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.4	U	0.4
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	15000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	0.16		0.1
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.71	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.4	U	0.4
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	1.65		0.8
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	185		40
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.26	J	0.25
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	10500		25
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	28.5		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1.25		1

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Camp Hero, Montauk, New York

Detection above Selected Screening Level	Result
Detected Result	Result

Sample Location: S 79269
Sample Name: S79269-0221 - COMB
Well Description: Montauk Point State Park Well (Potable)
Onsite/Offsite: Offsite
Sample Date: 2/25/2021

Chemical	CASRN	RSL_C: USEPA Residential Tapwater Cancer SL	RSL_NC: USEPA Residential Tapwater Non-Cancer SL	Federal MCL: USEPA Maximum Contaminant Levels	TOGS 1.1.1: NYS Technical and Operational Guidance Series, 1.1.1.	NYS MCL: New York State Department of Health	VISL: USEPA Default Residential VISL	Selected Screening Level (1)	Screening Level Source (1)	Units	Result	VQ	LOD
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	2000		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.8	U	0.8
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.4	U	0.4
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	29500		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.4	U	0.4
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	10	U	10
Dissolved Metals (DMET)													
Aluminum	7429-90-5	No SL	2.00E+03	No MCL	2.00E+03	No MCL	Not Volatile	2000	RSL_NC	ug/L	31	U	31
Antimony	7440-36-0	No SL	7.80E-01	6.00E+00	3.00E+00	6.00E+00	Not Volatile	0.78	RSL_NC	ug/L	0.82	U	0.82
Arsenic	7440-38-2	5.20E-02	6.00E-01	1.00E+01	2.50E+01	1.00E+01	Not Volatile	0.052	RSL_C	ug/L	1.6	U	1.6
Barium	7440-39-3	No SL	3.80E+02	2.00E+03	1.00E+03	2.00E+03	Not Volatile	380	RSL_NC	ug/L	42		1.6
Beryllium	7440-41-7	No SL	2.50E+00	4.00E+00	3.00E+00	4.00E+00	Not Volatile	2.5	RSL_NC	ug/L	0.26	U	0.26
Cadmium	7440-43-9	No SL	9.20E-01	5.00E+00	5.00E+00	5.00E+00	Not Volatile	0.92	RSL_NC	ug/L	0.41	U	0.41
Calcium	7440-70-2	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	14000		120
Chromium (VI)	18540-29-9	3.50E-02	4.40E+00	No MCL	5.00E+01	No MCL	Not Volatile	0.035	RSL_C	ug/L	0.036	J	0.1
Chromium (III)	16065-83-1	No SL	2.20E+03	1.00E+02	No MCL	No MCL	Not Volatile	100	Federal MCL	ug/L	0.784	--	--
Cobalt	7440-48-4	No SL	6.00E-01	No MCL	5.00E+00	No MCL	Not Volatile	0.6	RSL_NC	ug/L	0.41	U	0.41
Copper	7440-50-8	No SL	8.00E+01	1.30E+03	2.00E+02	No MCL	Not Volatile	80	RSL_NC	ug/L	2.15		0.82
Iron	7439-89-6	No SL	1.40E+03	No MCL	6.00E+02	3.00E+02	Not Volatile	300	NYS MCL	ug/L	145		41
Lead	7439-92-1	No SL	1.50E+01	1.50E+01	2.50E+01	No MCL	Not Volatile	15	RSL_NC	ug/L	0.285	J	0.26
Magnesium	7439-95-4	No SL	No SL	No MCL	3.50E+04	No MCL	Not Volatile	35000	TOGS 1.1.1	ug/L	10400		26
Manganese	7439-96-5	No SL	4.30E+01	No MCL	3.00E+02	3.00E+02	Not Volatile	43	RSL_NC	ug/L	29		1.6
Mercury	7439-97-6	No SL	6.30E-02	2.00E+00	7.00E-01	2.00E+00	8.89E-02	0.063	RSL_NC	ug/L	0.16	U	0.16
Nickel	7440-02-0	No SL	3.90E+01	No MCL	1.00E+02	No MCL	Not Volatile	39	RSL_NC	ug/L	1.8		1
Potassium	7440-07-9	No SL	No SL	No MCL	No MCL	No MCL	Not Volatile	No SL	--	ug/L	1950		160
Selenium	7782-49-2	No SL	1.00E+01	5.00E+01	1.00E+01	5.00E+01	Not Volatile	10	RSL_NC	ug/L	0.82	U	0.82
Silver	7440-22-4	No SL	9.40E+00	No MCL	5.00E+01	1.00E+02	Not Volatile	9.4	RSL_NC	ug/L	0.41	U	0.41
Sodium	7440-23-5	No SL	No SL	No MCL	2.00E+04	No MCL	Not Volatile	20000	TOGS 1.1.1	ug/L	30000		160
Thallium	7440-28-0	No SL	2.00E-02	2.00E+00	5.00E-01	2.00E+00	Not Volatile	0.02	RSL_NC	ug/L	0.41	U	0.41
Vanadium	7440-62-2	No SL	8.60E+00	No MCL	No MCL	No MCL	Not Volatile	8.6	RSL_NC	ug/L	1.6	U	1.6
Zinc	7440-66-6	No SL	6.00E+02	No MCL	2.00E+03	5.00E+03	Not Volatile	600	RSL_NC	ug/L	8.75	J	10

Notes
(1) Selected screening level is the most conservative of the federal and state criteria.
CASRN = Chemical Abstract Services Registry Number
CR = Cancer Risk
LOD = Limit of Detection
ug/L = micrograms per liter
SL = Screening Level
THQ = Target Hazard Quotient
USEPA = United States Environmental Protection Agency
VISL = Vapor Intrusion Screening Level
VQ = Validation Qualifier

J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U = Undetected at the limit of detection (LOD).
UJ = The analyte was not detected at a level greater than or equal to the adjusted LOD. However, the reported adjusted LOD is approximate and may be inaccurate or imprecise.