

Consulting Engineers and June 19, 2018 (Revised June 21, 2018)

Project 1700396

Scientists

Via E-mail: NPDES.Generalpermits@epa.gov

Ms. Shelly Puleo Environmental Protection Agency RGP NOI Processing 5 Post Office Square, Suite 100 Mail Code OEP06-4 Boston, MA 02109-3912

Dear Ms. Puleo:

Re: Notice of Intent

NPDES Remediation General Permit

Berth 10

South Boston, Massachusetts

On behalf of the Massachusetts Port Authority (Massport), GEI Consultants, Inc. has prepared this Notice of Intent (NOI) for coverage under the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP), Massachusetts General Permit (MAG910000). This NOI was prepared in accordance with the general requirements of the NPDES RGP under Federal Register, Vol. 82, No. 12, dated January 19, 2017, and related guidance documentation provided by the U.S. Environmental Protection Agency (EPA). The completed NOI form is provided in Appendix A.

Massport will be constructing a new berth (Berth 10) expansion and rehabilitation of the Conley Terminal in South Boston, Massachusetts. Berth 10 will be constructed at the Former Coastal Oil New England (CONE) property which is a Massachusetts Department of Environmental Protection (MassDEP) disposal site tracked under Release Tracking Number (RTN) 3-0257 (the Coastal Site; Figs. 1 and 2). There is an Activity and Use Limitation (AUL) on the Site.

Site Information and Regulatory Status

The Coastal Site is a nearly square parcel (approximately 1,100 feet by 1,200 feet or 30 acres) of land that is bordered by the Reserved Channel in Boston Harbor to the north, East First Street to the south, Massport Conley Terminal to the east, and Massport-owned property to the west. The Site was a petroleum receiving and distribution terminal between 1937 and 2000. Petroleum impacts related to historic releases of No. 2 and No. 6 fuel oil from former above ground storage tanks were identified and investigated at the Site as early as 1965 by the former owner, Texaco. CONE took over operation of the facility in 1985 and, in the 1990s, began performing investigations to characterize the nature and extent of historical releases including light non-aqueous phase liquid (LNAPL). CONE ceased petroleum receiving and distribution operations in 2000 and all tanks associated with the former CONE facility were removed and all associated piping either removed or cleaned and abandoned in place.

Various remedial actions have been conducted at the Coastal Site. In November 2015, Massport implemented an AUL and in December 2015 GEI submitted a Partial Permanent Solution for the Site.

Planned Construction

The Berth 10 project work area (Project Area; Fig. 2) is located at the northern extent of the Coastal Site and borders the Reserved Channel. Construction for Berth 10 has been divided into two phases of work. Phase I construction for the new Berth 10 will include installation of a steel sheetpile bulkhead, removal of material on the waterside (north) of the bulkhead, in-situ solidification (ISS) of soil on the landside (south) of the bulkhead, and ground improvement using ISS methods in Fill Area B (Fig. 3). The material to be excavated from the waterside of the proposed bulkhead is separated into two areas: Cut Area A and Cut Area C (Fig. 3). Soil and sediment excavated and dredged from the waterside will be reused on the Coastal Site, transported to a licensed upland facility, disposed at the Boston Harbor Confined Aquatic Disposal (CAD) Cell (BHCC), or disposed offshore at the Massachusetts Bay Disposal Site (MBDS).

Influent Source and Off-Site Discharge

Construction groundwater dewatering, accumulated stormwater removed from excavations, runoff from the soil management area, and oily water generated from dredging will be collected, treated, and discharged to one of two potential discharge locations in the Reserved Channel in South Boston. The proposed discharge locations are shown on Fig. 2. We anticipate having one treatment system during construction.

Owner and Operator Information Owner

Owner
Massport
100 Harborside Drive
East Boston, MA
Contact: Chet Myers
Project Manager
617-568-3661
cmyers@massport.com

Operator
DW White
867 Middle Road
Acushnet, MA 02743
Contact: Mark White
Project Manager
508-728-1371
mwhite@dwwhite.com

As the owner, Massport has operational control over the construction plans and specifications, including the ability to make modifications to those plans and specifications. DW White, as the operator, will direct the personnel responsible for the implementation and day-to-day operations and activities that are necessary to ensure compliance with the NPDES RGP, including operation, inspection, monitoring, and reporting. The owner and operator are applying for coverage under the RGP as co-permittees.

Receiving Water Quality and Dilution Factor

On August 30, 2017, GEI collected a receiving water sample from the Reserved Channel adjacent to the pier, toward the center of the Channel (Fig. 4). The receiving water will also be a component of the source; therefore, the receiving water was submitted for analysis of the parameters required under the NPDES RGP for a source and salinity. The sample was submitted to AMRO Environmental Laboratories, Inc. (AMRO) of Merrimack, New Hampshire. The results are summarized in Table 1 and the associated laboratory data report is in Appendix B.

Receiving water temperature was obtained in the field and is noted on the effluent limitations input calculation page in Appendix A.

Since the receiving water is a saltwater body, and based on confirmation from MassDEP (Appendix A), the dilution factor for the Reserved Channel is 1. Since the receiving water is a saltwater body, hardness does not need to be analyzed on either the effluent water or receiving water. The effluent limits were generated using the NPDES RGP NOI Dilution Factor Calculation spreadsheet. As requested by EPA, a copy of the spreadsheet will be submitted via email to EPA for their review with this NOI. In addition, copies of the "EnterData" and "Saltwater Results" tabs from the spreadsheet are provided in Appendix A. The resulting calculated effluent limits are in Table 2.

Source Water Information

Source water will be a combination of groundwater, surface water, and stormwater. To evaluate the proposed influent quality, we collected a receiving water sample (as discussed above) and four groundwater samples from the Site. The groundwater samples were collected from monitoring wells WE-2 on August 30, 2017 and WE-10, GEI-212, and GEI-302 on October 4, 2017 (Fig. 2) and submitted to AMRO for analysis of the parameters required under the NPDES RGP. In addition, the pH and temperature of the proposed influent was measured in the field to evaluate existing conditions. The results are in Table 2 and the associated laboratory data report for this sample are provided in Appendix C.

The analytical results indicated the presence of total petroleum hydrocarbons (TPH), ammonia, chloride, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, fluoranthene, fluorene, naphthalene, phenanthrene and pyrene (polycyclic aromatic hydrocarbon (PAH) compounds), arsenic, iron, and zinc. The measured pH of the groundwater within the project site ranges from approximately 6.83 to 7.75 standard units (s.u.). The pH range detected is within the RGP effluent limit for Massachusetts waters (6.5 to 8.3 s.u.).

Although not indicated by the source water sampling results, it is expected that construction activities will generate source water that is contaminated with separate phase product associated with dredging activities.

Method detection limits in some samples for nickel, silver, and total cyanide are above the minimum levels approved by the RGP. Consequently, we have indicated that these compounds are believed to be present on the NOI form in Appendix A so that the most stringent limitation for effluent monitoring will apply to the RGP Authorization.

Discharge Information

Dewatering activities are expected to start in July 2018 and continue through February 2019. We anticipate treated effluent discharge rates to be about 50 gallons per minute (gpm) or less, with occasional peak flows of approximately 100 gpm during significant precipitation events. The water will be discharged from one treatment system directly into the Reserved Channel of the Boston Harbor at one of two potential discharge locations as shown in Fig. 2.

Treatment System Information

During construction, the collected water will be treated to remove suspended solids using a sedimentation tank and bag filters. The proposed conceptual treatment system is shown in the process flow diagram in Fig. 5. Additional treatment may include oil/water separator, granulated

activated carbon (GAC), iron removal (e.g. flocculation/coagulation and clarifying), and pH adjustment, if necessary.

Although final products for additional treatment will be determined by the operator or their designated contractor, example product information, including Safety Data Sheets (SDSs), associated hazards, and operation recommendations, and product information for GAC and iron removal system adjustment are in Appendix A. These systems will be mobilized as necessary to achieve effluent limitations. If required, pH adjustment will consist of using a metered sulfuric acid (70-100%) system. Similarly, oxidizers such as ferric sulfate may be used to treat for iron. Additives will be stored in 55-gallon drums with secondary containment systems. Procedures for proper handling and spill prevention are included in the site-specific Best Management Practices Plan (BMPP). The addition of ferric sulfate for iron treatment and sulfuric acid to reduce pH levels are established practices for temporary construction dewatering, and are not expected to exceed applicable effluent limits, water quality standards, or alter conditions in the receiving water. In addition, use of these additives will not add any pollutants that would justify application of additional permit conditions. Therefore, it is our opinion, that no additional testing is necessary for use of ferric sulfate or sulfuric acid or to demonstrate that use of these products will adversely affect the receiving water.

Endangered Species Act Eligibility

We reviewed the U.S. Fish and Wildlife Service (FWS) Information, Planning, and Conservation (IPAC) online database for the site and receiving water ("project action area"). A copy of the database report is in Appendix D. Based on this report, there are no listed species or critical habitats within the project action area.

Because the proposed effluent discharge is to nearshore marine waters in Massachusetts (i.e., Massachusetts Bay, inclusive of Boston Harbor), and there has been no previous consultation with National Marine Fisheries Services (NMFS) for this project, we reviewed EPA's determination made during their consultation with the NMFS, dated December 18, 2016. According to the determination, the endangered or protected species under jurisdiction of the NFMS that could potentially encounter RGP discharge in the project area are the shortnose sturgeon, Atlantic sturgeon, four species of sea turtles, and two species of whales. According to the determination, the turtles and whales are highly unlikely to be present in the project action area (Reserved Channel) where the proposed discharge effluent will occur, and sturgeon are expected to be present transiently. Because discharge is not to the Connecticut, Merrimack, or Taunton Rivers, where the sturgeon spawn, both species of sturgeon are expected to be present only in adult life stages in the project action area.

Based on our review, the project action area meets FWS Criterion A (i.e. no listed species or critical habitats are within the project action area) and NMFS Criterion (i.e. the project will have either no effect on or are not likely to adversely affect listed species or habitats under jurisdiction of the NMFS.

National Historic Preservation Requirements

We reviewed online records from the U.S. National Register of Historic Places database and the Massachusetts Cultural Resource Information System (MACRIS). Maps of the Site and surrounding areas obtained from both databases are included in Appendix E. Based on the review, the Site is not a listed as a National Historic Place.

Coverage Under NPDES RGP

It is our opinion that the proposed discharge is eligible for coverage under the NPDES RGP based on the requirements of the NPDES RGP and our evaluation of the available site-specific information. On behalf of Massport, we are requesting coverage under the NPDES RGP for the discharge of treated construction dewatering effluent to the surface waters of the Reserved Channel of the Boston Inner Harbor.

The enclosed NOI form and supporting documentation provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services (Appendices A through E).

Please contact me at 781.721.4012 or <u>igladstone@geiconsultants.com</u> or Russell Titmuss at 774.277.6003 or <u>rtitmuss@geiconsultants.com</u> if you have any questions.

Very truly yours,

GEI CONSULTANTS, INC.

Heen S. Gladstone, P.E., LSP, LEED AP

Senior Vice President

Russell Titmuss

Senior Project Manager

CMM:jam

Attachments:

Table 1 – Chemical Testing Results-Surface Water

Table 2 – Chemical Testing Results-Groundwater

Figure 1 – Property Location Map

Figure 2 – Site, Discharge Location and Groundwater Monitoring Well Location Plan

Figure 3 – Project Area Plan

Figure 4 – Receiving Water Sample Location

Figure 5 – Proposed Treatment System Schematic

Appendix A – Notice of Intent (NOI) for Remediation General Permit (RGP)

Appendix B – Laboratory Data Reports-Receiving Water

Appendix C – Laboratory Data Reports-Groundwater

Appendix D – Endangered Species Act Documentation

Appendix E – National Register of Historic Places and Massachusetts Historical Commission Doc

c: Chester Myers, Massport

Mark White, DW White

Surface Water Discharge Program, MassDEP

Tables

Table 1. Chemical Testing Results - Surface Water

Berth 10

South Boston, Massachusetts

			Sa	ample Location: Sample Date:	SW-1 8/30/2017
Analyte	Method	Units	MCP RCGW-	Site Specific	
norganic Compounds			_		
Ammonia as N	4500-NH3, C	mg/L	10000	Report	< 1.0
Chloride	9056	mg/L	NS	Report	20,200
Total Residual Chlorine	4500-CL G	ug/l	NS	8	< 0.10
Total Suspended Solids	2540D	mg/l	NS	NS	4.0
Antimony	200.9	μg/L	8000	640	< 5.0
Arsenic	200.9	μg/L	900	36	< 2.0
Cadmium	200.7	μg/L	4	8.9	< 12
Chromium	200.7	μg/L	300	100	< 30
Hexavalent Chromium	7196A	mg/L	NS	50	< 0.010
Hexavalent Chromium (Dissolved)	7196A	mg/L	NS	50	< 0.010
Copper	200.7	μg/L	10,000	4	< 75
Iron	200.7	μg/L	NS	NA	< 300
Lead	200.9	μg/L	10	8.5	< 5.0
Mercury	245.1	μg/L	20	1.110	< 0.20
Nickel	200.7	μg/L	200	8.3	< 120
Selenium	200.9	μg/L	100	71	< 5.0
Silver	200.7	μg/L	7	2.2	< 21
Zinc	200.7	µg/L	900	86	< 60
Total Cvanide	4500-CN C,E	mg/L	NS	1	< 0.010
Non-Halogenated Volatile Organic Compounds (VOCs)	8260C	μg/L			
Total BTEX		F3 -	NS	NS	ND
Total Non-Halogenated VOCs ¹			NS	NS	ND
Halogenated Volatile Organic Compounds (VOCs)	8260C	μg/L			
Total Halogenated VOCs ²		F3 -	NS	NS	ND
Non-Halogenated Semivolatile Organic Compounds (SVOCs)	8270D-PAHSIM	μg/L			
Total Phthalates	0270D I ALIONI	μ9/-	NS	NS	< 10
Total Group I PAHs ³			NS	NS	ND
Total Group I PAHs Total Group II PAHs			NS	NS NS	ND ND
Halogenated Semivolatile Organic Compounds (SVOCs)			110	140	.,,,
PCBs. Total	8082	μg/L	5	NS	ND
Fuel Parameters	0002	μg/ L	+	140	110
Total Petroleum Hydrocarbons	1664	mg/L	5,000	NS	< 5.0
Ethanol	8260C	μg/L	NS	NS NS	NT
Methyl-tert-butyl ether	8260C	μg/L	5,000	20	< 2.0
tert-butyl alchohol	8260C	μg/L	10,000	NS	< 20
tert-amyl-methyl ether	8260C	μg/L μg/L	NS	NS NS	< 2.0
Other	02000	μg/L	INO	INO	\ Z.U
	05000				00
Salinity	2520B	ppt	NS	NS	28
Temperature	Field	Deg C	NS	NS	20.66
рН	Field	S.U.	6.61	6.5 to 8.3	7.75
Isopropylbenzene	8260 C	ug/L	100	NS	< 2.0
n-Propulbenzene	8260 C	ug/L	10	NS	< 2.0

General Notes:

- For a complete list of analytes, see the laboratory data sheets.
- "<" = Analyte not detected at a concentration above the laboratory reporting limit.
- MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective April 25, 2014
- RCGW-2 = Reportable Concentration for category GW-2 Groundwater
- 5. μg/l = micrograms per liter.
- 6. mg/l = milligram per liter
- deg C = Degrees Celsius
- S.U. = standard units 8.
- Dilution Factor of 1 used to establish effluent limits.
- 10. Effluent limits calculated using NPDES RGP NOI Dilution Factor Spreadsheet.
- Temperature and pH were measured in the field. 11.
- 12 Sample locations are shown on drawings B-103 and C-106.

Footnotes:

- Total Non-Halogenated VOCs include benzene, ethylbenzene, toluene, and xylenes (BTEX), acetone, 1,4-dioxane, and Total Halogenated VOCs include carbon tetrachloride, 1,2-dichlorobenzene, 1,3-dicholorobenzene, 1,4-dichlorobenzene,
- 1,1-dichlorethane, 1,2-dichlorethane, 1,2-dichloroethene, ethylene dibromide, methylene chloride, 1,1,1-trichloroethane, Group I PAHs include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene,
- Group II PAHs include: acenaphthene, acenaphthylene, anthracene, bezon(g,h,i)perylene, fluoranthene, fluorene,

Qualifying Notes:

- The result is estimated due to holding time exceedance.
- G. The result is estimated due to duplicate precision outside control limits.

Table 2. Chemical Testing Results - Groundwater

Berth 10

South Boston, Massachusetts

				ample Location: Interval (ft bgs): Sample Date:	WE-02 4-19 8/30/2017	WE-10 5-20 10/4/2017	GEI-212(MW) 5-20 10/4/2017	GEI-302(MW) 5-20 10/4/2017
Analyte								
	Method	Units	MCP RCGW	Site Specific Effluent Limits				
Inorganic Compounds					4.0		1.0	4.0
Ammonia as N	4500-NH3, C	mg/L	10000	Report	< 1.0	2.4	< 1.0	< 1.0 10.500 G
Chloride	9056	mg/L	NS	Report	15,300 < 0.10 A	242 G <0.10 A	5,950 G <0.10 A	<0.10 A
Total Residual Chlorine	4500-CL G	ug/l	NS	8	< 0.10 A	<0.10 A 45	<0.10 A	<0.10 A
Total Suspended Solids Antimony	2540D 200.9	mg/l	NS 8000	NS 640	< 5.0	< 5.0 G	< 5.0 G	< 5.0 G
Arsenic	200.9	μg/L μg/L	900	36	5.4	< 2.0	< 2.0	< 2.0
Cadmium	200.9	μg/L μg/L	4	8.9	< 8.0	< 4.0	< 4.0	< 4.0
Chromium	200.7	μg/L μg/L	300	100	< 20	< 10	< 10	< 10
Hexavalent Chromium	7196A	mg/L	NS	50	< 0.010	< 0.010	< 0.010	< 0.010
Hexavalent Chromium (Dissolved)	7196A	mg/L	NS	50	< 0.010	< 0.010	< 0.010	< 0.010
Copper	200.7	μg/L	10,000	4	< 50	< 25	< 25	< 25
Iron	200.7	μg/L	NS	NA	27,000	21,000	170	100
Lead	200.9	μg/L	10	8.5	< 5.0	< 2.0	< 2.0	< 2.0
Mercury	245.1	μg/L	20	1.110	< 0.20	< 0.20	< 0.20	< 0.20
Nickel	200.7	μg/L	200	8.3	< 80	< 40	< 40	< 40
Selenium	200.9	μg/L	100	71	< 5.0	< 5.0	< 5.0	< 5.0
Silver	200.7	μg/L	7	2.2	< 14	< 7.0	< 7.0	< 7.0
Zinc	200.7	μg/L	900	86	470	< 20	< 20	< 20
Total Cyanide	4500-CN C,E	mg/L	NS	1	< 0.010	< 0.010	< 0.010	< 0.010
Non-Halogenated Volatile Organic Compounds (VOCs)	8260C	μg/L	1					
Total BTEX	02000	P9'-	NS	NS	ND	ND	ND	ND
Total Non-Halogenated VOCs1			NS	NS	ND	ND	ND	ND
Halogenated Volatile Organic Compounds (VOCs)	8260C	μg/L						
Total Halogenated VOCs ²			NS	NS	ND	ND	ND	ND
Non-Halogenated Semivolatile Organic Compounds (SVOCs)	8270D-PAHSIM	μg/L						
Total Phthalates		F5-	NS	NS	ND	ND	ND	ND
Total Group I PAHs ³			NS	NS	ND	ND	0.085	0.074
Benzo[a]anthracene			1,000	0.004	< 0.062	< 0.062	0.085	0.074
Anthracene			30	NS	< 0.10	0.13	0.4	< 0.11
Acenaphthene			6,000	NS	< 0.10	1.5	4.6	0.33
Acenaphthylene			40	NS	< 0.10	< 0.10	0.62	< 0.11
Fluoranthene			200	NS	< 0.10	< 0.10	0.46	< 0.11
Fluorene			40	NS	< 0.10	0.24	< 0.10	< 0.11
Phenanthrene			10,000	NS	< 0.072	< 0.073	0.69	< 0.074
Pyrene	1		20	NS	< 0.10	< 0.10	0.39	< 0.11
Total Group II PAHs ⁴	1		NS	NS	ND	3.74	14.32	0.66
Naphthalene			700	NS	< 0.10	0.12	0.12	< 0.11
Halogenated Semivolatile Organic Compounds (SVOCs)			1	"			1=	
PCBs, Total	8082	μg/L	5	NS	ND	ND	ND	ND
Fuel Parameters	5552	mg/L	<u> </u>				1	
Total Petroleum Hydrocarbons	1664	9, =	5,000	NS	< 5.0	< 5.0	14	< 5.0
Ethanol			NS	NS	NT	NT	NT	NT
Methyl-tert-butyl ether	8260C		5,000	20	< 2.0	< 2.0	< 2.0	< 2.0
tert-butyl alchohol	8260C		10,000	NS NS	< 20	< 20	< 20	< 20
tert-amyl-methyl ether	8260C		NS	NS	< 2.0	< 2.0	< 2.0	< 2.0
Other			1	1			1	
Temperature	Field	Deg C	10.43	NS	NM	17.32	20.36	18.88
pH	Field	S.U.	6.61	6.5 to 8.3	NM	6.83	6.90	7.23
Isopropylbenzene	8260 C	ug/L	100	0.5 to 6.5 NS	< 2.0	4.0	< 2.0	< 2.0
n-Propulbenzene	8260 C	ug/L	100	NS NS	< 2.0	5.8	< 2.0	< 2.0

General Notes:

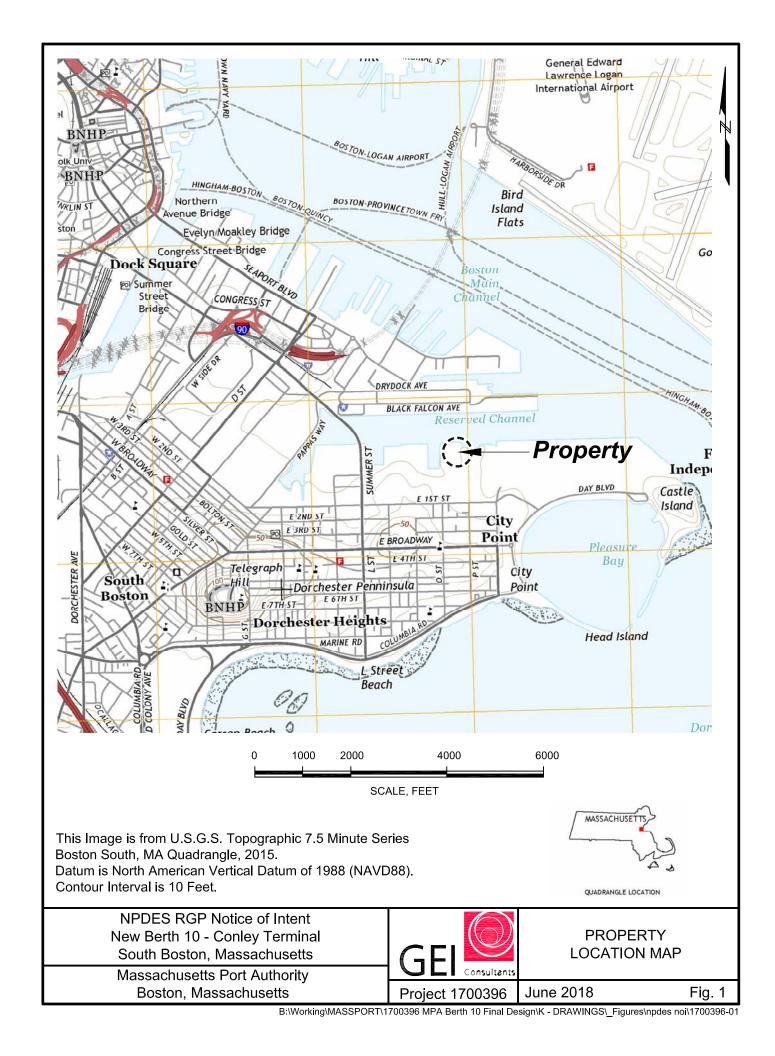
- For a complete list of analytes, see the laboratory data sheets.
- "<" = Analyte not detected at a concentration above the laboratory reporting limit.
- MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective April 25, 2014 RCGW-2 = Reportable Concentration for category GW-2 Groundwater 3.
- 4. μg/l = micrograms per liter. 5.
- mg/l = milligram per liter
- deg C = Degrees Celsius
- 8. S.U. = standard units
- Dilution Factor of 1 used to establish effluent limits.
- Effluent limits calculated using NPDES RGP NOI Dilution Factor Spreadsheet.
- 11. Temperature and pH were measured in the field.
- 12. Sample locations are shown on drawings B-103 and C-106.

Footnotes:

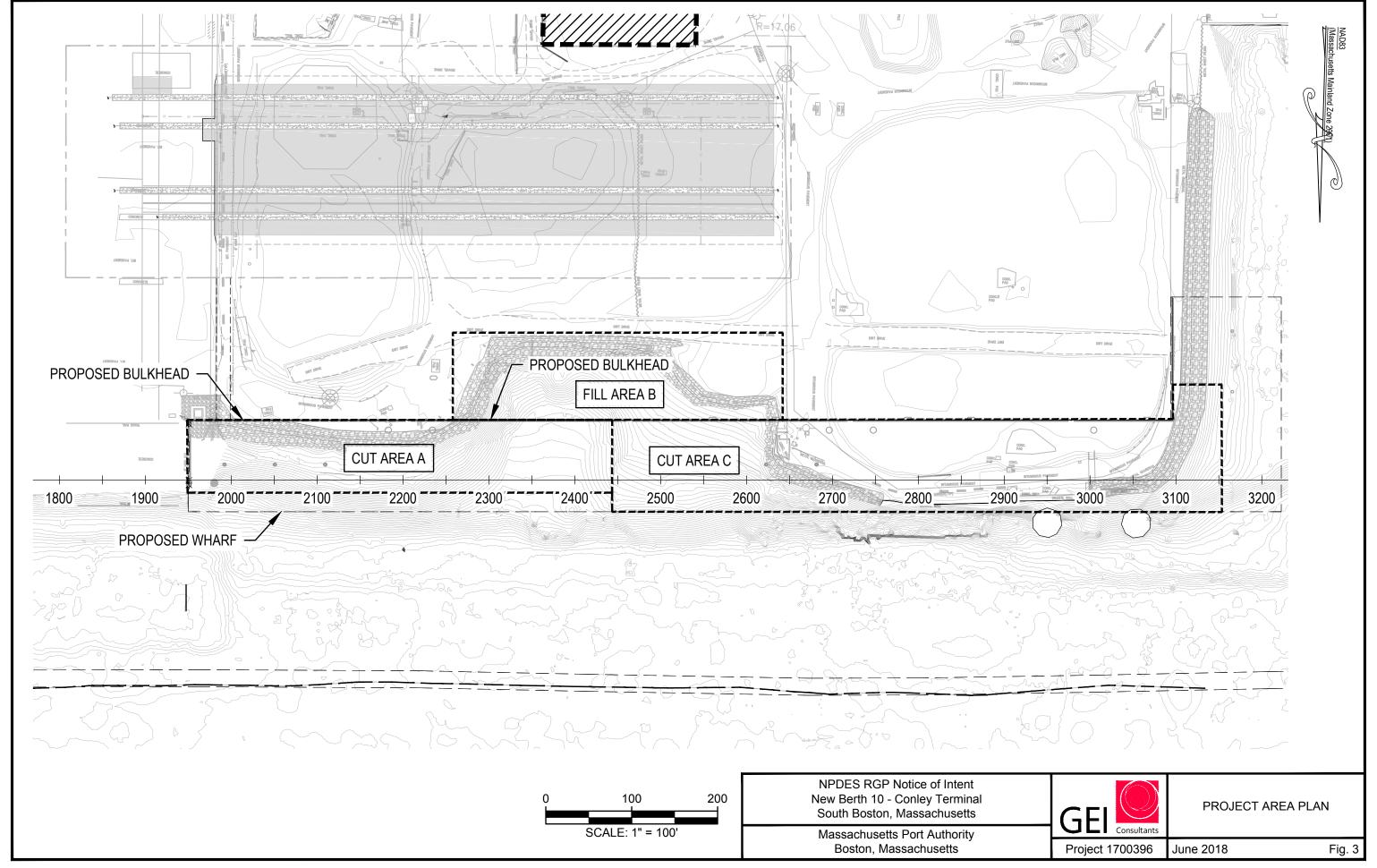
- Total Non-Halogenated VOCs include benzene, ethylbenzene, toluene, and xylenes (BTEX), acetone, 1,4-Total Halogenated VOCs include carbon tetrachloride, 1,2-dichlorobenzene, 1,3-dicholorobenzene, 1,4-
- dichlorobenzene, 1,1-dichlorethane, 1,2-dichlorethane, 1,2,-dichloroethene, ethylene dibromide, methylene Group I PAHs include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene,
- chrysene, dibenz(a,h)anthracene, and ideno(1,2,3-cd)pyrene.
- Group II PAHs include: acenaphthene, acenaphthylene, anthracene, bezon(g,h,i)perylene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene.

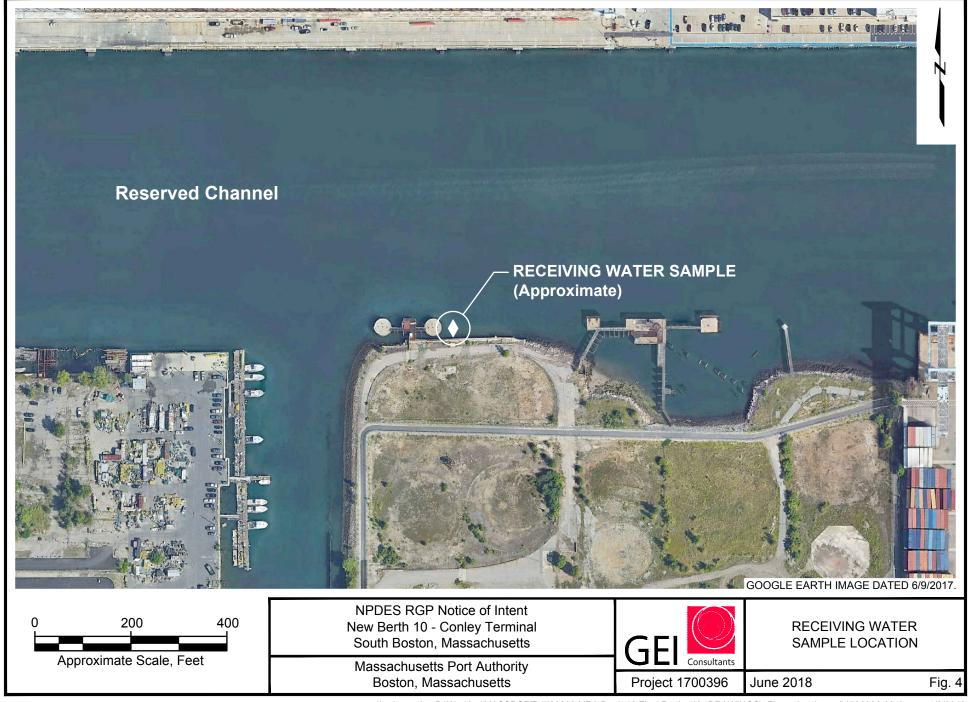
- The result is estimated due to holding time exceedance.
 The result is estimated due to duplicate precision outside control limits.

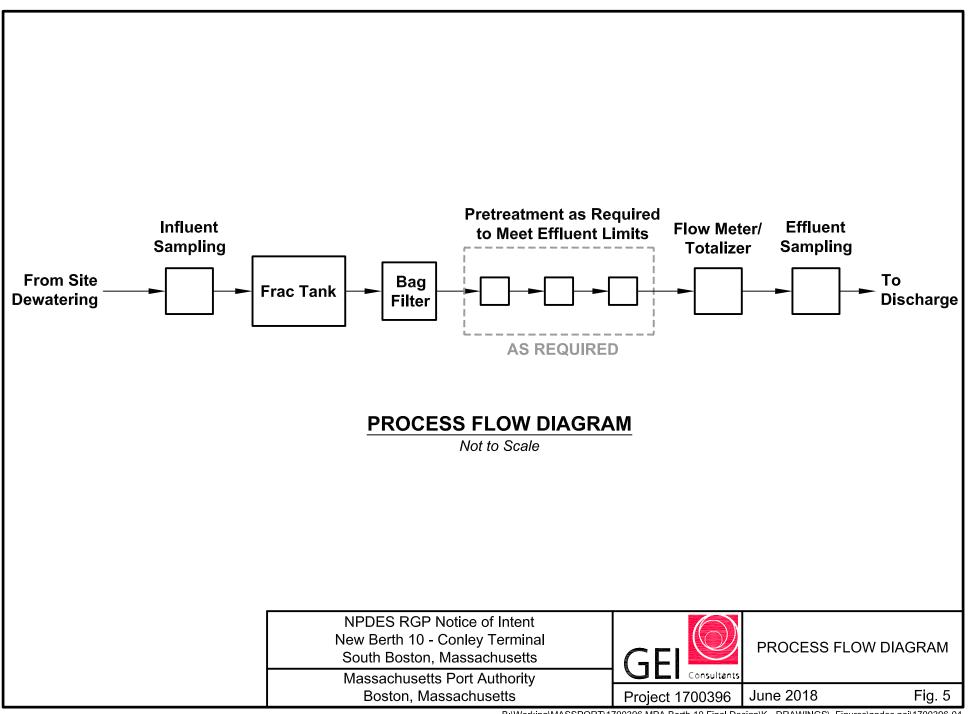
Figures











Appendix A

Remediation General Permit

Notice of Intent

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

1. Name of site:	Site address: 900 East 1st Street							
Berth 10	Street:							
	City: Boston	y: Boston State						
2. Site owner Massachusetts Port Authority	Contact Person: Chester Myers							
Massachusetts Port Authority	Telephone: 617-426-6654	Email: chn	myers@massport.com					
	Mailing address: One Harborside Drive Street: Suite 2005							
Owner is (check one): ☐ Federal ☐ State/Tribal ☐ Private Other; if so, specify: State Authority	City: East Boston	State: MA	Zip: 02128					
3. Site operator, if different than owner	Contact Person: Mark White	Person: Mark White						
DW White Construction Inc.	Telephone: 508-763-8868	hite@dwwh	wwhite.com					
	Mailing address: 867 Middle Road Street:							
	City: Acushnet		State: MA	Zip: 02743				
4. NPDES permit number assigned by EPA:	5. Other regulatory program(s) that apply to the site (check all that apply):							
NPDES permit is (check all that apply: □ RGP □ DGP □ CGP □ MSGP □ Individual NPDES permit □ Other; if so, specify:	■ MA Chapter 21e; list RTN(s): 3-257 □ NH Groundwater Management Permit or Groundwater Release Detection Permit:	□ CERCLA□ UIC Program□ POTW Pretreatment□ CWA Section 404		:				

B. Receiving water information:									
1. Name of receiving water(s):	Waterbody identification of receiving water	(s): Classi	ication of receiving water(s):						
Reserved Channel	MA70-02	SB(CS	O)						
Receiving water is (check any that apply): □ Outstanding Resource Water □ Ocean Sanctuary □ territorial sea □ Wild and Scenic River									
2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes □ No									
Are sensitive receptors present near the site? (check one): □ Yes ■ No If yes, specify:									
3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. Impaired water body -Enterococcus, fecal coliform, oxygen, PCB in fish tissue, other (contaminants in fish and shellfish). No final TMDL									
4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire. NA (saltwater)									
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire. 1 (saltwater)									
6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes □ No If yes, indicate date confirmation received: email from MassDEP dated April 3, 2018. 7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes □ No									
C. Source water information:									
1. Source water(s) is (check any that apply):									
■ Contaminated groundwater	■ Contaminated surface water	■ The receiving water	☐ Potable water; if so, indicate municipality or origin:						
Has the operator attached a summary of influent	Has the operator attached a summary of influent	☐ A surface water other							
sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one):	sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one):	than the receiving water; is so, indicate waterbody:	f ☐ Other; if so, specify:						
■ Yes □ No	res □ No ■ Yes □ No								

2. Source water contaminants: Summarized on Tables 1 and 2.	
a. For source waters that are contaminated groundwater or contaminated	b. For a source water that is a surface water other than the receiving water, potable water
surface water, indicate are any contaminants present that are not included in	or other, indicate any contaminants present at the maximum concentration in accordance
the RGP? (check one): \square Yes \blacksquare No If yes, indicate the contaminant(s) and	with the instructions in Appendix VIII? (check one): □ Yes □ No
the maximum concentration present in accordance with the instructions in	
Appendix VIII.	
3. Has the source water been previously chlorinated or otherwise contains resid	lual chlorine? (check one): ☐ Yes ■ No
D. Discharge information	
1. The discharge(s) is $a(n)$ (check any that apply): \square Existing discharge \blacksquare Nev	v discharge □ New source
Outfall(s):	Outfall location(s): (Latitude, Longitude)
Direct discharge from one treatment system to Reserved Channel, 2 potential locations	1. Y 42.341109N X 71.029575W 2. Y42.341807N X 71.028587W
Discharges enter the receiving water(s) via (check any that apply):	scharge to the receiving water □ Indirect discharge, if so, specify:
☐ A private storm sewer system ☐ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sew	ver system:
Has notification been provided to the owner of this system? (check one): \Box Ye	·
	or discharges? (check one): \square Yes \square No, if so, explain, with an estimated timeframe for
	(4.'(
Has the operator attached a summary of any additional requirements the owner	for this system has specified? (check one): \square fes \square No
Provide the expected start and end dates of discharge(s) (month/year):	018 to February 2019
Indicate if the discharge is expected to occur over a duration of: ■ less than 1	2 months ■ 12 months or more □ is an emergency discharge
Has the operator attached a site plan in accordance with the instructions in D, a	above? (check one): ■ Yes □ No

2. Activity Category: (check all that apply)	3. Contamination Type Category: (check all that apply)				
	a. If Activity Categ	ory I or II: (check all that apply)			
	 □ A. Inorganics □ B. Non-Halogenated Volatile Organic □ C. Halogenated Volatile Organic Cor □ D. Non-Halogenated Semi-Volatile Organic □ E. Halogenated Semi-Volatile Organi □ F. Fuels Parameters 	Compounds ille Organic Compounds			
□ I – Petroleum-Related Site Remediation□ II – Non-Petroleum-Related Site Remediation	b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)				
 III – Contaminated Site Dewatering IV – Dewatering of Pipelines and Tanks V – Aquifer Pump Testing VI – Well Development/Rehabilitation VII – Collection Structure Dewatering/Remediation VIII – Dredge-Related Dewatering 	■ G. Sites with Known Contamination c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply) ■ A. Inorganics □ B. Non-Halogenated Volatile Organic Compounds □ C. Halogenated Volatile Organic Compounds ■ D. Non-Halogenated Semi-Volatile Organic Compounds □ E. Halogenated Semi-Volatile Organic Compounds □ F. Fuels Parameters	☐ H. Sites with Unknown Contamination d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply			

4. Influent and Effluent Characteristics

	Known	Known		7 50 4	5 4 4	In	fluent	Effluent Li	imitations
Parameter	or believed absent	or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		~	5	4500-NH3,	1000	2.4	0.88	Report mg/L	
Chloride		~	5	9056	1000	15,300,000	10438400	Report µg/l	
Total Residual Chlorine	~		5	4500-CL,	10	< 10	0	0.2 mg/L	7.5
Total Suspended Solids		~	5	2540D	4	68	29.2	30 mg/L	
Antimony	~		5	200.9	5	< 5	0	206 μg/L	
Arsenic		~	5	200.9	2	5.4	1.88	104 μg/L	
Cadmium	~		5	200.7	4	< 4	0	10.2 μg/L	
Chromium III	~		5	200.7	10	< 10	0	323 µg/L	
Chromium VI	~		5	200.7	10	< 10	0	323 µg/L	
Copper	~		5	200.7	25	< 25	0	242 μg/L	
Iron		~	5	200.7	100	27,000	4,824	5,000 μg/L	
Lead	~		5	200.9	2	< 2	0	160 μg/L	
Mercury	~		5	245.1	0.20	< 0.20	0	0.739 μg/L	
Nickel		~	5	200.7	40	< 40	0	1,450 μg/L	
Selenium	~		5	200.9	5	< 5	0	235.8 μg/L	
Silver		~	5	200.7	7	< 7	0	35.1 μg/L	
Zinc		~	5	200.7	20	470	106	420 μg/L	86
Cyanide		~	5	4500-CN,	10	< 10	0	178 mg/L	
B. Non-Halogenated VOC	s								
Total BTEX	~		5	8260C	2.0	< 2.0	0	100 μg/L	
Benzene	~		5	8260C	1.0	< 1.0	0	5.0 μg/L	
1,4 Dioxane	~		5	8260C	50	< 50	0	200 μg/L	
Acetone	~		5	8260C	10	< 10	0	7.97 mg/L	
Phenol	~		5	8260C	10	< 10	0	1,080 µg/L	

	Known	Known		_	_	In	fluent	Effluent Li	mitations
Parameter	or believed absent	or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	·		5	8260C	2.0	< 2.0	0	4.4 μg/L	
1,2 Dichlorobenzene	~		5	8260C	2.0	< 2.0	0	600 μg/L	
1,3 Dichlorobenzene	~		5	8260C	2.0	< 2.0	0	320 μg/L	
1,4 Dichlorobenzene	~		5	8260C	2.0	< 2.0	0	5.0 μg/L	
Total dichlorobenzene	~		5	8260C	2.0	< 2.0	0	763 µg/L in NH	
1,1 Dichloroethane	~		5	8260C	1.0	< 1.0	0	70 μg/L	
1,2 Dichloroethane	~		5	8260C	2.0	< 2.0	0	5.0 μg/L	
1,1 Dichloroethylene	~		5	8260C	2.0	< 2.0	0	3.2 µg/L	
Ethylene Dibromide	~		5	8260C	2.0	< 2.0	0	0.05 μg/L	
Methylene Chloride	~		5	8260C	5.0	< 5.0	0	4.6 μg/L	
1,1,1 Trichloroethane	~		5	8260C	2.0	< 2.0	0	200 μg/L	
1,1,2 Trichloroethane	~		5	8260C	2.0	< 2.0	0	5.0 μg/L	
Trichloroethylene	~		5	8260C	2.0	< 2.0	0	5.0 μg/L	
Tetrachloroethylene	~		5	8260C	2.0	< 2.0	0	5.0 μg/L	
cis-1,2 Dichloroethylene	~		5	8260C	2.0	< 2.0	0	70 μg/L	
Vinyl Chloride	~		5	8260C	2.0	< 2.0	0	2.0 μg/L	
D. Non-Halogenated SVOC	7.0								
Total Phthalates	~S		5	8270D	10	< 10	0	190 μg/L	
Diethylhexyl phthalate	~		5	8270D	10	< 10	0	101 μg/L	
Total Group I PAHs		~	5	8270D	0.10	< 0.10	0	1.0 µg/L	
Benzo(a)anthracene		~	5	8270D	0.062	0.085	1.04	1.5 (1.6)	0.0038
Benzo(a)pyrene	~		5	8270D	0.10	< 0.10	0	1	
Benzo(b)fluoranthene	~		5	8270D	0.083	< 0.083	0	1	
Benzo(k)fluoranthene	~		5	8270D	0.10	< 0.10	0	As Total PAHs	
Chrysene	~		5	8270D	0.10	< 0.10	0	1	
Dibenzo(a,h)anthracene	~		5	8270D	0.10	< 0.10	0	1	
Indeno(1,2,3-cd)pyrene	~		5	8270D	0.10	< 0.10	0	-	

	Known	Known				Int	fluent	Effluent Lin	nitations
Parameter	or believed absent	or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		V	5	8270D	0.10	14.32	4.75	100 μg/L	
Naphthalene		~	5	8270D	0.10	0.12	0.09	20 μg/L	
E. Halogenated SVOCs									
Total PCBs	V		5	8082	0.21	< 0.21	0	0.000064 µg/L	
Pentachlorophenol	~		5	8270D	0.10	< 0.10	0	1.0 μg/L	
F. Fuels Parameters Total Petroleum Hydrocarbons		·	5	1664	5	14	4.8	5.0 mg/L	
Ethanol	V		0	NA	NA	NA	NA	Report mg/L	
Methyl-tert-Butyl Ether	V		5	8260C	2.0	< 2.0	0	70 μg/L	
tert-Butyl Alcohol	~		5	8260C	20	< 20	0	120 μg/L in MA 40 μg/L in NH	
tert-Amyl Methyl Ether	~		5	8260C	2.0	< 2.0	0	90 μg/L in MA 140 μg/L in NH	
Other (i.e., pH, temperatu Salinity	re, hardness,	salinity, LO	C50, addition	nal pollutar 2520B	ts present);	if so, specify: 0.000028	0.00028		
Temperature		~	4	Field	NA	20.36	18.85		
рН		~	5	Field	NA	7.75	7.17		
Isopropyltoluene		V	5	8260C	2.0	4.0	1.6		
n-Propylbenzene		V	5	8260C	2.0	5.8	1.96		
Anthracene		~	5	8270D	0.10	0.4	1.23		
Acenaphthene		V	5	8270D	0.10	4.6	2.3		
Acenaphthylene		✓	5	8270D	0.10	0.62	1.25		
fluoranthene		V	5	8270D	0.10	0.46	1.12		
		~	5	8270D	0.10	0.24	1.07		
fluorene									
fluorene phenanthrene		~	5	8270D 8270D	0.10	0.69	1.36		

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)	
□ Adsorption/Absorption □ Advanced Oxidation Processes □ Air Stripping ■ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption	
■ Ion Exchange ■ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ■ Other; if so, specify:	
Treatment will be applied as required to meet effluent discharge requirements.	
2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.	
Prior to discharge, dewatering effluent will be routed through a sedimentation tank, oil/water separator, bag filters and other necessary treatment components (such as ion e precipitation/coagulation/flocculation, as required) to remove suspended solids, and dissolved and undissolved chemical compounds. See attached Figure 5.	exchange, GAC,
Identify each major treatment component (check any that apply):	
■ Fractionation tanks□ Equalization tank ■ Oil/water separator □ Mechanical filter □ Media filter	
☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ■ Other; if so, specify: Granulated activated carbon, ion exchange, precipitation and other treatments as no effluent limits.	eed to meet
Indicate if either of the following will occur (check any that apply):	
☐ Chlorination ☐ De-chlorination	
3. Provide the design flow capacity in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Flowmeter	250
Is use of a flow meter feasible? (check one): ■ Yes □ No, if so, provide justification:	250
Provide the proposed maximum effluent flow in gpm.	100
Provide the average effluent flow in gpm.	50
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	N/A
4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ■ Yes □ No	

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)
□ Algaecides/biocides □ Antifoams ■ Coagulants □ Corrosion/scale inhibitors □ Disinfectants ■ Flocculants □ Neutralizing agents □ Oxidants □ Oxygen □
scavengers \square pH conditioners \square Bioremedial agents, including microbes \square Chlorine or chemicals containing chlorine \square Other; if so, specify:
coagulants and/or flocculants may be added to the treatment system if necessary to meet effluent limits.
2. Provide the following information for each chemical/additive, using attachments, if necessary:
a. Product name, chemical formula, and manufacturer of the chemical/additive; b. Purpose or use of the chemical/additive or remedial agent; c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive; d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive; e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).
3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance
with the instructions in F, above? (check one): \blacksquare Yes \square No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive?
(check one): ☐ Yes ☐ No
G. Endangered Species Act eligibility determination
1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:
■ FWS Criterion A: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".
□ FWS Criterion B : Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat
(informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ☐ No; if no, is consultation underway? (check one): ☐
Yes □ No
□ FWS Criterion C : Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the
FWS. This determination was made by: (check one) \square the operator \square EPA \square Other; if so, specify:

■ NMFS Criterion: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of
listed species. Has the operator previously completed consultation with NMFS? (check one): ☐ Yes ■ No
2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): Yes No
Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ■ Yes □ No; if yes, attach.
H. National Historic Preservation Act eligibility determination
1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:
■ Criterion A: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.
☐ Criterion B: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.
□ Criterion C : Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.
2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes □ No
Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or
other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): Yes No
I. Supplemental information
Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.
See attached letter report prepared by GEI.
Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes □ No
Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ■ Yes □ No

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. A BMPP meeting the requirements of this general permit will be implemented on the Site. BMPP certification statement: Notification provided to the appropriate State, including a copy of this NOI, if required. Check one: Yes □ No ■ Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested. Check one: Yes □ No ■ Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site Check one: Yes □ No □ NA ■ discharges, including a copy of this NOI, if requested. Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission. Check one: Yes □ No □ NA ■ Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): □ RGP □ DGP ■ CGP □ MSGP □ Individual NPDES permit Check one: Yes ■ No □ NA □ ☐ Other; if so, specify: Date: 618/18 Signature: Cheste Myers, Senior Waterfront Project Monager

Print Name and Title:

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are information, including the possibility of fine and imprisonment for knowing violations.	e significant penalties for submitting false
A BMPP meeting the requirements of this general permit will be imple	emented on the Site.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes □ No ■
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes □ No ■
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes □ No □ NA ■
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes □ No □ NA ■
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge	
permit(s). Additional discharge permit is (check one): □ RGP □ DGP ■ CGP □ MSGP □ Individual NPDES permit □ Other; if so, specify:	Check one: Yes ■ No □ NA □
	e: 6/15/18
Print Name and Title: MARK WHITE PRESIDENT	

Enter number values in green boxes below

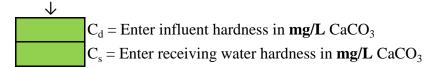
Enter values in the units specified

\downarrow	
0	$Q_R = Enter upstream flow in MGD$
1	$Q_P = Enter discharge flow in MGD$
0	Downstream 7Q10

Enter a dilution factor, if other than zero



Enter values in the units specified



Enter receiving water concentrations in the units specified

\downarrow	_
7.75	pH in Standard Units
20.66	Temperature in °C
0	Ammonia in mg/L
0	Hardness in mg/L CaCO ₃
28	Salinity in ppt
0	Antimony in µg/L
0	Arsenic in µg/L
0	Cadmium in µg/L
0	Chromium III in µg/L
0	Chromium VI in µg/L
0	Copper in µg/L
0	Iron in μg/L
0	Lead in µg/L
0	Mercury in µg/L
0	Nickel in μg/L
0	Selenium in µg/L
0	Silver in µg/L
0	Zinc in μg/L

Enter influent concentrations in the units specified

\downarrow	_
0	TRC in µg/L
2.4	Ammonia in mg/L
0	Antimony in μg/L
5.4	Arsenic in μg/L
0	Cadmium in µg/L
0	Chromium III in µg/L
0	Chromium VI in µg/L
0	Copper in µg/L
27000	Iron in μg/L
0	Lead in µg/L
0	Mercury in μg/L
0	Nickel in µg/L
0	Selenium in µg/L
0	Silver in μg/L
470	Zinc in µg/L
0	Cyanide in µg/L
0	Phenol in µg/L
0	Carbon Tetrachloride in µg/L
0	Tetrachloroethylene in µg/L
0	Total Phthalates in µg/L
0	Diethylhexylphthalate in μg/L
0.085	Benzo(a)anthracene in µg/L
0	Benzo(a)pyrene in µg/L
0	Benzo(b)fluoranthene in µg/L
0	Benzo(k)fluoranthene in µg/L
0	Chrysene in µg/L
0	Dibenzo(a,h)anthracene in µg/L
0	Indeno(1,2,3-cd)pyrene in μg/L
0	Methyl-tert butyl ether in μg/L

Notes:

Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor Saltwater (estuarine and marine): enter Q_R if approved by the State; enter 0 if no entry Discharge flow is equal to the design flow or 1 MGD, whichever is less Only if approved by State as the entry for Q_R ; leave 0 if no entry

Saltwater (estuarine and marine): only if approved by the State Leave 0 if no entry

Freshwater only

pH, temperature, and ammonia required for all discharges
Hardness required for freshwater
Salinity required for saltwater (estuarine and marine)
Metals required for all discharges if present and if dilution factor is > 1
Enter 0 if non-detect or testing not required

if >1 sample, enter maximum if >10 samples, may enter 95th percentile Enter 0 if non-detect or testing not required

A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded	
Ammonia	Report	mg/L		
Chloride	Report	μg/L		
Total Residual Chlorine	0.2	mg/L	7.5	μg/L
Total Suspended Solids	30	mg/L		μ _B , L
Antimony	206	-	640	ua/I
Arsenic		μg/L	36	μg/L
Cadmium	104	μg/L		μg/L
	10.2	μg/L	8.9	μg/L
Chromium III	323	μg/L	100.0	μg/L
Chromium VI	323	$\mu g/L$	50	μg/L
Copper	242	$\mu g/L$	3.7	$\mu g/L$
Iron	5000	$\mu g/L$		$\mu g/L$
Lead	160	μg/L	8.5	μg/L
Mercury	0.739	μg/L	1.11	μg/L
Nickel	1450	μg/L	8.3	μg/L
Selenium	235.8	μg/L	71	μg/L
Silver	35.1	μg/L	2.2	μg/L
Zinc	420	μg/L	86	μg/L
Cyanide	178	mg/L	1.0	μg/L
B. Non-Halogenated VOCs		8		1.0
Total BTEX	100	μg/L		
Benzene	5.0	μg/L		
1,4 Dioxane	200	$\mu g/L$		
Acetone	7.97	mg/L		
Phenol	1,080	$\mu g/L$	300	$\mu g/L$
C. Halogenated VOCs				
Carbon Tetrachloride	4.4		1.6	μg/L
1,2 Dichlorobenzene	600	μg/L		
1,3 Dichlorobenzene	320	μg/L		
1,4 Dichlorobenzene	5.0	μg/L		
Total dichlorobenzene	70	μg/L		
1,1 Dichloroethane	70 7.0	μg/L		
1,2 Dichloroethane	5.0	μg/L		
1,1 Dichloroethylene	3.2	μg/L		
Ethylene Dibromide	0.05	μg/L		
Methylene Chloride	4.6	μg/L		
1,1,1 Trichloroethane	200	μg/L		
1,1,2 Trichloroethane	5.0	μg/L		
Trichloroethylene Tetrachloroethylene	5.0	μg/L	2.2	~/T
Tetrachloroethylene	5.0 70	μg/L	3.3	μg/L
cis-1,2 Dichloroethylene	70	μg/L		

Vinyl Chloride	2.0	$\mu g/L$			
D. Non-Halogenated SVOCs					
Total Phthalates	190	μg/L		μg/L	
Diethylhexyl phthalate	101	μg/L	2.2	$\mu g/L$	
Total Group I Polycyclic					
Aromatic Hydrocarbons	1.0	μg/L			
Benzo(a)anthracene	1.0	μg/L	0.0038	μ g/L	
Benzo(a)pyrene	1.0	μg/L	0.0038	μg/L	
Benzo(b)fluoranthene	1.0	μg/L	0.0038	μ g/L	
Benzo(k)fluoranthene	1.0	μg/L	0.0038	$\mu g/L$	
Chrysene	1.0	μg/L	0.0038	μ g/L	
Dibenzo(a,h)anthracene	1.0	μg/L	0.0038	$\mu g/L$	
Indeno(1,2,3-cd)pyrene	1.0	μg/L	0.0038	$\mu g/L$	
Total Group II Polycyclic					
Aromatic Hydrocarbons	100	μg/L			
Naphthalene	20	μg/L			
E. Halogenated SVOCs					
Total Polychlorinated Biphenyls	0.000064	μg/L			
Pentachlorophenol	1.0	μg/L			
F. Fuels Parameters					
Total Petroleum Hydrocarbons	5.0	mg/L			
Ethanol	Report	mg/L			
Methyl-tert-Butyl Ether	70	μg/L	20	μ g/L	
tert-Butyl Alcohol	120	μg/L			
tert-Amyl Methyl Ether	90	μ g/L			

Compliance Level applies if shown

 $\mu g/L$

--- $\mu g/L$

 $\begin{array}{ccc} 0.1 & \mu g/L \\ --- & \mu g/L \end{array}$

0.5 $\mu g/L$

Malagrida, Catherine

From: Vakalopoulos, Catherine (DEP) <Catherine.Vakalopoulos@MassMail.State.MA.US>

Sent: Tuesday, April 03, 2018 8:49 AM

To: Malagrida, Catherine; Ruan, Xiaodan (DEP)

Subject: RE: Dilution Factor Calculation - Reserved Channel

Hi Cat,

Yes, the dilution factor to saltwater is 1 unless there is modeling or a dye study that shows otherwise. Take care,

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection 1 Winter St., Boston, MA 02108, 617-348-4026

A Please consider the environment before printing this e-mail

From: Malagrida, Catherine [mailto:CMalagrida@geiconsultants.com]

Sent: Monday, April 02, 2018 4:33 PM

To: Vakalopoulos, Catherine (DEP); Ruan, Xiaodan (DEP) **Subject:** Dilution Factor Calculation - Reserved Channel

Hello

I am preparing a NPDES RGP for the Berth 10 redesign in South Boston. Our effluent would discharge to the Reserved Channel. Can you confirm that as the Reserved Channel is saltwater that the dilution factor is 1.

Thank you,

Cat

Catherine Malagrida, P.G.

Project Geologist



GEI Consultants, Inc.

400 Unicorn Park Drive | Woburn, MA 01801

T: $781.721.4025 \mid M$: $339.221.3521 \mid F$: 781.721.4073

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3/15/2018 Accugaf Filter Bags



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- Poultry Industry
- → Products
- Activated Carbon
- Bag Filtration
- Bag Filter Housings
- Bag Filter Media
- Biological Treatment
- Chemicals (Specialty)
- Clarifiers
- Controls
- Dissolved Air Flotation
- Dewatering
- Evaporators
- Membrane Filtration
- Microbial Bacteria
- Oil/Water Separators
- Ozone
- Pressure Filtration
- Screens
- Separators/Strainers
- Tanks

Bag Filters / Accugaf Filter Bags

Accugaf filter bags are constructed from FDA compliant materials. They are ideal for food processing applications and will filter particulate from 1 micron to 25 microns with 99% efficiency..

Related Product Links

Accugaf Filter Bags | Duragaf Filter Bags | Hayflow Filter Element | Lofclear Filter Bags | Nylon & Polyester Mesh | Progaf Filter Bags | Sentinel® Filter Bags & Seal | Snap Ring Filtration Media Overview

ACCUGAF™, Filter Bags for Applications Demanding Efficiency >99%

The ACCUGAF filter bag pushes the boundaries of bag filtration technology far beyond traditional designs. With efficiencies >99%, each A model provides cost-effective filtration solutions for demanding applications. The five models assure users that particles from the range of can be removed effectively while delivering long service life.

Particle Size at Common Removal Efficiencies (μm)								
Material	Filter Model	Buy Now	Partici	e Size at Cor	nmon Remo	vai Eπiciencie	es (µm)	ΔP (psi) Size 02
iviaterial	i iitei iviodei	Buy Now	>60%	>90%	>95%	>99%	>99.9%	@ 45 gpm
	AGF 51	**	0.2	0.6	0.8	1.5	5	1.30
	AGF 53	**	0.8	1	2	3	5	3.20
Polypropylene	AGF 55	**	1	2	3	5	15	0.73
	AGF 57	**	2	4	5	10	25	0.60
	AGF 59	**	10	25	30	25	35	0.44
	AGFE 51	**	0.2	0.6	0.8	1.5	5	1.30
Polyester	AGFE 55	**	1	2	3	5	15	0.73
	AGFE 57	**	2	4	5	10	25	0.60

High-Efficiency Performance

ACCUGAF filter bags feature:

- 100% welded seams
- · Patented SENTINEL® seal ring
- · Meltblown filtration media in polypropylene or polyester
- · No additives, such as resins, binders or surface treatments

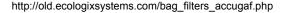
FDA Compliant Materials

ACCUGAF Polypropylene filter bags are constructed entirely of materials compliant to FDA requirements for materials in contact with food materials conform to US Code of Federal Regulations 21 CFR Part 177 and EU Directive 2002/72/EC.

Applications

Although ideally suited for food and beverages, ACCUGAF filter bags will deliver equal performance in a wide range of demanding applica as:

- · Beer, wine, spirits and beverage filtration
- · Fine particle removal in parts cleaning
- Final filtration of lacquers
- · Final filtration of vinegar
- · Activated carbon removal in process systems
- Final filtration of hydraulic oils and lubricants



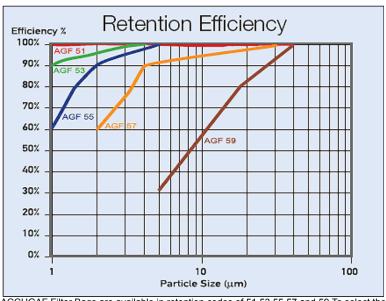
OPERATIONAL CONSIDERATIONS

Bag Positioner

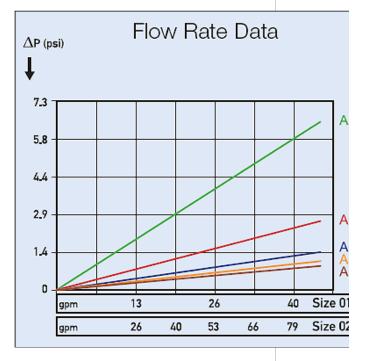
ACCUGAF filter bags must be used with the Eaton bagpositioner. This eases insertion and assures correct alignment of the filter bag inside the restrainer basket. In addition, the be protected against damage to inadvertent back-flow.

Pre-Wetting in Aqueous Solutions

ACCUGAF polypropylene filter bags are fabricated from microfiber filtration media. These materials are hydro-phobic, indicating that water will not wet the fiber surfaces. As will a polypropylene filters, a lower surface tension fluid (wetting agent) must be used to wet the media prior to introducing water. Prior to service, the filter bags must be immersed in a solution compatible with the process fluid. After wetting, an aqueous fluid will be drawn into the media through capillary action. Full details about installation and wetting are provevery box of ACCUGAF filter bags.



ACCUGAF Filter Bags are available in retention codes of 51,53,55,57, and 59.To select the perfect ACCUGAF Filter Bag for your application use the chart and choose the retention efficiency level you need on the left side (Y Axis) of the chart at the particle size in microns at the bottom (X Axis) .Next find which bag efficiency code (identified by the colored lines) is closest to that point.Thsi will assist you in finding the most cost effective filter bag for your critical filtration application.



BAG FILTER PRODUCT CODE EXPLANATION



Activated Carbon | Aeration | Air Treatment | Bag Filters & Housings | Chemicals | Dissolved Air Flotation | Dust Collection | Evaporators | Filter Presses | Flocculation | Inline Filter Vessels | Membrane Filtration | Odor Control | Ozone | Oil Water Separators | Sewage Systems | Liquid and Vapor Phase Vessels | Wet Scrubbers | Careers









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- Clarifiers
- Controls
- Dissolved Air Flotation
- Dewatering
- Evaporators
- Membrane Filtration
- Microbial Bacteria
- Oil/Water Separators
- Ozone
- Pressure Filtration

Bag Filter Media / Lofclear Absolute Rate Oil Removal Filter Bags

Accugaf filter bags are constructed from FDA compliant materials. They are ideal for food processing applications and will filter particulate from 1 micron to 25 microns with 99% efficiency..

Related Product Links

Accugaf Filter Bags | Duragaf Filter Bags | Hayflow Filter Element | Lofclear Filter Bags | Nylon & Polyester Mesh | Progaf Filter Bags | Sentinel® Filter Bags | Sentinel® Filter Bags | Sentinel® Filter Bags | Filtration Media Overview

LOFCLEAR: Cost Effective Filter Bags for Absolute Filtration Applications



A pleated prefilter provides a very large surface (about 32 sq ft) to collect

LOFCLEAR filter bags now make absolute filtration viable in many applications where only standard bags could be used due to cost constraints. Made from 100% pure polypropylene materials compliant with food requirements, LOFCLEAR filter bags contain no leachables or lubricants such as silicone oils. In addition, their excellent oil adsorbancy makes LOFCLEAR filter bags ideally suited to the oil removal needs of the paint and coatings industries.

LOFCLEAR™Filter Bag Filtration Ratings

Filter Model	Particle Size	ΔP (psi) Size 02				
iviodei	Buy Now >60% >90% >95%		>99%	@ 45 gpm		
113/123	**	0.5	1	2	4	0.36
114/124	**	0.75	2	3	5	0.30
115/125	**	1.5	3.5	8	10	0.15
116/126	**	2	6	13	15	<0.15
118/128	**	25	35	37	40	<0.15
119/129	**	15	25	27	30	<0.15
130	**	6	14	15	20	0.72
135	**	1	6	8	10	0.29
522	**	0.5	1	1.5	2.6	1.45
525	**	1	2	3.5	6	0.26
527	**	2	5	9	13	0.15
529	**	10	20	23	32	<0.15

Two Series to Match Filters to Applications

- Screens
- Separators/Strainers
- Tanks







LOFCLEAR filter bags are available in two styles, Series100 and Series 500. These two styles make it possible to match the requirements of a wide range of applications, depending on the needs for efficiency and long life. The Series 100 filters use a multi-layer construction for applications where high efficiency is of prime importance. The Series 500 filters utilize a patent pending pleated construction to increase surface area for applications requiring high dirt capacities and long life.

Perfect for Removal of Gelatinous Materials

LOFCLEAR filter bags have proven to be highly effective in the removal of gelatinous contaminants. The combination of deep micro fiber filtration media breaks up gels and retains them within the media depth. These features prevent surface blockage and breakthrough typical of standard filter bag materials.

LOFCLEAR™Series 100 Filter Bags

LOFCLEAR Series 100 Filter Bags feature a proven three layer construction with a sewn filter welded to the SENTINEL® seal. They feature efficiencies >99% over a wide range of particle sizes, with dirt capacities up to 1/2pound. The seven models feature:

- Polypropylene pre filter
- · Meltblown polypropylene microfiber final filter
- Polypropylene outer migration barrier

LOFCLEAR Series 100 filter bags are an excellent choice for application such as high purity fluids with low particulate concentration, first pass guard filtration, oil adsorption and activated carbon removal.

The LOFCLEAR 128 and 129 were especially developed for the filtration of electro-coatings in the automotive industry. The filtration design allows pigments to pass through the filtration layers, while retaining impurities and removing silicones and other crater forming substances. The LOFCLEAR 130 filter bag adds extra adsorption capacity for retaining high amounts of oils or other crater forming substances. The LOFCLEAR 135 delivers high removal of particulate and oils for clear coat applications where pigment removal is not an issue.

LOFCLEAR™Series 500 Filter Bags

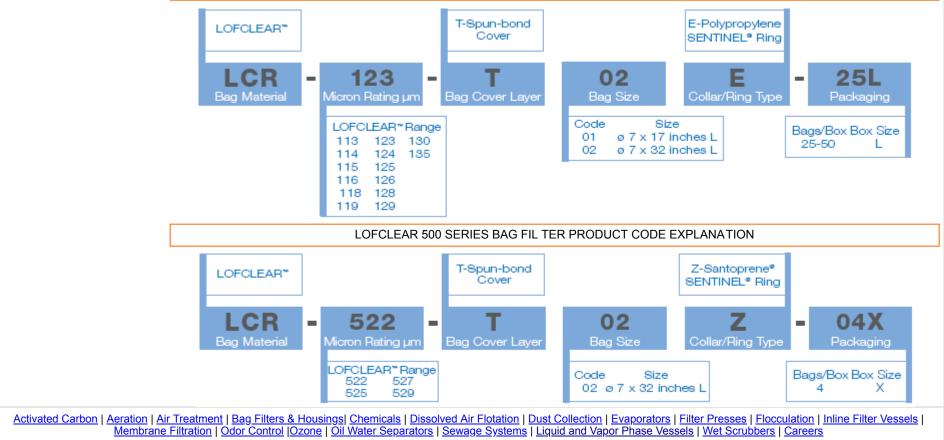
LOFCLEAR Series 500 Filter Bags have an all welded multi-pleated construction for high efficiency and long life. This series of bags has a pleated prefiltration layer and a complex design of final filtration layers, allowing the removal of difficult to filter gels and deformable particles with a high capacity of solids loading. The outer web covering eliminates any downstream fiber migration.

LOFCLEAR Series 500 Filter Bags are available in four different efficiency ratings so you can choose your exact required filtration efficiency. LOFCLEAR Filter Bags have filtration efficiencies from 95 to 99%, with a dirt holding capacity of over 2 pounds.

Among the many applications for LOFCLEAR Series 500 Filter Bags are oils, slurries, dilute oil removal, re-circulating batch systems, and systems with heavy contamination.

Operational Considerations

LOFCLEAR Series 500 Filter Bags must be used with a bag positioner. This eases insertion and assures correct alignment of the filter bag inside the restrainer basket. In addition, the positioner protects the filter bag from potential damage that could be caused by inadvertent back flow.











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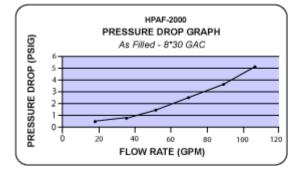
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- Dairy Industry
- Industrial Wastewater
- Food Processing Industry
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- Metals Treatment
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- Municipal Wastewater
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- Dewatering
- Evaporators
- Membrane Filtration
- Microbial Bacteria
- Oil/Water Separators
- Ozone
- Pressure Filtration
- Screens
- Separators/Strainers



General Description

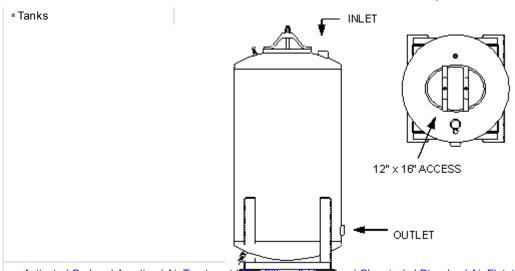
The HPAF-2000 filter is a media filter vessel designed to treat liquid streams. While the typical design application is a activated carbon adsorbtion unit, the filter can easily accommodate many medias. Some applications include:

- · Dissolved Organic Removal (Activated Carbon)
- Suspended Solids Removal (Sand Filter)
- Dissolved Minerals (Softener Resin)
- Oil and Grease Removal (Organo-Clays)
- Dissolved and Precipitated Metals Removal
- Special Organics (Resin/Carbon Blend)
- Catalytic Reactor (Chlorine and Peroxide Removal)
- · Bio-Remediation Contactor Unit



Standard Specifications							
HPAF-2000 SPECIFICATIONS							
Overall Height	8'6"	Vessel/Internal Piping Materials	CS(SA-36) / SCH 40 PVC				
Diameter	48"	Internal Coating	Polyamide Epoxy Resin				
Inlet / Outlet (FNPT)	3"	External Coating	Epoxy Mastic				
Drain / Vent (FNPT)	3/4" / 1/2"	Maximum Pressure / Temp	75PSIG / 140° F				
GAC Fill (lbs)	2,000	Cross Sectional Bed Area	12.5 FT ²				
Shipping / Operational Weight (lbs)	3,020/6,775	Bed Depth/Volume	5.5 FT / 68.7 FT ³				
Capacity in gallons	570	Flow rate based on 5-10 min. contact time	57 - 114 GPM				

Standard Specifications



Liquid Phase V essels, Filter Series						
AFD Series	AF Series	HPAF Series	HPP Series			
<u>AFD 30</u>	<u>AF 250</u>	<u>HPAF 500</u>	<u>HPP 50</u>			
<u>AFD 55</u>	<u>AF 500</u>	<u>HPAF 1000</u>	<u>HPP 100</u>			
<u>AFD 85</u>	<u>AF 1000</u>	<u>HPAF 2000</u>	<u>HPP 200</u>			
<u>AFD 110</u>	<u>AF 2000</u>	<u>HPAF 3000</u>	<u>HPP 300</u>			
<u>AHP 55</u>	<u>AF 3000</u>	<u>HPAF 5000</u>	<u>HPP 500</u>			
N/A	<u>AF 5000</u>	<u>HPAF10000</u>	<u>HPP 1000</u>			
N/A	<u>AF10000</u>	<u>HPAF20000</u>	<u>HPP2000</u>			

Activated Carbon | Aeration | Air Treatment | Bag Filters & Hous ngs | Chemicals | Dissolved Air Flotation | Dust Collection | Evaporators | Filter Presses | Flocculation | Inline Filter Vessels |

Membrane Filtration | Otor Control | Ozore | Oil Water Separators | Sewage Systems | Liquid and Vapor Phase Vessels | Wet Scrubbers | Careers







"CLEANING THE WORLD WITH ACTIVATED CARBON"



SAFETY DATA SHEET

Section 1 - Identity

Identity (As Used on Label and List): GC Activated Carbon (Including, but not limited to GC C-40, GC 4 x 8B, GC 4 x 8S, GC 6 x 12, GC 6 x 12S, GC 8 x 30, GC 8 x 30AW, GC 8 x 30SAW, GC 12 x 40, GC 12 x 40AW, GC 12x40SAW, GC 20 x 50, GC 20 x 50S, GC Powdered, GC WDC activated carbons)

Manufacturers Name: General Carbon Corporation

33 Paterson Street Paterson, NJ 07501 Tel: (973)523-2223

www.generalcarbon.com

Date Prepared: February 16, 2017

Section 2 - Hazardous Identification

2.1 GHS-US Classification

Eye Irritation 2B H320 STOT SE 3 H335

Hazards not otherwise classified: Combustible dust. May form combustible dust concentrations in air. All powdered activated carbons are classified as weakly explosive (Dust explosion class St1): Given the necessary conditions of a strong ignition source, right concentrations of airborne carbon dust, adequate oxygen levels, and confinement, the potential for a deflagration event exists. A combustible dust hazard assessment and employee training should be carried out. See sections 7 and 9 for further information on combustible dust precautions.

2.2 Label Elements



Hazard Pictograms

Signal word (GHS-US) : Warning

Hazard Statements : H320- Causes eye irritation

: H335- May cause respiratory irritation

Precautionary statements (GHS-US) : P261- Avoid breathing dust

: P264- Wash thoroughly after handling : P271- Use in well-ventilated area

: P280- Wear protective gloves/clothing/eye & face protect

: P304&340: IF INHALED: Remove person to fresh air

: P305&351&P338: If in eyes, Rinse cautiously with water for several minutes. Remove contact lenses if present and

easy to do so. Continue rinsing.

: P312- Call Poison Control Center/Doctor if you feel sick

: P403& P233- Store in well-ventilated place. Keep container tightly closed

: P405- Store locked up

: P501- Dispose of container to appropriate receptacle

2.3 Other Hazards

No additional information available 2.4 Unknown acute toxicity (GHS-US)

No data available

Section 3: Composition/information on ingredients

3.1 Substances Not applicable 3.2 Mixture

Name CAS # % GHS US classification

Carbon 7440-44-0 100 Not classified

Section 4 - First Aid Measures

4.1 Description of first aid measures

First aid after inhalation Remove person to fresh air. If not breathing, administer CPR or artificial

respiration. Get immediate medical attention.

First aid after skin contact

If skin reddening or irritation develops, seek medical attention

First aid after eye contact

Immediately flush eyes with plenty of water for at least 15 minutes.

If irritation persists, get medical attention.

First aid after ingestion If the material is swallowed, get immediate medical attention or advice.

DO NOT induce vomiting unless directed to do so by medical personnel.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation
Symptoms/injuries after skin contact
Symptoms/injuries after eye contact
Symptoms/injuries after ingestion

May cause respiratory irritation
May cause skin irritation
Causes serious eye damage
May be harmful is swallowed

4.3 Indication of any immediate medical attention and special treatment needed

No additional information available.

Section 5: Firefighting measures

5.1 Extinguishing media

Unsuitable extinguishing media None

5.2 Special hazards arising from substance or mixture

Fire hazard None known Explosion hazard None known

Reactivity Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, etc.

may result in fire.

5.3 Advice for firefighters

Protection during firefighting Firefighters should wear full protective gear

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

General measures

Avoid contact with the skin and eyes

6.1.1 For non-emergency personnel

No additional information available

6.1.2 For emergency responders

No additional information available

6.2 Environmental precautions

None

6.3 Methods and material for containment and cleaning up

For containment If possible, stop flow of product

Methods for cleaning up

Shovel or sweep up and put in closed container for disposal

6.4 Reference to other sections

No additional information available

Section 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling

Avoid contact with eyes. Wet activated carbon removes oxygen from air causing severe hazard to workers inside carbon vessels or confined spaces

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Protect containers from physical damage. Store in dry, cool, well-ventilated area. Store away from strong oxidizers, strong acids, ignition sources, combustible materials, and heat. An adequate air gap between packages is recommended to reduce propagation in the case of fire.

Handling: A hazard assessment should be carried out. As with all finely divided materials, ground all transfer, blending, and dust collecting equipment to prevent static discharge. Remove all strong ignition sources from material handling, transfer, and processing areas where dust may be present or accumulate. Practice good housekeeping. Excessive accumulations of dust or dusty conditions can create the potential of secondary explosions. Inspection of hidden surfaces for dust accumulation should be made routinely. If possible, eliminate the pathways for dust to accumulate in hidden areas. Fine carbon dust may penetrate electrical equipment and cause electrical shorts. Where dusting is unavoidable, dust-proof boxes and regular electrical line maintenance are recommended. Refer to NFPA standards 654 for guidance.

Caution employees-no smoking in carbon storage and handling areas. Carbon is difficult to ignite, however, cutting and welding operations should be carried out using hot work permit systems where precautions are taken not to ignite carbon, which may smolder undetected.

7.3 Specific end use(s)

No additional information available

Section 8: Exposure controls/ personal protection

8.1 Control parameters

No additional information available

8.2 Exposure controls

Appropriate engineering controls : Local exhaust and general ventilation must be adequate to meet exposure

standards

Hand Protection : None required under normal product handling conditions

Eye Protection : safety glasses

Skin and body protection : Wear suitable working clothes

Respiratory protection : If airborne concentrations are above the applicable exposure limits, use NIOSH

approved respiratory protection

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Solid
Appearance : Particulate
Color : Black

Odor : No data available Odor threshold : No data available : No data available Relative evaporation rate : No data available Melting point : No data available Freezing point : No data available **Boiling point** : No data available Flash point : No data available : No data available Self ignition temperature : No data available Decomposition temperature Flammability (solid, gas) : No data available **Vapor Pressure** : No data available Relative Vapor density @ 20 deg C : No data available **Relative Density** : 28-33 lb/ cubic foot Solubility : No data available Log Pow : No data available Log Kow : No data available Viscosity, kinematic : No data available Viscosity, dynamic : No data available **Explosive properties** : No data available : No data available Oxidizing properties

Combustible dust- These products may contain combustible dusts. May form combustible dust concentrations in air. All powdered activated carbons are weakly explosive. No specific information on these carbons are available.

: No data available

Typical combustible dust data for a variety of activated carbons:

Kst values reported between 43-113 (various sources).

Explosive limits

Dust explosion class St1 (Kst values < 200 are Class St1-weakly explosive).

MEC (minimum explosible concentration) in air 50 and 60 g/m₃ (two reports)

Volatile content (by weight): < 8% ASTM D3175-11 (Watercarb)

MIT (minimum ignition temperature) values reported between 400-680°C (752-1256°F) (four reports)

Maximum Absolute Explosion pressure values reported between 6.0-8.6 bar (four reports)

9.2 Other information

No additional information available

Section 10: Stability and reactivity

10.1 Reactivity

Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, etc. may result in fire

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

Will not occur

10.4 Conditions to avoid

None

10.5 Incompatible materials

Strong oxidizing and reducing agents such as ozone, liquid oxygen or chlorine.

10.6 Hazardous decomposition products

Carbon monoxide may be generated in the event of a fire.

Section 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity : Not classified

Carbon (7440-44-0)

LD50 oral rat : >10000 mg/kg Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes eye irritation

Respiratory or skin sensitization : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity : Not classified

Specific target organ toxicity : May cause respiratory irritation (single exposure)

Specific target organ toxicity : Not classified (repeated exposure)

Aspiration hazard : Not classified

Section 12: Ecological Information

12.1 Toxicity

No additional information available

12.2 Persistence and degradability

No additional information available

12.3 Bioaccumulative potential

No additional information available

12.4 Mobility in soil

No additional information available

12.5 Other adverse effects

No additional information available

Section 13: Disposal concerns

13.1 Waste treatment methods

Waste Disposal recommendations

: Dispose of contents/container in accordance with local/ regional/ international regulations

Section 14: Transportation information

In accordance with DOT/ADR/RID/ADNR/IMDG/ICAO/IATA

14.1 UN Number

Not applicable. See Note 1 below.

14.2 UN proper shipping name

Not applicable

Note 1: Under the UN classification for activated carbon, all activated carbons have been identified as a class 4.2 product. However, This product has been tested according to the United Nations Transport of Dangerous Goods test protocol for a "self-heating substance" (United Nations Transportation of Dangerous Goods, Manual of Tests and Criteria, Part III, Section 33.3.1.6 - Test N.4 - Test Method for Self Heating Substances) and it has been specifically determined that this product does not meet the definition of a self heating substance (class 4.2) or any other hazard class, and therefore should not be listed as a hazardous material. This information is applicable only for the Activated Carbon Product identified in this document.

Section 15: Regulatory information

15.1 US Federal regulations

<u>Carbon (7440-44-0)</u>
Listed on the United States TSCA inventory

15.3 US State regulations

No additional information available

Section 16: Other information

Full text of H-phrases:

Eye Irrit. 2B Serious eye damage/eye irritation Category 2B

STOT SE 3 Specific target organ toxicity (single exposure) Category 3

H335 May cause respiratory irritation

NFPA®



NFPA health hazard NFPA fire hazard : 1-Exposure could cause irritation but only minor residual injury even if no treatment is given

: 1- Materials that require considerable preheating, under all ambient temperature

conditions, before ignition and combustion can occur (e.g. <u>mineral oil</u>). Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at

or above 93.3 °C (200 °F)

NFPA reactivity

: 0- Normally stable, even under fire exposure conditions, and are not reactive with water

The information contained herein is accurate to the best of our knowledge. General Carbon Corporation makes no warranty with respect hereto said information and disclaims all liability from reliance there in.



The new sera compact tank dosing unit for floor mounting

- Highest precision and safety through the use of the most modern and proven pump technology
- Wide range of application by 7 different sizes which can be combined with various pump sizes
- Minimum space requirement through compact design
- Use of standard components which can be upgraded by standardized accessories
- Optimized processing and delivery times by setting a standard





Capability characteristics

- The most modern pump technology
- Standardized dosing tanks
- Highest accuracy
- Flexible control
- High operational safety
- High quality materials
- Easy to operate
- Compact design

Configuration example

Basic design with following options:

- Chemical vapour lock (gas-tight design)
- Drain cock
- Dosing pump
- Container screw connection
- Filling valve
- Level indication





Technical specifications

Туре	Container volume	Suction lance (without pump)	Flow rate	Pump series (option)	Admissible backpressure
	I		l/h		bar
CTD-40.1	40	DN5	up to max. 35	R/C 204.1-0,4e R/C 204.1-35e	up to max. 10
CTD-75.1	75	DN10	up to max. 180	R/C 204.1-0,4e R/RF/C 409.2-180e	up to max. 10
CTD-100.1	100	DN10	up to max. 180	R/C 204.1-0,4e R/RF/C 409.2-180e	up to max. 10
CTD-200.1	200	DN10 / DN15	up to max. 570	R/C 204.1-0,4e R/RF/C 410.2-570e	up to max. 10
CTD-300.1	300	DN10 / DN15	up to max. 570	R/C 204.1-0,4e R/RF/C 410.2-570e	up to max. 10
CTD-500.1	500	DN10 / DN15	up to max. 570	R/C 204.1-0,4e R/RF/C 410.2-570e	up to max. 10
CTD-1000.1	1000	DN10 / DN15	up to max. 570	R/C 204.1-0,4e R/RF/C 410.2-570e	up to max. 10



Standard scope of delivery

- PE container with litre scale and screw cap
- Type plate
- 4 x angle bracket
- Aeration and vent pipe bend
- · Suction lance with foot valve and sieve

Option / Accessories

- Gas-tight design (connection to the ventilation system or chemical vapour lock)
- Dosing pump
- Multifunction valve
- Level indication
- Filling valve
- Container screw connection
- Drain cock or collecting basin
- Agitator
- Level indicator (for black container)
- Cabling
- Control system
- Splash guard
- Dosing technology equipment (pressure keeping valve, pulsation damper, shut off valve)
- Solvent cage
- plug lock for screw cap
- Terminal boxes or electrical connection sets



Local sera - representative:

sera GmbH sera-Straße 1 34376 Immenhausen Germany Tel. +49 5673 999-00 Fax. +49 5673 999-01 www.sera-web.com info@sera-web.com



Features

- Standard models from 5 to 400 GPM
- No moving parts
- Compact size minimizes floor space requirements
- Integral flash mixing and flocculation tanks for increased efficiency
- Heavy duty 1/4" steel construction, welds are dye penetrant tested
- Structure is sandblasted and two coats of epoxy applied to ensure full coverage and superior chemical resistance
- 1/4" PVC removable settling plates
- Dual sludge outlet flanges
- * Large side-access hatch
- Sludge sampling ports

Options

- Mixers for flash & flocculation tanks
- Coal-tar epoxy interior coating (other coatings and materials are available)
- Influent feed and sludge discharge pumps
- Custom designs available
- PolyMark™ polymer delivery systems

M.W. Watermark

M.W. Watermark is a leading supplier of water and wastewater equipment, parts, and service. We serve both muncipal and industrial markets globally.

Our team strives to provide unmatched service and value to customers, helping reduce their costs while keeping the environment clean.

Slant Plate Clarifier



CLARIFIER DATA TABLE	SPC 5	SPC 10	SPC 20	SPC 40	SPC 80	SPC 150	SPC 200	SPC 300	SPC 400
Design Flow Maximum (GPM)	5	10	20	40	80	150	200	300	400
Flash Mix Tank Volume (gal)	4.4	4.5	38	50	79	110	110	186	186
Flocculation Tank Volume (gal)	6.5	20.5	62	99	189	316	316	742	742
Total Pre-Treatment Volume (gal)	10.9	25	100	149	268	426	426	928	928
Effluent Piping Connection (Class 150 Flange)	1"	3"	4"	4"	4"	6"	6"	8"	8"
Solids Discharge Connection (Class 150 Flange)	1"	3"	4"	4"	4"	4"	4"	6"	6"
Sludge Capacity (gallons)	17	42	88	150	275	469	611	834	960
Plate Area (ft²)	16	39	87	160	300	560	1,153	1,167	1,680
Projected Plate Area (ft²)	9.4	23	50	92	172	321	662	830	964
Empty Shipping Weight (lb)	765	1,400	2,065	3,600	4,800	7,400	11,000	13,200	16,500
Full Operating Weight (lb)	1,325	2,875	5,310	9,000	15,480	22,900	32,760	58,300	60,320
Liquid Volume (gal)	67	177	389	648	1,280	1,859	2,609	5,366	6,000
Overall Length	45"	55.5"	70"	87"	102"	135"	164"	185"	210"
Overall Width	23"	44"	60"	60"	73"	76.5"	77"	100"	100"
Overall Height	51"	64"	94"	104"	130"	147"	149"	145"	143"
Design Solids Removal (200ppm influent)	95%+	95%+	95%+	95%+	95%+	95%+	95%+	95%+	95%+



System Design

Influent is fed into the top of the clarifier (A) and flows under a baffle to the integral flash mixing tank (B). The flash mixing tank is where flocculant may be added with a PolyMark™ polymer blending system and blended with the fluid using an optional high speed mixer.

From the flash mix tank, the fluid flows over a baffle into the integral flocculation tank (C), which may include an optional low speed mixer.

From the flocculation tank, the fluid flows downward through the feed channel between the two plate stacks to the sludge chamber at the bottom of the clarifier. At this point, the fluid velocity decreases and large particles drop out of suspension.

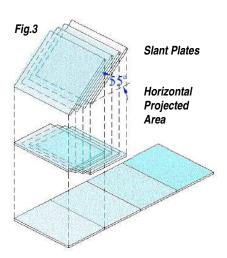
The flow then enters the bottom of the plate stacks and flows between the settling plates. Between each of the plates, the fluid has a low velocity, laminar flow profile which encourages the remaining solids to settle on the surface of the lower plate and flow downward to the sludge holding tank.

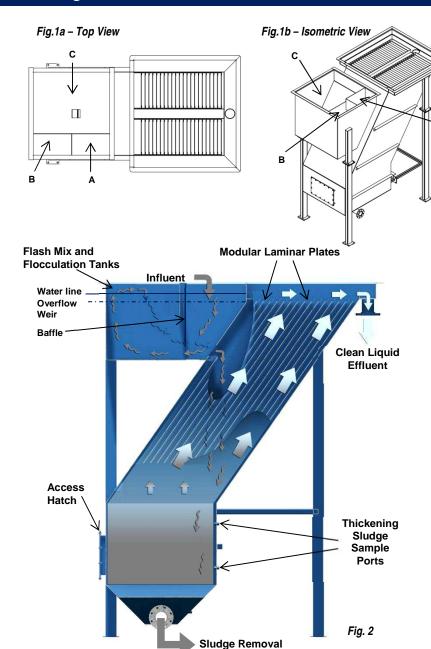
As the solids are settling along the plate surfaces, the fluid is moving upward through the plate stacks, over the weirs, and into the discharge trough.

Clarified effluent is then discharged through a flanged pipe connection at the bottom of the trough. Sludge is periodically drawn off the bottom of the sludge holding tank at the bottom of the clarifier.

Sample ports are provided to assist with determining the sludge level, which is periodically pumped to a batch storage tank for further liquid-solid separation via an M.W. Watermark Filter Press for eventual disposal.

Floor Space Requirement Horizontal vs. Slant Plate Clarifier





Equipment Design

The M.W. Watermark SPC Slant Plate Clarifiers are designed to provide efficient solids removal from a wide range of waste and process liquids. The settling plates are inclined at an angle of 55° with 2-inch spacing. The slope of the plates allows the solids to settle by gravity while the fluid moves upward through the plate stack.

Stacking the plates reduces the floor space required by the clarifier compared to a horizontal clarifier. The inclined plate design allows the total gravity settling area to be as much as ten times the floor space occupied by the clarifier.

Fig. 3 illustrates the floor space reduction resulting from stacked plates.

11800 Wills Road, Suite 100 Alpharetta, GA 30009

Tel: 678-514-2100 / 888-326-2020 Web Site: www.EcologixSystems.com

DATE OF ISSUE: 05/12/2003 **DATE OF LATEST REVISION**: 12/12/2010

SECTION 1: PRODUCT & COMPANY IDENTIFICATION

PRODUCT NAME: CIFSB
PRIMARY FUNCTION: Coagulant
CHEMICAL FAMILY: Inorganic salts
CHEMICAL NAME: Iron (III) Sulfate

MANUFACTURER: Ecologix Environmental Systems, LLC

11800 Wills Road, Suite 100 Alpharetta, GA 30009 USA

PHONE: 678-514-2100 Fax: 678-514-2106

EMERGENCY 24/7 CONTACT: ECOLOGIX 1-888-326-2020

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT(CAS #)%WTOSHA PELACGIH TLVOTHERHydroxy ferric sulfate127687-53-0<50</td>1mg/m³TWA

Other components may be blended in this formulation. The precise composition is proprietary. Bona fide requests for disclosure to medical personnel must be made in accordance with the procedures in 29 CFR 1910.1200(i) 1-13. This MSDS contains valuable information critical to the safe handling and proper use of the product and should be retained and available for employees and other users of this product. This material is classified as hazardous under OSHA regulations.

SECTION 3: HAZARDS IDENTIFICATION

EYES: May cause pain and is corrosive. May cause burns to inner eyelids.

SKIN: May cause skin irritation. Prolonged contact may cause dermatitis and burns.

INGESTION: May produce mild to moderately severe oral and esophageal burns, with mild to severe stomach burns.

INHALATION: Mist or spray may be irritating to mucous membranes, respiratory tract and lung tissues.

SECTION 4: FIRST AID MEASURES

EYES: Flush eyes gently with water for at least 15 minutes while holding eyelids apart. Seek medical attention immediately.

SKIN: Remove contaminated clothing and wash with soap and water for at least 15 minutes. Seek medical attention. **INGESTION**: Immediately rinse mouth with water. **Do not induce vomiting**. Do not give bicarbonate to neutralize. Drink milk or water to dilute. If vomiting occurs, drink more liquids. Seek medical attention.

INHALATION: Remove to fresh air. Give oxygen/artificial respiration if needed. Seek medical attention for breathing difficulty.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT: N/A

EXTINGUISHING MEDIA: Any appropriate. Respiratory and eye protection required.

SPECIAL FIRE FIGHTING PROCEDURES: Dike area to prevent runoff and contamination of water sources. **UNUSUAL FIRE AND EXPLOSION HAZARDS:** Sulfuric acid could react with metals to produce hydrogen.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SMALL SPILLS: Wear appropriate personal protective equipment. Neutralize with lime, limestone or soda ash. **LARGE SPILLS:** Dike the spilled liquid and collect residues for proper disposal. Neutralize with lime, limestone or soda ash. This will generate carbon dioxide, so additional ventilation may be necessary. Notify appropriate authorities. **WASTE DISPOSAL METHOD:** Dispose of in accordance with local, state and federal regulations.

SECTION 7: HANDLING and STORAGE

HANDLING AND STORAGE: Protect drum from damage, freezing and intense heat. Keep containers closed and away from light. Do not store in metal containers which will dissolve and generate hydrogen.

OTHER PRECAUTIONS: Do not swallow. Wear protective eye goggles, gloves, boots and clothing.

SECTION 8: EXPOSURE CONTROLS & PERSONAL PROTECTION

EYE PROTECTION: Wear chemical splash-proof goggles.

PROTECTIVE GLOVES: Wear rubber gloves, apron and shoe covers.

RESPIRATORY PROTECTION: If vapors or mists excessive, wear a NIOSH/MSHA approved respirator with mist

prefilter.

VENTILATION: Always store and use all chemicals in well ventilated areas.

OTHER PROTECTIVE EQUIPMENT: Provide eye wash and safety shower stations.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

BOILING POINT: 220° - 230°F SPECIFIC GRAVITY: 1.35 – 1.55 EVAPORATION RATE: N/A VAPOR DENSITY: N/A VAPOR PRESSURE: N/A

SOLUBILITY IN WATER: Infinite below pH 2. Above pH 3, reddish ferric hydroxide precipitates.

pH of NEAT SOLUTION: <1

APPEARANCE/ODOR: Reddish brown solution; little or no odor.

SECTION 10: STABILITY & REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBILITY (MATERIALS TO AVOID): Fairly corrosive to mild steel. Avoid contact with bases or alkalies.

HAZARDOUS DECOMPOSITION PRODUCTS: Produces sulfur oxides

SECTION 11: TOXICOLOGICAL INFORMATION

CHRONIC EFFECTS AND MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None noted. SPECIAL NOTE: None of the components in this product are considered a carcinogen by OSHA, NTP or IARC.

SECTION 12: ECOLOGICAL INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with federal, state, and local environmental laws.

SECTION 14: TRANSPORT INFORMATION

DOT Proper Shipping Name: Corrosive Liquid, acidic, inorganic, n.o.s. (contains ferric sulfate), 8, UN 3264, Pg III

SECTION 15: REGULATORY INFORMATION

FEDERAL EPA

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA):

Requires notification to the National Response Center of releases of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQ) in 40 CFR 302.4. Components present in this product at a level which would require reporting under the statute are:

 Chemical NONE
 CAS Number
 RQ

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III:

Requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQ) in 40 CFR 355 (SARA 302, 304, 311 and 312) Components present in this product at a level which could require reporting under the statute are: NONE

Toxic Substances Control Act (TSCA) Status:

All components of this product are on the TSCA inventory

EPA Priority Pollutants: NONE

RCRA Hazard Class: If discarded - non-hazardous.

SECTION 16: OTHER INFORMATION

HMIS RATINGS: Health=, Flammability=, Reactivity=

HMIS HAZARD INDEX: 0=MINIMAL, 1=SLIGHT, 2=MODERATE, 3=SERIOUS, 4=SEVERE

LEGEND:

CAS Chemical Abstract Number

CERCLA Comprehensive Environmental Response, Compensation and Liability Act

CFR Code of Federal Regulations

DOT Department of Transportation

HMIS Hazardous Materials Identification System

IARC International Agency for Research on Cancer

MSDS Material Safety Data Sheet

N/A Not Applicable N/D Not Determined

NTP National Toxicity Program

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

SARA Superfund Amendments and Reauthorization Act

TSCA Toxic Substance Control Act

TLV Threshold Limit Value

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. Users are responsible to determine the suitability of this product and to evaluate risks prior to use.



The Ultimate Polymer Dosing System

The M.W. Watermark PolyMarkTM integrates the best features and designs developed and refined from decades of experience. The PolyMarkTM is a combination of proven polymer blending technologies and today's latest in flow and integrated control devices.

M.W. Watermark offers a complete line of blending units ranging from 25 gph to 2400 gph solution flow rates with 0.05 gph to 60 gph neat polymer flow rates to meet all of your process, dewatering, and flocculation needs.

Parts

PolyMark™ polymer blender parts are interchangeable with existing leading brand units. Many parts are in-stock and can ship the same day. Contact M.W. Watermark for a complete list of replacement parts.

M.W. Watermark

M.W. Watermark is a leading supplier of water and wastewater equipment, parts, and service. We serve both muncipal and industrial markets globally.

Our team strives to provide unmatched service and value to customers, helping reduce their costs while keeping the environment clean.

Contact us for more information.

M.W. Watermark 4660 136th Avenue, Holland, MI 49424 Office: 616.399.8850 Fax: 616.399.8860 mwwatermark.com info@mwwatermark.com

PolyMark™ Polymer Blending





PolyMark™ Models & Options

1	2	3	4	5	6	7	8	9	10	11	12	13
Product	Solution Flow Rate (GPH)		Dilution		Polymer Pump	Neat Polymer Flow † (GPH)		Power Supply	Controls ‡	Option 1	Option 2	Option 3
PM	25	/	1	-	DP	1	-	1	DC	Х	Х	Χ
•	50		2		PS	2		2	SFC	С	L	V
	100				PC	4		3		C - Calibration	Cylinder	
	240		1 - Primary	Only		8		4		L - Loss of Pol	ymer Flow Swite	ch
	600		2 - Primary	/ Post [Dilution	15		5		V - Variable S _l	peed Mixing	
	1200											
	1800				DP - Diaphragm	30						
	2400			F	PC - Progressing Cavity	50						
	1 - 120VAC 1Φ 60Hz 2 - 240VAC 1Φ 60Hz 3 - 240VAC 3Φ 60Hz 4 - 480VAC 3Φ 60Hz 5 - 575VAC 3Φ 60Hz											
† Flow rates	† Flow rates are nominal											
‡ Controls	Descrip	tion										
DC SFC	DC On/Off/Remote Control											

Industries & Applications

The PolyMark™ can be used for multiple applications in a variety of industries

- Wastewater Treatment Plants
- Steel & Aluminum Plants
- Industrial Wastewater Solids
- Metal Finishing Operation
- Mining Industry Fines
- * Chemical Processing
- Foundries
- ** Power Plants

Clarification & Filtration

Sludge Dewatering

- Belt Filter Presses
- Centrifuges
- Screw Presses
- * Plate & Frame

Sludge Thickening

- Gravity Belt Thickeners (GBT)
- Diffused Air Flotation (DAF)

M.W. Watermark

4660 136th Avenue, Holland, MI 49424 Office: 616.399.8850 Fax: 616.399.8860 mwwatermark.com info@mwwatermark.com

Control Options

The PolyMark™ controllers were developed as a result of customer requests, feedback, and experience. The Watermark engineering team, backed with many years designing, calibrating, and troubleshooting other polymer blending systems, created a superior product and the industry's best value.

The PolyMark[™] was designed with two levels of control/automation:

- DC Direct Control
- SFC Solution Flow Control

DC Features

- On/Off/Remote start contact
- Optional 4-20 mA pump signal pass through for polymer pump control

SFC Features

- Touchscreen operation with remote capability
- Direct and proportional polymer dosing modes
- Trending display of water flows, polymer rate, percent concentration
- 4-20 mA input for solution concentration or pump rate
- Digital input for Start/Remote selection
- Digital output for Running/Alarm/Remote status
- Configurable start-up and shut down process including a day tank set-up
- Optional variable speed mixing
- Optional Loss of Polymer Flow sensor
- Fully automatic primary and post dilution flow control
- * Precise, automated "make down" and "as delivered" solution control
- 4-20 mA input for sludge flow rate
- Recipes for varying polymer type, sludge characteristics, and dewatering equipment
- Trending for polymer dosage as mass of polymer/mass of solids (e.g. lbs/ton)

sc200™ UNIVERSAL CONTROLLER



Applications

- Drinking Water
- Wastewater
- Industrial Water
- Power

One Controller for the Broadest Range of Sensors.

Choose from 30 digital and analog sensor families for up to 17 different parameters.

Maximum Versatility

The sc200 controller allows the use of digital and analog sensors, either alone or in combination, to provide compatibility with Hach's broad range of sensors, eliminating the need for dedicated, parameter-specific controllers.

Ease of Use and Confidence in Results

Large, high-resolution, transreflective display provides optimal viewing resolution in any lighting condition. Guided calibration procedures in 19 languages minimize complexity and reduce operator error. Password-protected SD card reader offers a simple solution for data download and transfer. Visual warning system provides critical alerts.

Wide Variety of Communication Options

Utilize two to five analog outputs to transmit primary and secondary values for each sensor, or integrate Hach sensors and analyzers into MODBUS RS232/RS485, Profibus® DP, and HART networks.



Password protected SD card reader offers a simple solution for data download and transfer, and sc200 and digital sensor configuration file duplication and backup.



Controller Comparison





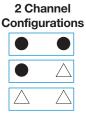


Previous Models				
Features	sc100™ Controller	GLI53 Controller	sc200™ Controller	Benefits
Display	64 x 128 pixels 33 x 66 mm (1.3 x 2.6 in.)	64 x 128 pixels 33 x 66 mm (1.3 x 2.6 in.)	160 x 240 pixels 48 x 68 mm (1.89 x 2.67 in.) Transreflective	 Improved user interface— 50% bigger Easier to read in daylight and sunlight
Data Management	irDA Port/PDA Service Cable	N/A	SD Card Service Cable	Simplifies data transferStandardized accessories/ max compatibility
Sensor Inputs	2 Max Direct Digital Analog via External Gateway	2 Max Analog Depending on Parameter	2 Max Digital and/or Analog with Sensor Card	Simplifies analog sensor connectionsWorks with analog and digital sensors
Analog Inputs	N/A	N/A	1 Analog Input Signal Analog 4-20mA Card	 Enables non-sc analyzer monitoring Accepts mA signals from other analyzers for local display Consolidates analog mA signals to a digital output
4-20 mA Outputs	2 Standard	2 Standard	2 Standard Optional 3 Additional	Total of five (5) 4-20 mA outputs allows multiple mA outputs per sensor input
Digital Communication	MODBUS RS232/RS485 Profibus DP V1.0	HART	MODBUS RS232/RS485 Profibus DP V1.0 HART 7.2	Unprecedented combination of sensor breadth and digital communication options

Choose from Hach's Broad Range of Digital and Analog Sensors				
Parameter	Sensor	Digital or Analog		
Ammonia	AMTAX™ sc, NH4D sc, AISE sc, AN-ISE sc	•		
Chlorine	CLF10 sc, CLT10 sc, 9184 sc	•		
Chlorine Dioxide	9185 sc	•		
Conductivity	GLI 3400 Contacting, GLI 3700 Inductive	\triangle		
Dissolved Oxygen	LDO® Model 2, 5740 sc	•		
Dissolved Oxygen	5500	\triangle		
Flow	U53, F53 Sensors	\triangle		
Nitrate	NITRATAX™ sc, NO3D sc, NISE sc, AN-ISE sc	•		
Oil in Water	FP360 sc			
Organics	UVAS sc	•		
Ozone	9187 sc	•		
pH/ORP	pHD	•		
pH/ORP	pHD, pH Combination, LCP	\triangle		
Phosphate	PHOSPHAX™ sc			
Sludge Level	SONATAX™ sc			
Suspended Solids	SOLITAX™ sc, TSS sc	•		
Turbidity	1720E, FT660 sc, SS7 sc, ULTRATURB sc, SOLITAX sc, TSS sc	•		
Ultra Pure Conductivity	8310, 8311, 8312, 8315, 8316, 8317 Contacting	\triangle		
Ultra Pure pH/ORP	8362	\triangle		

= Digital $\triangle =$ Analog

Connect up to two of any of the sensors listed above, in any combination, to meet your application needs. The diagrams below demonstrate the potential configurations. Operation of analog sensors requires the controller to be equipped with the appropriate sensor module. Contact Hach Technical Support for help with selecting the appropriate module.





Specifications*

Dimensions (H x W x

D)

(144 mm x 144 mm x 181 mm)

Display

Graphic dot matrix LCD with LED backlighting, transreflective

Display Size

1.9 x 2.7 in. (48 mm x 68 mm)

Display Resolution Weight

3.75 lbs. (1.70 kg)

Power Requirements

(Voltage)

Power Requirements (Hz)

Operating **Temperature Range**

Analog Outputs

Analog Output

Functional Mode Security Levels

Mounting Configurations

Enclosure Rating Conduit Openings Relay: Operational Mode

240 x 160 pixels

5.7 in x 5.7 in x 7.1 in

100 - 240 V AC, 24 V DC

50/60 Hz

-20 to 60 °C, 0 to 95% RH non-condensing

Two (Five with optional expansion module) to isolated current outputs, max 550 Ω , Accuracy: ± 0.1% of FS (20mA) at 25 °C, \pm 0.5% of FS over -20 °C to 60 °C

Operational Mode: measurement

or calculated value

Linear, Logarithmic, Bi-linear, PID

2 password-protected levels Wall, pole, and panel mounting

NEMA 4X/IP66 1/2 in NPT Conduit

Primary or secondary measurement, calculated value (dual channel only) or timer

Relay Functions

Scheduler (Timer), Alarm, Feeder Control, Event Control, Pulse Width Modulation, Frequency Control, and Warning

Relays

Four electromechanical SPDT (Form C) contacts, 1200 W, 5 A

Communication

MODBUS RS232/RS485, PROFIBUS DPV1, or HART 7.2

optional

Memory Backup

Electrical Certifications Flash memory

EMC

CE compliant for conducted and radiated emissions:

- CISPR 11 (Class A limits)

- EMC Immunity EN 61326-1 (Industrial limits)

Safety

cETLus safety mark for:

- General Locations per ANSI/UL 61010-1 & CAN/CSA C22.2. No. 61010-1

- Hazardous Location Class I, Division 2, Groups A,B,C & D (Zone 2, Group IIC) per FM 3600 / FM 3611 & CSA C22.2 No. 213 M1987 with approved options and appropriately rated Class I, Division 2 or Zone 2 sensors

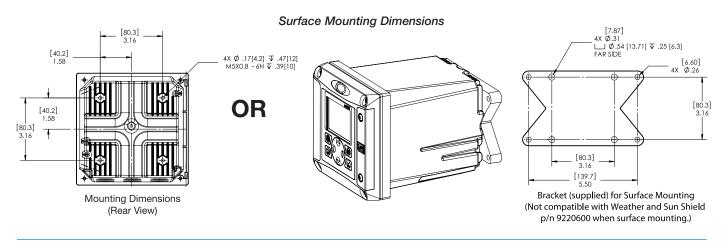
cULus safety mark

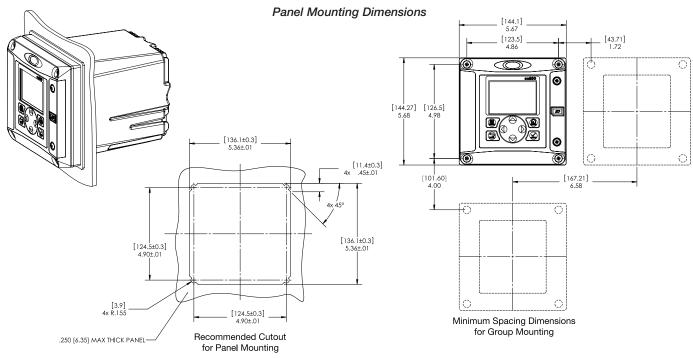
- General Locations per UL 61010-1 & CAN/CSA C22.2. No. 61010-1

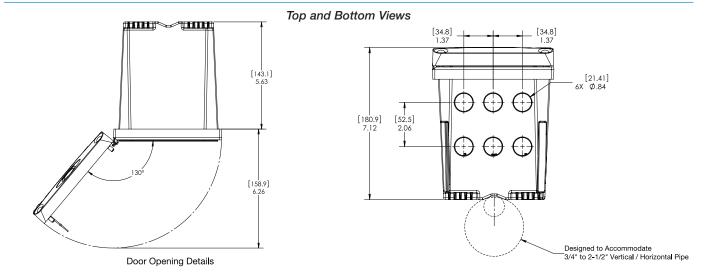
*Subject to change without notice.

sc200™ Universal Controller 5

Dimensions







Ordering Information

sc200 for Hach Digital and Analog Sensors

LXV404.99.00552sc200 controller, 2 channels, digitalLXV404.99.00502sc200 controller, 1 channel, digitalLXV404.99.00102sc200 controller, 1 channel, pH/DOLXV404.99.00202sc200 controller, 1 channel, Conductivity

LXV404.99.01552 sc200 controller, 2 channels, digital, Modbus RS232/RS485

LXV404.99.00112 sc200 controller, 2 channel, pH/DO

Note: Other Sensor combinations are available. Please contact Hach Technical Support or your Hach representative.

Note: Communication options (MODBUS, Profibus DPV1, and HART) are available. Please contact Hach Technical Support or your Hach representative.



9500.99.00602 sc200 controller, 1 channel, ultrapure conductivity

9500.99.00702 sc200 controller, 1 channel, ultrapure pH

9500.99.00662 sc200 controller, 2 channel, ultrapure conductivity

9500.99.00772 sc200 controller, 2 channel, ultrapure pH

Sensor and Communication Modules

9012900 Analog pH/ORP and DO module for GLI Sensors9013000 Analog Conductivity module for GLI Sensors

9012700 Flow module

9012800 4-20 mA Input Module

9525700 Analog pH/ORP Module for Polymetron Sensors9525800 Analog Conductivity Module for Polymetron Sensors

9013200 Modbus 232/485 Module9173900 Profibus DP Module

9328100 HART Module

9334600 4-20 mA Output Module (Provides 3 additional mA Outputs)

Accessories

9220600 sc200 Weather and Sun Shield with UV Protection Screen

8809200 sc200 UV Protection Screen

9218200 SD card reader (USB) for connection to PC

9218100 4 GB SD card







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 Outside United States:
 970-669-3050 tel
 970-461-3939 fax
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LIT2665 Rev 7
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In the interest of improving and updating its equipment,
Hach Company reserves the right to alter specifications to equipment at any time.





Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date: 02.15.2015

Sulfuric Acid, 3M

SECTION 1: Identification of the substance/mixture and of the supplier

Product name:

Sulfuric Acid, 3M

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number:

S25899

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific 9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education 15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

SECTION 2 : Hazards identification

Classification of the substance or mixture:



Health hazard

Skin corrosion, category 1A Serious eye damage, category 1

Corrosive to metals, category 1 skin corr./irrit. 1A Corrosive to metals, 1 Eye corr. 1

Signal word :Danger

Hazard statements:

May be corrosive to metals Causes severe skin burns and eye damage

Causes serious eye damage

Precautionary statements:

If medical advice is needed, have product container or label at hand

Keep out of reach of children

Read label before use

Wear protective gloves/protective clothing/eye protection/face protection

Wash ... thoroughly after handling

Do not breathe dust/fume/gas/mist/vapours/spray

Keep only in original container

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing

Immediately call a POISON CENTER or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

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IF SWALLOWED: Rinse mouth. Do NOT induce vomiting Specific treatment (see ... on this label)
Absorb spillage to prevent material damage
Store locked up
Dispose of contents/container to ...

Other Non-GHS Classification:

WHMIS





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NFPA/HMIS





HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:						
CAS 7664-93-9	Sulfuric Acid, ACS	31.004 %				
CAS 7732-18-5	Water	68.996 %				
		Percentages are by weight				

SECTION 4: First aid measures

Description of first aid measures

After inhalation: Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other symptoms appear.

After skin contact: Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

After eye contact: Protect unexposed eye.Rinse/flush exposed eye(s) gently using water for 15-20 minutes.Remove contact lens(es) if able to do so during rinsing.Seek medical attention if irritation persists or if concerned.

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention if irritation, discomfort, or vomiting persists.

Most important symptoms and effects, both acute and delayed:

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Irritation. Headache. Nausea. Shortness of breath.;

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

For safety reasons unsuitable extinguishing agents:

Special hazards arising from the substance or mixture:

Thermal decomposition can lead to release of irritating gases and vapors.

Advice for firefighters:

Protective equipment: Wear protective eyeware, gloves, and clothing. Refer to Section 8.Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions): Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation. Ensure that air-handling systems are operational.

Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

Methods and material for containment and cleaning up:

Wear protective eyeware, gloves, and clothing. Refer to Section 8.Always obey local regulations. Containerize for disposal. Refer to Section 13.If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

SECTION 8: Exposure controls/personal protection





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Control Parameters: 7664-93-9, Sulfuric Acid, ACS, OSHA PEL: 1mg/m3

7664-93-9, Sulfuric Acid, ACS, ACGIH TLV: 1 mg/m3

Appropriate Engineering controls: Emergency eye wash fountains and safety showers should be available in

the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational

Exposure Limits-OELs) indicated above.

Respiratory protection: Not required under normal conditions of use. Where risk assessment

shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved

breathing equipment.

Protection of skin: Select glove material impermeable and resistant to the substance. Select

glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear

protective clothing.

Eye protection: Wear equipment for eye protection tested and approved under

appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

General hygienic measures: Perform routine housekeeping. Wash hands before breaks and at the end

of work. Avoid contact with skin, eyes, and clothing. Before wearing wash

contaminated clothing.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Clear, colorless liquid.	Explosion limit lower: Explosion limit upper:	Not Determined Not Determined
Odor:	Odorless	Vapor pressure:	<0.00120mmHg
Odor threshold:	Not Determined	Vapor density:	Not Determined
pH-value:	< 0.03	Relative density:	Not Determined
Melting/Freezing point:	11C	Solubilities:	Miscible
Boiling point/Boiling range:	105 - 325C	Partition coefficient (noctanol/water):	Not Determined
Flash point (closed cup):	Not Determined	Auto/Self-ignition temperature:	Not Determined
Evaporation rate:	Not Determined	Decomposition temperature:	Not Determined
Flammability (solid,gaseous):	Not Determined	Viscosity:	a. Kinematic:Not Determined b. Dynamic: Not Determined
Density: Not Determined	ê		

SECTION 10 : Stability and reactivity

Reactivity: Nonreactive under normal conditions.

Chemical stability: Stable under normal conditions.

Possible hazardous reactions: None under normal processing.

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Conditions to avoid:Incompatible materials.

Incompatible materials: Organics. Metals. Chlorates. Alkalines. Carbides. Fulminates. Reducing agents. Nitrates. Acetic acid. Oxidizing agents

Hazardous decomposition products: Oxides of sulfur.

SECTION 11: Toxicological information

Acute Toxicity:				
Inhalation:	510 mg/m3 2 h	Inhalation LC50 Rat		
Oral:	2140 mg/kg	Oral LD50 Rat		
Chronic Toxicity: No	additional information.	Y		
Corrosion Irritation	: No additional information.			
Sensitization:		No additional information.		
Single Target Orga	n (STOT):	No additional information.		
Numerical Measure	es:	No additional information.		
Carcinogenicity:		No additional information.		
Mutagenicity:		No additional information.		
Reproductive Toxic	ity:	No additional information.		

SECTION 12 : Ecological information

Ecotoxicity

Freshwater Fish: 96 Hr LC50 Brachydanio rerio: >500 mg/L [static]

Fish: LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h

Invertebrates: EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h

Persistence and degradability:

Bioaccumulative potential:

Mobility in soil:

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

SECTION 14 : Transport information

UN-Number

1830

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Sulfuric Acid, 3M

UN proper shipping name

Sulfuric Acid Solution

Transport hazard class(es)



Class:

8 Corrosive substances

Packing group: II

Environmental hazard:

Transport in bulk:

Special precautions for user:

SECTION 15: Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute, Chronic

SARA Section 313 (Specific toxic chemical listings):

7664-93-9 Sulfuric Acid

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7664-93-9 Sulfuric Acid 1000 lbs

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

None of the ingredients is listed

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the

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Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

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Sulfuric Acid, 3M

SDS contains all the information required by the Controlled Products Regulations.Note:. The responsibility to provide a safe workplace remains with the user.The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.The information contained herein is, to the best of our knowledge and belief, accurate.However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material.It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

PNEC: Predicted No-Effect Concentration (REACH)

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substances Control Act (USA)

NPRI: National Pollutant Release Inventory (Canada)

DOT: US Department of Transportation IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

Effective date: 02.15.2015 **Last updated**: 03.19.2015

Appendix B

Receiving Water Laboratory Data Report



111 Herrick Street, Merrimack, NH 03054 TEL: (603) 424-2022 • FAX: (603) 429-8496 www.amrolabs.com

September 25, 2017

ANALYTICAL TEST RESULTS

Molly Greer GEI Consultants, Inc. 400 Unicorn Park Drive Woburn, MA 01801 TEL: (781) 721-4000

FAX: (781) 721-4073

Subject: 1700396 MPA Berth 10 Final Design

Workorder No.: 1708044

Dear Molly Greer:

AMRO Environmental Laboratories Corp. received 2 samples on 8/30/2017 for the analyses presented in the following report.

AMRO is accredited in accordance with NELAC and certifies that these test results meet all the requirements of NELAC, where applicable, unless otherwise noted in the case narrative.

The enclosed Sample Receipt Checklist details the condition of your sample(s) upon receipt. Please be advised that any unused sample volume and sample extracts will be stored for a period of 60 days from sample receipt date (90 days for samples from New York). After this time, AMRO will properly dispose of the remaining sample(s). If you require further analysis, or need the samples held for a longer period, please contact us immediately.

This report consists of a total of 73 pages. This letter is an integral part of your data report. All results in this project relate only to the sample(s) as received by the laboratory and documented in the Chain-of-Custody. This report shall not be reproduced except in full, without the written approval of the laboratory. If you have any questions regarding this project in the future, please refer to the Workorder Number above.

Sincerely.

Nancy Stewart Vice President

State Certifications: NH (NELAC): 1001, MA: M-NH012, CT: PH-0758, NY: 11278 (NELAC), ME: NH012 and 1001.

Hard copy of the State Certification is available upon request.

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Date Received: 8/30/2017

Work Order Sample Summary

Lab Sample ID	Cllent Sample ID	Collection Date	Collection Time
1708044-01A	1700396-WE-2	8/30/2017	10:30 AM
1708044-01B	1700396-WE-2	8/30/2017	10:30 AM
1708044-01C	1700396-WE-2	8/30/2017	10:30 AM
1708044-01D	1700396-WE-2	8/30/2017	10:30 AM
1708044-01E	1700396-WE-2	8/30/2017	10:30 AM
1708044-01F	1700396-WE-2	8/30/2017	10:30 AM
1708044-01G	1700396-WE-2	8/30/2017	10:30 AM
1708044-01H	1700396-WE-2	8/30/2017	10:30 AM
1708044-011	1700396-WE-2	8/30/2017	10:30 AM
1708044-02A	1700396-SW-1	8/30/2017	12:00 PM
1708044-02B	1700396-SW-1	8/30/2017	12:00 PM
1708044-02C	1700396-SW-1	8/30/2017	12:00 PM
1708044-02D	1700396-SW-1	8/30/2017	12:00 PM
1708044-02E	1700396-SW-1	8/30/2017	12:00 PM
1708044-02F	1700396-SW-1	8/30/2017	12:00 PM
1708044-02G	1700396-SW-1	8/30/2017	12:00 PM
1708044-02H	1700396-SW-1	8/30/2017	12:00 PM
1708044-021	1700396-SW-1	8/30/2017	12:00 PM

DATES REPORT

AMRO Environmental Laboratories Corp.

1708044 Lab Order: Client:

GEI Consultants, Inc.

1700396 MPA Berth 10 Final Desi **Project:**

Analysis Date
Analytical Test Name
Matrix
Collection Date
Client Sample ID
Sample ID

Sample ID	Client Sample 1D	Collection Date	Matrix	Analytical Test Name		Analysis Date	
				Preparatory Test Name	Prep Date	Batch ID	TCLP Date
1708044-01A	1700396-WE-2	8/30/2017 10:30:00 AM	Groundwater	EPA 8260C VOLATILES by GC/MS		9/5/2017	
				EPA 5030B	8/30/2017	R59921	
1708044-01B				EPA 8082A PCBS IN WATER		9/7/2017	
				EPA 3510 AQPREP SEP FUNNEL: PCB	9/5/2017	27482	
				EPA 8270D SEMIVOLATILE ORGANICS, Aqueous		9/5/2017	
				EPA 3510 AQPREP SEP FUNNEL: BNA	8/31/2017	27476	
				PAH BY EPA 8270D SIM		9/6/2017	
í					8/31/2017	27476	
1708644-01C				TPH, EPA 1664A		9/12/2017	
3 of						R59950	
1708044-01D				SM 4500G Chlorine, Total Residual (modified)		8/31/2017	
						R59941	>4
				Standard Methods - Total Suspended Solids		8/31/2017	
	ps					R59918	
1708044-01E				EPA 7196 HEXAVALENT CHROMIUM		8/31/2017	
				1. de la constitución de la cons	3	R59951	
1708044-01F				EPA 7196 HEXAVALENT CHROMIUM		8/31/2017	Polity man
						R59951	
1708044-01G				Standard Methods - Cyanide, Total		7102/11/6	
				110		R59946	
1708044-01H				EPA 200.7 ICP METALS, TOTAL		2107/1/6	
				200 Series Prep: ICP/GFAA	8/31/2017	27472	
				EPA 200.7 ICP METALS, TOTAL	! 	9/1/2017	. —
					8/31/2017	27472	

DATES REPORT

AMRO Environmental Laboratories Corp.

Lab Order: 1708044

Client: GEI Consultants, Inc.

Project: 1700396 MPA Berth 10 Final Desi

Sample ID	Client Sample ID	Collection Date	Matrix	Analytical Test Name		Analysis Date	
				Preparatory Test Name	Prep Date	Batch ID	TCLP Date
1708044-01H	1700396-WE-2	8/30/2017 10:30:00 AM Groundwater	Groundwater	EPA 200.9 ARSENIC, Total		21079/6	
	1 mm m m 1 mm 1 mm 1 mm 1 mm 1 mm 1 mm			200 Series Prep: ICP/GFAA	8/31/2017	27472	
				EPA 200.9 LEAD, Total		9/6/2017	
,					8/31/2017	27472	
				EPA 200.9 SELENIUM, Total		9/5/2017	
					8/31/2017	27472	
				EPA 200.9 ANTIMONY, Total		9/5/2017	
					8/31/2017	27472	
Page				EPA 245.1 MERCURY, Total		9/6/2017	
e 4 of				MERCURY PREP: EPA 245.1/7040	9/5/2017	27477	
1708044-011				Standard Methods - Ammonia as Nitrogen		7102/11/6	
						R59945	
1708044-02A	1700396-SW-1	8/30/2017 12:00:00 PM		EPA 8260C VOLATILES by GC/MS	· · · · · · · · · · · · · · · · · · ·	9/5/2017	
,				EPA 5030B	8/30/2017	R59921	
1708044-02B				EPA 8082A PCBS IN WATER		9772017	
				EPA 3510 AQPREP SEP FUNNEL: PCB	9/5/2017	27482	
				EPA 8270D SEMIVOLATILE ORGANICS, Aqueous		9/5/2017	
				EPA 3510 AQPREP SEP FUNNEL: BNA	8/31/2017	27476	
				PAH BY EPA 8270D SIM		9/6/2017	
					8/31/2017	27476	
1708044-02C				TPH, EPA 1664A		9/12/2017	
		man and the first same & amountained day to be seen as for the first same of				R59950	
1708044-02D				SM 4500G Chlorine, Total Residual (modified)		8/31/2017	
						R59941	

25-Sep-17

AMRO Environmental Laboratories Corp.

TCLP Date Analysis Date Batch ID 8/31/2017 8/31/2017 8/31/2017 9/11/2017 7102/1/6 R59918 9/11/2017 R59951 9/1/2017 R59951 R59946 9/6/2017 9/6/2017 9/5/2017 9/5/2017 7102/9/6 27472 R59945 27472 27472 27472 27472 27472 27477 DATES REPORT Prep Date 8/31/2017 8/31/2017 8/31/2017 8/31/2017 8/31/2017 8/31/2017 2102/5/6 Standard Methods - Total Suspended Solids EPA 7196 HEXAVALENT CHROMIUM EPA 7196 HEXAVALENT CHROMIUM Standard Methods - Ammonia as Nitrogen MERCURY PREP: EPA 245.1/7040 Standard Methods - Cyanide, Total EPA 200.7 ICP METALS, TOTAL EPA 200.7 ICP METALS, TOTAL EPA 200.9 SELENIUM, Total EPA 200.9 ANTIMONY, Total EPA 245.1 MERCURY, Total 200 Series Prep: ICP/GFAA EPA 200.9 ARSENIC, Total Preparatory Test Name EPA 200.9 LEAD, Total Analytical Test Name 8/30/2017 12:00:00 PM Groundwater Matrix Collection Date 1700396 MPA Berth 10 Final Desi GEI Consultants, Inc. Client Sample ID 1700396-SW-1 1708044 Lab Order: 1708044-02D 1708044-02E 1708044-02G 1708044-02F Project: Sample ID 1708044-021 Client:

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My Fri de 8/30/1 1400, GG Samole Frider 3/1/1/1/1 1505 2 Maley Mer. 1/1/1/1/1 1505 2 Maley Mer. 1/1/1/1/1 1505 3 My Mer. 1/1/1/1 1505 3 My Mer. 1/1/1 1505 3 My Mer. 1/1 1505 3 My Mer.	er poss	ble.	Dete:		Standard L		all gnally	8	185		(Busi	ness day	me s):	W	Befo	re submi	itting rush pratory to	tumarous	id samples, you must
3MO/e Fr: 4pe 8/30/py 1505 2 Mally Mer. 4/Mrs 9/30/py 1505 3/Mi Same 4/Mrs 8/30/py 1505 3/Mi Same 2000: 1200 1000 4 March 120 2000: 1200 1000 4 March 120 2000: 1200 1000 4 March 120 2000: 1200 1000 1000 1000 1000 1000 1000	Mel	2 July	2/30/h	1400	<u>Q</u>	8 II	MOK	Filt &	. 1	z ę	ormal	製品			achie	wed.		3	
Plant (SOS (Received by Copraine) Plant (SOS (Received by Copraine) Stady // Use (Received by Copraine)	Š	- 1	8/30/14	1505	2 ma	an I	her			3	×	¥ ₹	ay Iditional	Require	nemts/C		s/Remar		
8/24/7 1600 (Received by Confidence)	Kall	14 Mg	4/02/14	1505	Respired by:	jemplure)	٦		(1) Metal	s: Antimony	f, arsenic,	cadmium, c	hromkum, co	opper, lead,	тегсиу, п	ickel, sele	dum,siliver,	zinc, forn.	
	X	Partola.	Stally	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Received by:			\prec	(Z) Disso	lved metala	and hex c	hrome field	filtered			$\ \ $			
			1			4	_		֟ ֓֞֞֞֞֞֞	1	9	C							

SAMPLE RECEIPT CHECKLIST

111 Herrick Street Merrlmack, NH 03054

Client: (2F)				(603) 424-2022
	AMRO	. — .	1708	049
Project Name: MP Nesth 10 Filed Deby	Date Re	:c.:	8/3	W/12-
Hand Del., Other Courier, Other:	Date Du	IC:		6117
			- 7	
Items to be Checked Upon Receipt				
1. Army Samples received in Individual plastic bags?	Yes	No No	NA	Comments
2. Custody Seals present?			V	
3. Custody Seals Intact?			V	
	Company of the Company		V	
4. Air Bill included in folder if received?			V	
5. Is COC included with samples?	V		-	
6. Is COC signed and dated by client?	V			
7. Laboratory receipt temperature. Samples rec. with ice				
Samples rec. with Ice Vice packs neither				
6. Were samples received the same day they were sampled?	7			
Is client temperature = or <6°C?	1			
If no obtain authorization from the client for the analyses.	-			
Client authorization from: Date: Obtained by:				
9. Is the COC filled out correctly and completely?				
10. Does the info on the COC match the samples?	V			
11. Were samples rec. within holding time?	V			
12. Were all samples properly labeled?	8			
13. Were all samples properly preserved?				
14. Were proper sample containers used?	J			
15. Were all samples received intact? (none broken or leaking)	J			
16. Were VOA vials rec. with no air bubbles?	v			
17. Were the sample volumes sufficient for requested analysis?	/			
18. Were all samples received?	J			
19. VPH and VOA Soils only:	V			
Sampling Method VPH (circle one): M=Methanol, E=EnCore (air-tight container)			V	6
Sampling Method VOA (circle one): M=tvernanol, E=EnCore (air-tight container)				
Sampling Method VOA (circle one): M=Methanol, SB=Sodlum Bisulfate, E=EnCo	ore, B-Bulk, I	D= DI wat	er	200
Does preservative cover the solf?				
Does preservation level come close to the fill line on the vial?				
Date/Time DI Preserved vials Frozen on:				
Frozen by Client?				
Were vials provided by AMRO?				
If NO then weights MUST be obtaine Was dry weight aliquot provided?	d from client			
20. Subcontracted Samples: If NO then notified client and inform	the VOA lab	of the local division in the last of		
What samples sents O/ AD	V		X-di	
What samples sent: 01,02 Where sent: ChemSarve				
Date: 9-15-17				
Analysis: Chloride				
TAT.				
I. Information entered into:				
		T		
Internal Tracking Log?	V			
Dry Weight Log?				
Client Log?		-1,		
Composite Log?		TV		
Filtration Log?			, -	
eccived By: US Date: 8/30/19 Logged in By: NS			10/01/	10
abeled By: MAID Date: 8/3/ 17 Checked By: MAI	N		e: 8/3//	ナー
T T T T T				/ 1 II

Please Circle if: Sample= Soil Sample= Waste

AMRO ID: 1708044

Sample= Waste										
Sample ID	Analysis	Volume Sample	Preserv.	lnitial pH*	Acceptable? Y or N	List Preserv. Added by AMRO	Solution ID	Volume Preservative Added	Final adjusted pH	1 / 10 01
01A-02A		2×401					0	7,0000	PII	24 hours)
					100	 	-			96
013-020				7	y	<u> </u>				
010-020			th 80 c							
010-020	195 ,TRC	W/15/L	<u> </u>	7	Ly			1		
01F-02E	Her Chi	4 1× 500		7	14					
"OIF-02F	Diss. Hox	1/x 500	_	7	W	1.*			 	
019-029	T Cleri-	1×20	K-OH AS		y,				 	
01 H-02H	TO MA	1,400	4402	62	7 /	 		 	 	
					W					
01I-02I	Am nuoni	17-700	Party	22	W	 	 			
						<u></u>				
		٠								
								200		
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		•	52	61						
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								,		
								2.		
<u></u>							z z-b			
Sample ID	Analysis	Volume Sample	Preserv. Listed	Initial TRC	Acceptable? Y or N	List Preserv. Added by AMRO	Solution ID # of Preserv.	Volume Preservative Added	Final dijusted TRC	Acceptable? Y or N
	1.5	•				197011				
à.										
*	11			;	×0.0			7.0		
- '										
			- 1							
		100						<u>i</u>		
* = if the laborate	ory preserve	es the drin	king water	sample	(s) for EPA Me	ethod 200 ser	ies, sample (s) s	should be held	at least	
<i>16 hours prior to</i> pH Checked B	analysis or	24 hours	for water st	ample (s Dote:	5). 0/2///_	nU adio	sted By:		D	
P-1 CHOCKEU D	3. <u>I</u>	$q \cap r /$		Date: _	0/21/10	hu sala	isied DA:		Date: _	
pH Checked B	y: -]	Date: _	F	H adj.(16	or 24hrs)By:_	······································	Date:	

tories Corp. Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

CASE NARRATIVE

GC/MS VOLATILES- 8260C:

1. A Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were performed on 09/05/17 on V-3 (Batch ID: R59921). All %Rs and RPDs were within the laboratory control limits with the following exception(s):

- 1.1 The %R for 1 analyte out of 67 analytes in the LCS were outside the control limits.
- 1.2 The %R for 2 analytes out of 67 analytes in the LCSD were outside the control limits.
- 1.3 The RPD for 2 analytes out of 67 analytes were outside the control limits.
- 2. A Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample 1700396-WE-2 (1708044-01). All %Rs and RPDs were within the laboratory control limits with the following exception(s):
- 2.1 The RPD for 1 analyte out of 67 analytes was outside the control limits.
- 3. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

GC/MS SEMIVOLATILES-8270D:

- 1. A Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were performed on 09/05/17 on SV-4 (Batch ID: 27476). All %Rs and RPDs were within the laboratory control limits with the following exception(s):
- 1.1 The %R for 5 analytes out of 67 analytes in the LCS were outside the control limits.
- 1.2 The %R for 4 analytes out of 67 analytes in the LCSD were outside the control limits.
- 1.3 The RPD for 1 analyte out of 67 analytes was outside the control limits.
- 2. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

GC/MS SEMIVOLATILES- 8270D-SIM:

1. No analytical or quality issues were noted, other than those described in the Data Comment page.

GC/ECD-PCBs-8082A:

1. No analytical or quality issues were noted, other than those described in the Data Comment page.

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

CASE NARRATIVE

METALS:

- 1. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample 1700396-SW-1 (1708044-02). All %Rs and RPDs were within the laboratory control limits with the following exception(s):
- 1.1 Arsenic recovered above the control limits in the MS. However, in the MSD was within control limits.
- 1.2 Lead recovered below the control limits in both MS and MSD.
- 1.3 Selenium was not recovered in both MS and MSD
- 2. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

WET CHEMISTRY:

- 1. The samples for Total Residual Chlorine were received past holding time.
- 2. A Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample 1700396-WE-2 (1708044-01) for Cyanide analysis. MS %R was below laboratory control limits.
- 3. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

SUB-CONTRACTED

1. Some analyses in this project were sub-contracted to another laboratory. Please see the sample receipt checklist for details and the sub-contract lab report for their certification status. AMRO does not transcribe data from another lab. A copy of the subcontract lab report is included in this report. AMRO keeps the original report on file with this work order.

DATA COMMENT PAGE

Organic Data Qualifiers

- ND Indicates compound was analyzed for, but not detected at or above the reporting limit.
- Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than the method detection limit.
- H Method prescribed holding time exceeded.
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- B This flag is used when the analyte is found in the associated blank as well as in the sample.
- R RPD outside accepted recovery limits
- RL Reporting limit; defined as the lowest concentration the laboratory can accurately quantitate.
- S Spike Recovery outside accepted recovery limits.
- # See Case Narrative
- Q RPD between signal 1 and signal 2 >40%.

Micro Data Qualifiers

TNTC Too numerous to count

Inorganic Data Qualifiers

- ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.
- J Indicates a value greater than or equal to the method detection limit, but less than the quantitation limit.
- H Indicates analytical holding time exceedance.
- B Indicates that the analyte is found in the associated blank, as well as in the sample.
- MSA Indicates value determined by the Method of Standard Addition
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- R RPD outside accepted recovery limits
- RL Reporting limit; defined as the lowest concentration the laboratory can accurately quantitate.
- S Spike Recovery outside accepted recovery limits.
- PS The analyte was below the Reporting Limit but has significant matrix interference as noted by the poor recovery of the Post Digestion Spike.
- # See Case Narrative
- MCL Exceeded

Report Comments:

- 1. Soil, sediment and sludge sample results are reported on a "dry weight" basis.
- 2. Reporting limits are adjusted for sample size used, dilutions and moisture content, if applicable.

Date: 25-Sep-17

CLIENT:

GEl Consultants, Inc.

Lab Order: 1708044

1700396 MPA Berth 10 Final Design

Project: Lab ID:

1708044-01A

Client Sample ID: 1700396-WE-2

Collection Date: 8/30/2017 10:30:00 AM

Matrix: GROUNDWATER

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA 8260C VOLATILES BY GC/MS	SV	/8260C			Analyst: JK
1,4-Dioxane	ND	50	μg/L	1	9/5/2017 2:50:00 PM
Dichlorodifluoromethane	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
Chloromethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Vinyl chloride	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Chloroethane	ND	5.0	µg/L	1	9/5/2017 2:50:00 PM
Bromomethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Trichlorofluoromethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Diethyl ether	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
Acetone	ND	10	μg/L	1	9/5/2017 2:50:00 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	9/5/2017 2:50:00 PM
Carbon disulfide	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Methylene chloride	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
Methyl tert-butyl ether	ND	2.0	μ g/L	1	9/5/2017 2:50:00 PM
trans-1,2-Dichloroethene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
1,1-Dichloroethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Tertiary Butanoi	ND	20	µg/L	1	9/5/2017 2:50:00 PM
2-Butanone	ND	10	μg/L	1	9/5/2017 2:50:00 PM
Diisopropyl ether	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
cis-1,2-Dichloroethene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Ethyl Tertiary Butyl Ether	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Chloroform	ND	2.0	μ g/L	1	9/5/2017 2:50:00 PM
Tetrahydrofuran	ND	10	μg/L	1	9/5/2017 2:50:00 PM
Bromochloromethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,1,1-Trichloroethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,1-Dichloropropene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Carbon tetrachloride	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
1,2-Dichloroethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Benzene	ND	1.0	µg/L	1	9/5/2017 2:50:00 PM
Trichloroethene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,2-Dichloropropane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Bromodichloromethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Dibromomethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Tertiary Amyl Methyl Ether	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
4-Methyl-2-pentanone	ND	10	µg/L	1	9/5/2017 2:50:00 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	9/5/2017 2:50:00 PM
Toluene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	9/5/2017 2:50:00 PM
1,1,2-Trichloroethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-WE-2

Lab Order:

1708044

Collection Date: 8/30/2017 10:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-01A

analyses	Result	RL	Qual Units	DF	Date Analyzed
1,2-Dibromoethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
2-Hexanone	ND	10	μg/L	1	9/5/2017 2:50:00 PM
1,3-Dichloropropane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Tetrachloroethene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Dibromochloromethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Chiorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Ethylbenzene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
m,p-Xylene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
o-Xylene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Styrene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Bromoform	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
isopropyibenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,1,2,2-Tetrachioroethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Bromobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
n-Propylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
2-Chlorotoluene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
4-Chlorotoluene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,3,5-Trimethylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
tert-Butylbenzene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
1,2,4-Trimethylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
sec-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1-isopropyitoluene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,3-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,4-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
n-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
1,2,4-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Hexachlorobutadiene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Naphthalene	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
1,2,3-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
,3,5-Trichlorobenzene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Surr: Dibromofluoromethane	116	74-138	%REC	1	9/5/2017 2:50:00 PM
Surr: 1,2-Dichloroethane-d4	110	64-138	%REC	1	9/5/2017 2:50:00 PM
Surr: Toluene-d8	110	77-128	%REC	1	9/5/2017 2:50:00 PM
Surr: 4-Bromofluorobenzene	96.6	81-113	%REC	1	9/5/2017 2:50:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

1708044

Client Sample ID: 1700396-SW-1

Lab Order:

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-02A

Analyses	Result	RL	Qual Units	DF	Date Analyzed
EPA 8260C VOLATILES BY GC/MS	sv	V8260C			Analyst: JK
1,4-Dioxane	ND	50	μ g /L	1	9/5/2017 3:27:00 PM
Dichlorodifluoromethane	ND	5.0	µg/L	1	9/5/2017 3:27:00 PM
Chloromethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Vinyl chloride	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Chloroethane	ND	5.0	µg/L	1	9/5/2017 3:27:00 PM
Bromomethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Trichlorofluoromethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Diethyl ether	ND	5.0	μg/L	1	9/5/2017 3:27:00 PM
Acetone	ND	10	μg/L	1	9/5/2017 3:27:00 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	9/5/2017 3:27:00 PM
Carbon disulfide	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Methylene chloride	ND	5.0	μg/L	1	9/5/2017 3:27:00 PM
Methyl tert-butyl ether	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
trans-1,2-Dichloroethene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,1-Dichloroethane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Tertiary Butanol	ND	20	μg/L	1	9/5/2017 3:27:00 PM
2-Butanone	ND	10	μg/L	1	9/5/2017 3:27:00 PM
Dilsopropyi ether	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
2,2-Dichloropropane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
cis-1,2-Dichloroethene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Ethyl Tertiary Butyl Ether	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Chloroform	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Tetrahydrofuran	ND	10	µg/L	1	9/5/2017 3:27:00 PM
Bromochloromethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,1,1-Trichloroethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,1-Dichloropropene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Carbon tetrachloride	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,2-Dichloroethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Benzene	ND	1.0	μg/L	1	9/5/2017 3:27:00 PM
Trichloroethene	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
1,2-Dichloropropane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Bromodichloromethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Dibromomethane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Tertiary Amyl Methyl Ether	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	9/5/2017 3:27:00 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	9/5/2017 3:27:00 PM
Toluene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	9/5/2017 3:27:00 PM
1,1,2-Trichloroethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-SW-1

Lab Order:

1708044

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-02A

Analyses	Result	RL	Qual Uni	its DF	Date Analyzed
1,2-Dibromoethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
2-Hexanone	ND	10	μg/L	. 1	9/5/2017 3:27:00 PM
1,3-Dichloropropane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Tetrachloroethene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Dibromochloromethane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Chlorobenzene	ND	2.0	µg/L	. 1	9/5/2017 3:27:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Ethylbenzene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
m,p-Xylene	ND	2.0	µg/L	. 1	9/5/2017 3:27:00 PM
o-Xylene	ND	2.0	µg/L	. 1	9/5/2017 3:27:00 PM
Styrene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Bromoform	ND	2.0	μg/L		9/5/2017 3:27:00 PM
Isopropyibenzene	ND	2.0	µg/L	. 1	9/5/2017 3:27:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Bromobenzene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
n-Propylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
2-Chlorotoluene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
4-Chiorotoluene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,3,5-Trimethylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
tert-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,2,4-Trimethylbenzene	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
sec-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
4-Isopropyltoluene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,3-Dichlorobenzene	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
1,4-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
n-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	9/5/2017 3:27:00 PM
1,2,4-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Hexachlorobutadiene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Naphthalene	ND	5.0	μg/L	1	9/5/2017 3:27:00 PM
1,2,3-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,3,5-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Surr: Dibromofluoromethane	118	74-138	%RE	C 1	9/5/2017 3:27:00 PM
Surr: 1,2-Dichloroethane-d4	108	64-138	%RE	C 1	9/5/2017 3:27:00 PM
Surr: Toluene-d8	110	77-128	%RE	C 1	9/5/2017 3:27:00 PM
Surr: 4-Bromofluorobenzene	96.1	81-113	%RE	C 1	9/5/2017 3:27:00 PM

Date: 25-Sep-17

ð Method Blank **QC SUMMARY REPORT** %RPD RPDLimit Prep Date: 9/5/2017 B - Analyte detected in the associated Method Blank Original Sample or MS Result Analysis Date: 9/5/2017 2:14:00 PM 1005280 LowLimit HighLimit SeqNo: Result %REC S - Spike Recovery outside accepted recovery limits QC Spike Original Sample R - RPD outside accepted recovery limits Units: µg/L Amount V-3_170905A Test Code: SW8260C Units µg/L µg/L rg/L ug/L µg/L Fg/ Fg/ rg/L μg/L μğ pg/ μg/L 肾 µg/L rg/L µg/L Hg/L rg/L ug/L рg/ μğ ng/ рgИ Run ID: 5.0 2.0 2.0 5.0 2.0 2.0 5.0 5 2.0 5.0 5 2.0 2.0 쿈 20 9 2.0 2.0 2.0 2.0 2.0 5 700396 MPA Berth 10 Final Design J - Analyte detected below quantitation fimits ND - Not Detected at the Reporting Limit Batch ID: R59921 QC Sample Result 9 9 ð ₽ 읒 9 ₽ 9 ₽ ₽ 9 ₽ ₽ 9 9 9 GEI Consultants, Inc. 1708044 Sample ID: mb-09/05/17 trans-1,2-Dichloroethene Dichlorodifluoromethane Ethyl Tertiary Butyl Ether richlorofluoromethane cis-1,2-Dichloroethene Methyl tert-butyl ether Bromochloromethane 1,1,1-Trichloroethane 2,2-Dichloropropane i.1-Dichloroethene Methylene chloride I, 1-Dichloroethane Diisopropyi ether Work Order: Carbon disulfide Tertiary Butanol Chloromethane Bromomethane Tetrahydrofuran Vinyl chloride Chloroethane 1,4-Dioxane Diethyl ether CLIENT: Qualifiers: 2-Butanone Chloroform Project: Client ID: Analyte Acetone

NA - Not applicable where J values or ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT:	GEl Consultants, Inc.			
Work Order:	1708044			QC SUMMARY REPORT
Project:	1700396 MPA Berth 10 Final Design	inal Design		Method Blank
1, 1-Dichloropropene	ND	2.0	μg/L	
Carbon tetrachloride	ON e	2.0	µg/L	
1,2-Dichloroethane	QN	2.0	h9∕L	
Benzene	QN	1.0	μg/L	
Trichloroethene	QN	2.0	ng/L	
1,2-Dichloropropane	e ND	2.0	hg/L	
Bromodichloromethane	ND ND	2.0	μg/L	
Dibromomethane	QN	2.0	hg/L	
Tertiary Amyl Methyl Ether	yl Ether ND	2.0	µg/L	
4-Methyl-2-pentanone	ND ND	9	μg/L	
cis-1,3-Dichloropropene	ON ND	1.0	hg/L	
Toluene	QN	2.0	µg/L	
trans-1,3-Dichloropropene	ON whene	1.0	hg/L	
1,1,2-Trichloroethane	ND ND	2.0	J/6rd	
1,2-Dibromoethane	Q	2.0	J/6ri	
••	<u>Q</u>	10	µ9/L	
1,3-Dichloropropane	QN	2.0	µg/L	
Tetrachloroethene	QN	2.0	μg/L	
Dibromochloromethane	ND ND	2.0	hg/L	
Chlorobenzene	ON	2.0	j. Company of the c	
1,1,1,2-Tetrachloroethane	ethane ND	2.0	μg/L	
Ethylbenzene	Q	2.0	µg/L	
m,p-Xylene	QN	2.0	µg/L	
o-Xylene	Q	2.0	hg/L	
Styrene	QN	2.0	µ9/L	
Bromoform	QN	2.0	µg/L	
Isopropylbenzene	QN	2.0	µg/L	
1,1,2,2-Tetrachloroethane	Sthane ND	2.0	hg/L	
1,2,3-Trichloropropane	ND ND	2.0	ng/L	
Bromobenzene	QN	2.0	µg/L	
n-Propylbenzene	QN	2.0	µg/L	
Qualifiers: ND-	ND - Not Detected at the Reporting Limit	.=	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
₩-f	J - Analyte detected below quantitation limits	imits	R - RPD outside accepted recovery limits	NA Not and include the colored included in the colored in the colo
RL.	RL - Reporting Limit: defined as the lowest concentration	est concentration		ing - thus applicable where J values of ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT	GEI Consultants Inc.	<u></u>								
Work Order:	1708044								ŏ	QC SUMMARY REPORT
Project:	1700396 MPA Berth 10 Final Design	rth 10 Final Do	esign							Method Blank
2-Chlorotoluene		Ð	2.0	rig/L						
4-Chlorotoluene		9	2.0	µg/L						
1,3,5-Trimethylbenzene	zene	2	2.0	µg/L						
tert-Butylbenzene		8	2.0	₽ ₀ /L						
1,2,4-Trimethylbenzene	zene	S Q	2.0	hg/L						
sec-Butylbenzene		Q	2.0	ng/L						
4-tsopropyitoluene		Q	2.0	μg/L						
1,3-Dichlorobenzene	9	Q	2.0	пgЛ						
1,4-Dichlorobenzene	•	2	2.0	µ9∕L						
n-Butylbenzene		Q	2.0	19%						
1,2-Dichlorobenzene	Q	Q Q	2.0	µg/L						
1,2-Dibromo-3-chloropropane	ropropane	Q	9.0	hg/L						
1,2,4-Trichlorobenzene	ene	S	2.0	μg/L						
Hexachlorobutadiene	je	Q	2.0	ug/L						
Naphthalene		QN	5.0	µg/L						
1,2,3-Trichlorobenzene	епе	Q.	2.0	hg/L						
1,3,5-Trichlorobenzene	ene	S	2.0	µg/L						
Surr: Dibromofluoromethane	comethane	27.92	2.0	µg/L	25	0	112	74	138	0
Surr: 1,2-Dichloroethane-d4	bethane-d4	27.07	2.0	µ9∕L	25	0	90	\$	138	0
Surr. Toluene-d8		27.1	2.0	µg/L	25	0	108	22	128	0
Surr: 4-Bromofluorobenzene	orobenzene	23.85	2.0	µg∕L	25	0	95.4	2	113	0

!:			
Qualificrs:	Qualifiers: ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits B	B - Analyte detected in the associated Method Blank
	 J - Analyte detected below quantitation limits 	R - RPD outside accepted recovery limits	NA - Not annitrable where I values or ND recuite occur
	RL - Reporting Limit; defined as the lowest concentration	est concentration the laboratory can accurately quantitate.	man cumou of the comment of the comm

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

QC SUMMARY REPORT

Date: 25-Sep-17

Project: 17003	1700396 MPA Berth 10 Final Design	Design							La	Laboratory Control Spike	Control S] jš
Sample ID: 1cs-09/05/17	Batch ID: R59921	Test Code	e: SW8260C	Units: µg/L			Analysis D	ate: 9/5/2017	Analysis Date: 9/5/2017 11:11:00 AM	Pren Date: 9/5/2017	9/5/2017	
Client ID:		Run ID:	V-3_170905A	_			SeqNo:	1005278				
	QC Sample		a	QC Spike Original Sample	Sample			U	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ŏ
1,4-Dioxane	136	20	µ9/L	100	0	136	99	172				
Dichlorodifluoromethane	27.36	5.0	hg/L	20	0	137	9	158				
Chloromethane	22.22	2.0	rg/L	20	0	=	45	<u>‡</u>	• •			
Vinyl chloride	24.23	2.0	hg/L	20	0	121	45	140	,			
Chloroethane	22.54	5.0	hg/L	50	0	113	49	140	0			
Bromomethane	27.66	2.0	μĝγ	20	0	138	25	149	0			
Trichlorofluoromethane	31.65	2.0	µg/L	20	0	158	7	154	0			V.
Diethyl ether	24.83	5.0	µ9∕L	20	0	124	69	142	0)
Acetone	45.62	10	rg/L	40	0	114	2	179	0			
1,1-Dichlomethene	24.66	1.0	µg/L	8	0	123	69	152	•			
Carbon disulfide	16.59	2.0	μg/L	20	0	83	42	149	0			
Methylene chloride	25.37	5.0	₽9/L	20	0	127	69	159	0			
Methyl tert-butyl ether	24.93	2.0	µg∕L	20	0	125	67	4	0			
trans-1,2-Dichloroethene	22.4	2.0	µg∕L	20	0	112	73	149	0			
1,1-Dichloroethane	23.9	2.0	µ9/L	50	0	120	74	147	0			
Tertiary Butanol	240.1	20	μg⁄L	200	0	120	43	162	0			
2-Butanone	36	01	µg/L	40	0	06	16	164	0			
Diisopropyl ether	24.1	2.0	µg/L	20	0	120	8	149	0			
2,2-Dichloropropane	27.4	2:0	µg/L	20	0	137	8	9	o			
cis-1,2-Dichloroethene	24.51	2.0	рg/L	20	0	123	74	141	0			
Ethyl Tertiary Butyl Ether	23.1	2.0	µg/L	20	0	116	02	148	0			
Chloroform	24.3	2.0	µg∕L	20	0	122	72	137	0			
Tetrahydrofuran	23.98	10	µg/L	20	0	120	53	149	0			
Bromochloromethane	24.09	2.0	ng∕L	20	0	120	9/	145	0			
1,1,1-Trichloroethane	25.29	2.0	µ9∕L	20	0	126	92	138	0			
Qualifiers: ND - Not Detec	ND - Not Detected at the Reporting Limit	S-	Spike Recover	S - Spike Recovery outside accepted recovery limits	recovery 1	imits	B - Analyte	detected in the	B - Analyte detected in the associated Method Blank	od Blank		ľ
J - Analyte dete	J - Analyte detected below quantitation limits	F	RPD outside a	- RPD outside accented recovery limits	imits			:				
B1 - Reporting	RI Reporting I imit defined as the lowest concess	1	10	-	!		RA - NG	pplicable whe	NA - Not applicable where J values or ND results occur	results occur		

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

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GEI Consultants, Inc. CLIENT:

Date: 25-Sep-17

Work Order: 1708044	III.							<u> </u>	QC SUMMARY REPORT
Project: 1700396 MPA Berth 10 Final Design	Serth 10 Final	Design							Laboratory Control Spike
1,1-Dichloropropene	22.61	2.0	идуг	20	0	113	74	138	0
Carbon tetrachloride	25.19	2.0	µg/L	20	0	126	2	138	. 0
1,2-Dichloroethane	23.09	2.0	μg/L	20	0	115	74	13	0
Benzene	20.04	1.0	hg/L	20	0	9	69	148	0
Trichloroethene	23.85	2.0	ng√.	20	0	119	74	136	0
1,2-Dichloropropane	23.71	2.0	μg/L	20	0	119	72	137	0
Bromodichloromethane	25.78	2.0	µg/L	20	0	129	74	137	
Dibromomethane	23.17	2.0	μg/L	50	0	116	75	129	
Tertiary Amyl Methyl Ether	21.27	2.0	µ9/L	20	0	106	72	146	
4-Methyi-2-pentanone	44.61	6	µg/L	40	0	112	49	138	• •
cis-1,3-Dichloropropene	23.25	1.0	µg/L	50	0	116	72	<u>4</u>	
Toluene	23.76	2.0	µg/L	70	0	119	75	139	. 0
trans-1,3-Dichloropropene	23.01	1.0	µg/L	20	0	115	\$	132	. 0
1,1,2-Trichloroethane	24.16	2.0	µ9/L	8	0	121	23	138	• 0
1,2-Dibromoethane	22.55	2.0	μg/L	20	٥	113	72	136	. 0
2-Hexanone	34.43	5	µg/L	40	0	96.1	32	138	. 0
1,3-Dichloropropane	18.61	2.0	µg∕L	20	0	93	75	120	· 0
Tetrachloroethene	19.44	2.0	μg/L	20	0	97.2	1	125	. 0
Dibromochloromethane	18.41	2.0	µg/L	20	0	92	89	113	. 0
Chlorobenzene	18.82	2.0	hg/L	20	0	94.1	62	120	
1,1,1,2-Tetrachloroethane	18.71	2.0	μg⁄L	50	0	93.6	23	118	
Ethylbenzene	19.26	2.0	ng/L	20	0	96.3	75	127	. 0
m.p-Xylene	37.07	2.0	hg∕L	40	0	92.7	73	131	0
o-Xylene	18.93	2.0	µg/L	20	0	94.6	73	133	. 0
Styrene	19.6	2.0	μg/L	50	0	86	69	<u> 45</u>	. 0
Вготобот	14.39	2.0	µg/L	20	0	72	5	112	
isopropylbenzene	17.82	2.0	µg/L	20	0	89.1	89	128	
1,1,2,2-Tetrachloroethane	19.12	2.0	µg/L	20	0	92.6	99	121	. 0
1,2,3-Trichloropropane	21.73	2.0	рg/L	20	0	109	29	125	. 0
Bromobenzene	17.56	2.0	µg/L	20	0	87.8	75	120	. 0
n-Propylbenzene	18.32	2.0	hg/L	20	0	91.6	99	131	0
Qualifiers: ND - Not Detected at the Reporting Limit	porting Limit	S		- Spike Recovery outside accepted recovery limits	recovery I		3 - Analyte de	tected in the as	B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits	uantitation limits	~	- 4	- RPD outside accepted recovery limits	nits		A Management	tout to make a fi	e e
RL - Reporting Limit: defined as the lowest concentration th	ed as the lowest or	th notite that	•			-	iddir ion - V	capic where J	IAA - NOU Applicable Where J Values of NLJ results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

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CLIENT: GEI Con Work Order: 1708044	GEI Consultants, Inc. 1708044								QC SUMMARY REPORT
Project: 170039	1700396 MPA Berth 10 Final Design	Design		i					Laboratory Control Spike
2-Chiorotoluene	18.49	2.0	J/grl	8	0	92.5	89	123	0
4-Chlorotoluene	18.34	2.0	µg/L	20	0	91.7	69	124	. 0
1,3,5-Trimethylbenzene	18.58	2.0	µg/L	20	0	92.9	89	130	• •
tert-Butylbenzene	18.25	2.0	µg/L	20	0	91.2	29	129	• 0
1,2,4-Trimethylbenzene	18.41	2.0	µg/L	20	0	95	69	132	0
sec-Butylbenzene	17.76	2.0	µg/L	20	0	88.8	62	136	0
4-isopropyltoluene	18.06	2.0	µ9/L	20	0	90.3	65	137	0
1,3-Dichlorobenzene	19	2.0	µg/L	20	0	92	71	126	0
1,4-Dichlorobenzene	18.02	2.0	µg/L	20	0	90.1	22	123	• •
n-Butylbenzene	18.38	2.0	µ9/L	20	0	91.9	8	138	. 0
1,2-Dichlorobenzene	19.51	2.0	µ9/L	20	0	97.6	75	124	
1,2-Dibromo-3-chloropropane	22.54	5.0	µg/L	20	0	113	84	130	
1,2,4-Trichlorobenzene	22.62	2.0	μg/L	20	0	113	61	141	0
Hexachlorobutadiene	20.76	2.0	µ9∕L	20	0	104	45	154	
Naphthalene	21.37	5.0	µg/L	20	0	107	41	143	0
1,2,3-Trichlorobenzene	20.95	2.0	µg∕L	20	0	105	9	152	•
1,3,5-Trichlorobenzene	17.95	2.0	пgЛ	20	0	83.8	47	155	0
Surr. Dibromofluoromethane	e 26.49	2.0	иg/L	25	0	901	74	138	0
Surr. 1,2-Dichloroethane-d4	1 26.78	2.0	µg/L	25	0	107	\$	138	0
Surr. Toluene-d8	27.73	2.0	иgЛ	25	0	=======================================	11	128	0
Surr. 4-Bromofluorobenzene	e 24.82	2.0	hgvL	25	0	99.3	8	113	0

S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank	very limits NA - Not annitrable where I values or ND escutes account	
it S - Spike Recovery outside acc	R - RPD outside accepted recovery limits	lowest concentration the laboratory can accurately quantitate
Qualifiers: ND - Not Detected at the Reporting Limit	J - Analyte detected below quantitation limits	RL - Reporting Limit; defined as the lowest concer
Qualifiers:		

GEI Consultants, Inc. CLIENT:

1708044 Work Order:

Project:

1700396 MPA Berth 10 Final Design

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Date: 25-Sep-17

Laboratory Control Spike Duplicate

Sample ID: Icso-09/05/17	Batch ID: R59921	Test Cod	de: SW8260C	Units: µg/L	g/L		Analysis D	ate: 9/5/201	Analysis Date: 9/5/2017 11:53:00 AM	Prep Date	Prep Date: 9/5/2017	
Client ID:		Run 10:	V-3_170905A	05A			SeqNo:	1005279		,		
	QC Sample			QC Spike Original Sample	ginal Sample			J	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
1,4-Dioxane	135.8	20	ц9/L	92	0	136	99	172	136	0.184	2	Ī
Dichlorodifluoromethane	29.66	5.0	J6d	8	0	148	6	158	27.36	8.07	2 8	
Chloromethane	23.28	2.0	μg/L	20	0	116	.	4	22.22	4.66	3 8	
Vinyi chloride	22.78	2.0	μg/L	20	0	114	45	140	24.23	6.17	3 8	
Chloroethane	25.83	5.0	µ9/L	20	0	129	4	140	22.54	13.6	3 8	
Bromomethane	29.08	2.0	µ9∕l.	70	0	145	8	149	27.66	5.01	20	
Trichlorofluoromethane	32.64	2.0	µg/L	20	0	163	7	154	31.65	3.08	3 8	U,
Diethyl ether	25.8	5.0	иg/L	20	0	129	99	142	24.83	3.83	2)
Acetone	49.99	5	μg/L	40	0	125	2	179	45.62	9.14	20	
1,1-Dichloroethene	25.03	0.	µg/L	20	0	125	69	152	24.66	1.49	2 2	
Carbon disulfide	16.21	2.0	µg/L	20	0	20	42	149	16.59	232	3 1	
Methylene chloride	29.15	5.0	J/Grl	29	0	146	69	159	25.37	13.9	2 2	
Methyl tert-butyl ether	24.9	2.0	µg∕L	50	0	125	29	1	24.93	0.12	: 2	
trans-1,2-Dichloroethene	23.11	2.0	µg/L	50	0	116	73	149	22.4	3.12	2	
1,1-Dichloroethane	24.54	2.0	µg/L	20	0	123	74	147	23.9	2.64	2	
Tertiary Butanol	276.6	70	µg/L	200	0	138	43	162	240.1	14.2	20	
2-Butanone	46.38	10	μg/L	40	0	116	16	16	98	25.2	20	œ
Diisopropyl ether	25.61	2.0	μg/L	8	0	128	63	149	24.1	90.9	70	:
2,2-Dichloropropane	24.37	2.0	µg/L	20	0	122	89	166	27.4	11.7	20	
cis-1,2-Dichloroethene	24.69	2.0	µg/L	20	0	123	74	141	24.51	0.732	2	
Ethyl Tertiary Butyl Ether	24.04	2.0	µ9∕L	20	0	120	2	148	23.1	3.99	8	
Chloroform	24.18	2.0	μg/L	20	0	121	72	137	24.3	0.495	2 2	
Tetrahydrofuran	25.22	9	µg/L	20	0	126	53	149	23.98	5.04	2	
Bromochloromethane	24.1	2.0	µ9/L	20	0	120	92	145	24.09	0.0415	2	
1,1,1-Trichloroethane	25.53	2.0	pg/L	20	0	128	92	138	25.29	0.945	20	
Qualifiers: ND - Not Detected	ND - Not Detected at the Reporting Limit	S		- Spike Recovery outside accepted recovery limits	pted recovery	limits	B - Analyte	detected in t	B - Analyte detected in the associated Method Blank	od Blank		
J - Analyte detecte	J - Analyte detected below quantitation limits	~		- RPD outside accepted recovery limits	ery limits		MA Mot	national language	NA - Not confident to make a function of the contract of the c	•		
							551151	PUISAUIC WIR		CSUITS OCCUR		

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AMRO Environmental Laboratories Corp.

Work Order: 1708044 Project: 1700396 1,1-Dichloropropene Carbon tetrachloride 1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Amyl Methyl Ether	1708044 1700396 MPA Berth 10 Final Design 24.15 2.0 24.84 2.0 24.95 2.0 20.59 1.0 24.75 2.0	Design						<u> </u>	OC SUMMARY REPORT	MARY I	REPOF	L
ide ide that	396 MPA Berth 10 Final I 24.15 24.95 20.59 24.75	Design						101	i]
1,1-Dichloropropene Carbon tetrachloride 1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Amyl Methyl Ether	24.15 24.84 24.95 20.59 24.75							Ē	Laboratory Control Spike Duplicate	ntrol Spik	e Duplic	ate
Carbon tetrachloride 1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Amyl Methyl Ether	24.84 24.95 20.59 24.75	2.0	рgЛ	20	°	121	74	138	22.61	6.59	20	
1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Arnyl Methyl Ether	24.95 20.59 24.75	2.0	µ9/L	20	0	124	2	138	25.19	4.1	20	
Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Amyl Methyl Ether	20.59 24.75 24.84	2.0	µ9⁄L	20	0	125	74	2	23.09	7.74	2	
Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Arnyl Methyl Ether	24.75	1.0	μg/L	20	0	103	69	148	20.04	2.71	20	
1,2-Dichtoropropane Bromodichtoromethane Dibromomethane Tertiary Amyl Methyl Ether	24 B1	2.0	μg/L	20	0	124	74	136	23.85	3.7	20	
Bromodichloromethane Dibromomethane Tertiary Amvi Methyl Ether	10:17	2.0	µ9∕L	20	0	124	72	137	23.71	4.53	20	
Dibromomethane Tertiary Amvi Methyl Ether	27.66	2.0	μg/L	8	0	138	74	137	25.78	7.04	50	S
Tertiary Amyi Methyl Ether	25.12	2.0	иgЛ	20	0	126	75	129	23.17	8.08	20)
	21.37	2.0	иgЛ	23	0	107	72	146	21.27	0.469	8	
4-Methyl-2-pentanone	50.5	5	µ9/L	40	0	126	49	138	44.61	12.4	50	
cis-1,3-Dichloropropene	24.67	1.0	μg/L	20	0	123	72	134	23.25	5.93	50	
Toluene	25.78	2.0	μg/L	20	0	129	75	139	23.76	8.16	8	
trans-1,3-Dichloropropene	24.9	1.0	μg/L	20	0	125	2	132	23.01	7.89	50	
1,1,2-Trichloroethane	25.8	2.0	µg/L	20	0	129	23	138	24.16	6.57	70	
1,2-Dibromoethane	25.38	2.0	µg∕L	20	0	127	72	136	22.55	11.8	70	
2-Hexanone	37.52	6	hg∕L	40	0	93.8	35	138	34.43	8.59	20	
1.3-Dichloropropane	18.28	2.0	μg/L	20	0	91.4	75	120	18.61	1.79	20	
Tetrachloroethene	19.1	2.0	μg/L	20	0	95.5	11	125	19.44	1.76	20	
Dibromochloromethane	17.94	2.0	µ9/L	20	0	89.7	89	113	18.41	2.59	20	
Chlorobenzene	18.3	2.0	μg⁄L	20	0	91.5	79	120	18.82	2.8	20	
1,1,1,2-Tetrachloroethane	18.4	2.0	hg/L	20	0	95	73	118	18.71	1.67	20	
Ethylbenzene	18.73	2.0	µg/L	20	0	93.6	75	127	19.26	2.79	29	
m,p-Xylene	35.97	2.0	µ9⁄L	40	0	89.9	73	131	37.07	3.01	20	
o-Xylene	18.26	2.0	µ9/L	20	0	91.3	73	133	18.93	3.6	20	
Styrene	19.31	2.0	µg/L	20	0	96.6	69	134	19.6	1.49	2	
Bromoform	14.67	2.0	µg/L	20	0	73.4	51	112	14.39	1.93	70	
Isopropylbenzene	17.01	2.0	µg/L	20	0	89	89	128	17.82	4.65	20	
1.1,2,2-Tetrachloroethane	19.27	2.0	µ9∕L	20	0	96.4	39	121	19.12	0.781	20	
1,2,3-Trichloropropane	14.35	2.0	μg/L	20	0	71.8	29	125	21.73	40.9	20	œ
Bromobenzene	17.1	2.0	µg∕L	20	0	85.5	75	120	17.56	2.65	8	
n-Propylbenzene	16.88	2.0	µg∕l.	20	0	84.4	99	131	18.32	8.18	20	
Qualifiers: ND - Not Dete	ND - Not Detected at the Reporting Limit		S - Spike Recove	S - Spike Recovery outside accepted recovery limits	d recovery lim		3 - Analyte de	etected in the a	B - Analyte detected in the associated Method Blank	Blank		i
J - Analyte det	J - Analyte detected below quantitation limits		R - RPD outside	R - RPD outside accented recovery limits	limits			:	!	,		
DÎ . Description	DI . Donneting & imit. Angland on the land	1					AA - Not app	Icable where J	NA - Not applicable where J values or ND results occur	ults occur		

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT: Work Order:	GEI Consultants, Inc. 1708044									QC SUMMARY REPORT	MARY F	REPORT
Project:	1700396 MPA Berth 10 Final Design	h 10 Final D	esign	Ī					Lab	aboratory Control Spike Duplicate	ntrol Spike	Duplicate
2-Chlorotoluene		17.82	2.0	hg/L	20	0	89.1	88	123	18.49	3.69	28
4-Chlorotoluene		18.27	2.0	µ9/L	50	0	91.4	69	124	18.34	0.382	20 20
1,3,5-Trimethylbenzene	ene	18.24	2.0	µg/L	20	0	91.2	89	130	18.58	1.85	30 30
tert-Butylbenzene		18.08	2.0	µg/L	20	0	90.4	29	129	18.25	0.936	50
1,2,4-Trimethylbenzene	ene	18.36	2.0	μg/L	20	0	91.8	69	132	18.41	0.272	20
sec-Butylbenzene		17.5	2.0	иg/L	20	0	87.5	62	136	17.76	1.47	20
4-Isopropyltoluene		18.06	2.0	иgЛ	20	0	90.3	65	137	18.06	0	20
1,3-Dichlorobenzene	a	18.48	2.0	₽g∕L	20	0	92.4	7	126	19	2.77	20
1,4-Dichlorobenzene	o	17.94	2.0	иgЛ	20	0	89.7	72	123	18.02	0.445	20
n-Butylbenzene		18.14	2.0	иg/L	20	0	20.7	2	138	18.38	1.31	70
1,2-Dichlorobenzene	œ	18.84	2.0	μg/L	20	0	94.2	75	124	19.51	3.49	20
1,2-Dibromo-3-chloropropane	opropane	24	5.0	рgЛ	20	0	120	48	130	22.54	6.27	20
1,2,4-Trichlorobenzene	ene	22.35	2.0	μg/L	20	0	112	5	141	22.62	1.2	20
Hexachlorobutadiene	c	20.36	2.0	μg/L	20	0	102	45	154	20.76	1.95	20
Naphthalene		21.09	5.0	µg/L	20	0	105	41	143	21.37	1.32	20
1,2,3-Trichlorobenzene	ane	21.06	2.0	µg/L	20	0	105	9	152	20.95	0.524	20
1,3,5-Trichlorobenzene	ene.	18.11	2.0	μg/L	20	0	90.6	47	155	17.95	0.887	20
Surr. Dibromofluoromethane	nomethane	28.47	2.0	μg/L	25	0	114	74	138	0	0	0
Surr. 1,2-Dichloroethane-d4	ethane-d4	28.47	2.0	ндуг	25	0	114	8	138	0	0	0
Surr. Toluene-d8		30.05	2.0	иg/L	25	0	120	11	128	0	0	0
Surr. 4-Bromofluorobenzene	mbenzene	25.17	5.0	µg/L	25	0	1 0	8	113	0	0	0
		:	ì	r p	3	>	-	5	2		>	> >

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

B - Analyte detected in the associated Method Blank

NA - Not applicable where J values or ND results occur

Date: 25-Sep-17

Ö Sample Matrix Spike **QC SUMMARY REPORT** Prep Date: 8/30/2017 %RPD RPDLimit B - Analyte detected in the associated Method Blank Original Sample or MS Result Analysis Date: 9/5/2017 8:20:00 PM 1005276 HighLimit 55 147 99 161 56 5 4 158 58 49 \$ 56 55 49 157 161 147 55 157 152 LowLimit 55 73 8 2 2 4 2 5 8 8 2 8 4 67 Result %REC 128 48 126 152 126 122 121 123 82.4 ₹ 123 124 123 127 110 8 29 8 S - Spike Recovery outside accepted recovery limits QC Spike Original Sample R - RPD outside accepted recovery limits Units: pg/L 2000 Amount 28 28 200 200 28 200 200 200 8 200 888 V-3_170905A Test Code: SW8260C Units hg/L 19/L µg/L Б μğγ лgу 절 μg/L иgЛ рg µg∕L rg/L Hg/L J/grl Jg/J рg μgγ μg 평 ъgЛ рgЛ 절 Run ID: 222222 8 5 22222 쩌 1700396 MPA Berth 10 Final Design J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Batch ID: R59921 Result 252.8 252.5 303.5 241.2 246.8 288.9 246.5 247.6 QC Sample 243.9 502.3 246.2 164.7 2532 258.6 295.7 439.1 243.2 218.5 218.8 250.5 282.7 272 GEI Consultants, Inc. 1708044 Sample ID: 1708044-01AMS Client ID: 1700396-WE-2 trans-1,2-Dichloroethene Dichlorodifluoromethane Ethyl Tertiary Butyl Ether richlorofluoromethane cis-1,2-Dichloroethene Methyl tert-butyl ether Bromochioromethane 1,1,1-Trichloroethane 2,2-Dichloropropane 1-Dichloroethene Methylene chloride 1,1-Dichloroethane Disopropyl ether Work Order: Carbon disulfide **Fertiary Butanol** Bromomethane **Tetrahydrofuran** Chloromethane Chloroethane Vinyl chloride **Diethyl ether CLIENT:** 1,4-Dioxane Qualifiers: 2-Butanone Chloroform Project: \cetone Analyte

NA - Not applicable where J values or ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

GEI Consultants, Inc. CLIENT:

Date: 25-Sep-17

CLIENT:	GEI Consultants, Inc.							0	OC SUMMARY REPORT	ORT
Work Order:	1/08044							,		:
Project:	1700396 MPA Berth 10 Final Design	inal Design							Sample Matrix	Spike
1,1-Dichlompropene	me 252.8	20	hgy	200	٥	126	72	150	0	İ
Carbon tetrachloride	ide 259.9	20	μg/L	200	0	130	89	152	0	
1,2-Dichloroethane	e 242	20	µg/L	200	0	121	62	140	0	
Вепzепе	249.1	10	μg/L	200	0	125	99	153	0	
Trichloroethene	254.1	20	µg/L	200	0	127	83	152	0	
1,2-Dichloropropane	243.5	20	μg/L	200	0	122	88	145	0	
Bromodichloromethane	thane 274.7	20	µ9/L	200	0	137	7	142	0	
Dibromomethane	250.7	20	рgЛ	200	0	125	89	136	0	
Tertiary Amyl Methyl Ether	hyl Ether 226.4	20	pg/L	200	0	113	29	143	0	
4-Methyl-2-pentanone	10ne 473.6	100	μg/L	400	0	118	31	4	0	
cis-1,3-Dichloropropene	opene 239.6	10	μg/L	200	0	120	29	140	0	
Toluene	259.9	20	рФL	200	0	130	92	155	0	
trans-1,3-Dichloropropene	propene 231.1	10	µg/L	200	0	116	25	133	0	
1,1,2-Trichloroethane	ane 256.4	20	рgЛ	200	0	128	69	142	0	
1,2-Dibromoethane	e 252.6	20	µg/L	200	0	126	89	138	0	
2-Hexanone	346	100	µg/L	400	0	86.5	20	136	0	
1,3-Dichloropropane	179.9	20	μg/L	200	0	8	2	126	0	
Tetrachiomethene	215.2	20	μg/L	200	0	108	62	141	0	
Dibromochloromethane		20	μg/L	200	0	97.8	2	118	0	
Chlorobenzene	192.5	20	μg/L	200	0	96.2	75	128	0	
1,1,1,2-Tetrachloroethane	oethane 191.4	20	hg∕L	200	0	95.7	89	124	0	
Ethylbenzene	200.7	20	µg/L	200	0	100	89	138	0	
m.p-Xylene	396.3	20	μg/L	400	0	99.1	65	141	0	
o-Xylene	195.4	20	µg/L	200	0	7.76	89	140	0	
Styrene	205.3	20	µg/L	200	0	103	62	4	0	
Вготобот	151	20	µg∕l.	200	0	75.5	4	112	0	
Isopropylbenzene	175.1	20	µg/L	200	0	87.6	83	139	0	
1,1,2,2-Tetrachloroethane	oethane 183.6	20	rig/L	200	0	91.8	20	130	0	
1,2,3-Trichloropropane	pane 175.3	20	μg/L	200	0	97.6	45	130	0	
Bromobenzene	168	20	μg/L	200	0	84	72	124	0	
n-Propylbenzene	182.4	2	hg/L	200	0	91.2	29	138	0	
Qualifiers: ND	ND - Not Detected at the Reporting Limit	=	S - Spike Recov	S - Spike Recovery outside accepted recovery limits	ecovery lin		- Analyte de	lected in the ass	B - Analyte detected in the associated Method Blank	
)-í	J - Analyte detected below quantitation limits	imits	R - RPD outside	R - RPD outside accepted recovery limits	nits	7	A - Not soul	nahla mhara I w	NA . Not annijentile when I malues as ND monde.	
ī	R1 Reporting 1 imit: defined as the lowest	i turi como turi	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			1	14 - 1101 app	Caute wildie J v	alucs of Ive results occur	

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

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CLIENT: GEI Consultants, Inc. Work Order: 1708044 Project: 1700396 MPA Berth	GEI Consultants, Inc. 1708044 1700396 MPA Berth 10 Final Design	Design		{ -					QC SUMMARY REPORT Sample Matrix Spike
2-Chlorotoluene	180.7	82	µ9/L	200	•	90.4	69	125	
4-Chlorotoluene	183.3	20	µg/L	200	0	91.7	2	125	. 0
1,3,5-Trimethylbenzene	191.2	20	µg/L	200	0	95.6	99	2	0
tert-Butylbenzene	167.9	8	µg/L	200	0	8	65	136	0
1,2,4-Trimethylbenzene	188	8	иg/L	200	0	94	83	139	0
sec-Butylbenzene	186.3	20	µg/L	200	0	93.2	29	4	0
4-IsopropyItoluene	191.2	20	µg/L	200	0	95.6	83	142	0
1,3-Dichlorobenzene	181.1	20	µg/L	200	0	90.6	89	129	0
1,4-Dichlorobenzene	175.6	20	идуг	200	0	87.8	69	127	0
n-Butylbenzene	203.6	8	иg/L	200	0	102	8	142	0
1,2-Dichlorobenzene	193	8	µg/L	200	0	96.5	73	127	0
1,2-Dibromo-3-chloropropane	208.8	20	μg/L	200	0	40	ਲ	131	0
1,2,4-Trichlorobenzene	227	23	µg/L	200	0	114	51	135	0
Hexachlorobutadiene	204.1	20	µ9/L	200	0	102	38	151	0
Naphthalene	213	20	μg/L	200	0	106	23	140	0
1,2,3-Trichlorobenzene	207.2	20	µg/L	200	0	5	23	142	0
1,3,5-Trichlorobenzene	181.1	70	µg/L	200	0	90.6	48	147	0
Surt. Dibromofluoromethane	297.2	20	µ9/L	250	0	119	74	138	0
Surr: 1,2-Dichloroethane-d4	265.4	20	µg/L	250	0	106	2	138	0
Surr: Toluene-d8	286.8	20	µg/L	250	0	115	11	128	0
Surr. 4-Bromofluorobenzene	251.8	20	µ9/L	250	0	101	8	113	0

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

Project: 1700396 MPA Berth 10 Final Design

Date: 25-Sep-17

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Cleant ID:	Sample ID: 1708044-01AMSD	Batch ID: R59921	Test Code	Test Code: SW8260C	Units: µg/L			Analysis D	ate: 9/5/201	Analysis Date: 9/5/2017 8:55:00 PM	Prep Date	Prep Date: 8/30/2017	
CC Sample R. Units Amount Result %REC LowInnit HighIL Init OMS Result %RPD RPDLinit COS Sample R. Units Amount Result %RPD COS Sample COS Sa			Run ID:	V-3_170905	4			SeqNo:	1005277				
Part		QC Sample		Õ	C Spike Origina	al Sample			Ü	Original Sample			
1284 500 light 1000 0 128 27 171 1331 514 2065 50 light 200 103 10 175 2528 202 244.3 20 light 200 0 112 36 189 256 173 36 189 256 189 189 256 189 20 189 189 256 189 189 256 189 189 256 189 189 256 189 189 256 189	halyte	Result	궚		Amount	Result	%REC	LowLimit	- 12	or MS Result	%RPD	RPDLimit	Ö
106.5 50 μg/L 200 103 10 175 252.8 202.8 202.9 112 31 160 255 129 202.9 112 31 160 255 129 129 202.9 112 31 160 255 129	,4-Dioxane	1264	200	иg/L	1000	٥	126	22	171	1331	5.14	29	
224 20 μg/L 200 0 112 31 160 256 12.9 244.3 20 μg/L 200 0 122 44 155 243.9 0.164 244.4 20 μg/L 200 0 122 44 157 222.9 3.6 159 244.4 20 μg/L 200 0 122 44 157 222.9 3.6 154 244.4 20 μg/L 200 0 123 49 157 222.9 3.26 566.9 μg/L 200 0 123 59 147 241.2 221.9 246.1 50 μg/L 200 0 123 59 147 241.2 20.1 164.2 20 μg/L 200 0 127 45 161 246.9 3.07 164.2 20 μg/L 200 0 127 45 166 124.9 3.07 245.5 20 μg/L 200 0 127 45 169 166 167 3.03 245.5 20 μg/L 200 0 120 147 69 170 389.9 192 245.5 20 μg/L 200 0 120 147 69 170 288.9 192 252.2 20 μg/L 200 0 126 44 149 159 247.5 0.062 445.6 100 μg/L 200 0 126 44 149 129 245.5 0.063 252.3 20 μg/L 200 0 126 44 149 129 245.5 0.063 252.3 20 μg/L 200 0 126 44 149 253.2 0.063 252.3 20 μg/L 200 0 126 44 149 250.5 0.063 252.3 20 μg/L 200 0 126 44 149 250.5 0.063 252.3 20 μg/L 200 0 126 64 155 283.2 0.063 252.3 20 μg/L 200 0 126 64 155 283.2 244 252.3 20 μg/L 200 0 126 64 155 283.2 243 252.3 20 μg/L 200 0 126 64 155 283.2 243 252.3 20 μg/L 200 0 126 64 155 283.2 243 252.3 20 μg/L 200 0 126 64 155 283.2 243 252.3 20 μg/L 200 0 126 64 155 283.3 3.28 252.3 20 μg/L 200 0 126 64 155 283.3 3.28 252.3 20 μg/L 200 0 126 64 155 283.3 3.28 252.3 20 μg/L 200 0 126 64 155 283.3 3.28 252.3 20 μg/L 200 0 126 64 155 283.3 3.28 252.3 20 μg/L 200 0 126 64 155 283.3 3.28 252.3 20 μg/L 200 0 126 64 155 283.3 3.28 252.3 20 μg/L 200 0 126 64 155 283.3 3.28 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.28 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.28 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.28 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.28 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.28 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 3 2 2 μg/L 200 0 126 64 155 283.3 3.38 252.3 3 2 2 μg/L 200	Dichlorodifluoromethane	206.5	20	µg/L	200	0	103	9	175	252.8	20.2	50	œ
244.3 20 µg/L 200 0 122 36 159 243.9 0.164 243.3 50 µg/L 200 0 122 44 155 255.5 19.4 243.3 50 µg/L 200 0 142 44 155 255.5 19.4 291.3 20 µg/L 200 0 146 60 170 303.5 4.1 291.4 50 µg/L 200 0 146 60 170 303.5 4.1 256.9 100 µg/L 200 0 177 10 166 560.3 0.912 254.5 10 µg/L 200 0 177 10 166 560.3 0.912 254.5 10 µg/L 200 0 177 10 166 560.3 0.912 240.9 20 µg/L 200 0 177 10 168 169 0.92 255.0 1 µg/L 200 0 177 10 168 169 0.92 255.0 1 µg/L 200 0 170 170 170 188 169 1.92 255.0 1 µg/L 200 0 1 170 189 170 188 1.92 255.0 1 µg/L 200 0 1 170 189 170 188 1.92 255.1 20 µg/L 200 0 1 170 189 170 188 1.92 255.1 20 µg/L 200 0 1 170 170 189 1.92 255.1 20 µg/L 200 0 1 170 170 189 1.92 255.2 20 µg/L 200 0 1 170 170 189 1.92 255.3 20 µg/L 200 0 1 170 170 189 1.92 255.3 20 µg/L 200 0 1 170 170 189 1.92 255.3 20 µg/L 200 0 1 170 170 189 1.92 255.3 20 µg/L 200 0 1 170 170 189 1.92 255.3 20 µg/L 200 0 1 170 170 189 1.92 255.3 20 µg/L 200 0 1 170 170 189 1.92 255.3 20 µg/L 200 0 1 170 170 189 1.92 256.1 20 µg/L 200 0 1 170 170 189 1.92 257.3 283.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 258.1 20 µg/L 200 0 1 170 189 1.92 259.2 200 189 1.92 259.2 200 189 1.92 250.2 200 189 1.92 250.3 200	Chloromethane	224	70	rlg/L	200	0	112	સ	160	255	12.9	20	
243.3 56 lgl, 200 0 122 44 155 295.7 194 244.4 20 lgl, 200 0 122 44 157 252.5 3.26 244.4 20 lgl, 200 0 127 44 157 252.5 3.26 246.5 1 0 lgl, 200 0 127 10 166 502.3 0.912 256.1 5 10 lgl, 200 0 127 10 166 502.3 0.912 256.5 1 0 lgl, 200 0 127 73 161 246.8 3.07 294.5 20 lgl, 200 0 127 73 161 246.8 3.07 240.9 20 lgl, 200 0 127 73 161 246.8 3.07 245.5 20 lgl, 200 0 127 73 161 246.8 3.07 252.2 20 lgl, 200 0 127 126 126 146 246.5 236 252.2 20 lgl, 200 0 127 126 149 149 246.5 236 252.2 20 lgl, 200 0 127 156 149 149 246.5 236 252.2 30 lgl, 200 0 127 200 0 126 44 149 246.5 241 252.3 20 lgl, 200 0 127 200 0 126 48 149 252.2 241 252.3 20 lgl, 200 0 127 200 0 126 48 149 252.2 241 252.3 20 lgl, 200 0 127 200 0 127 248 245.5 246.5	finyl chloride	244.3	20	µg/L	200	0	122	98	159	243.9	0.164	20	
244.4 20 µg/L 200 0 122 44 157 252.5 3.26 3.26 24.3	Chloroethane	243.3	20	рgЛ	200	0	122	4	155	295.7	19.4	20	
1 291.3 20 μg/L 200 146 60 170 303.5 4.1 246.1 50 μg/L 200 0 123 59 147 241.2 2.01 566.9 100 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 127 73 161 246.8 3.07 294.5 5 μg/L 200 0 127 73 164.7 0.304 294.5 5 μg/L 200 0 127 71 158 246.8 3.07 10 μg/L 200 0 126 44 49 147 246.5 2.3 253.0 20 μg/L 200 0 126 44 149 246.5 2.4 <tr< td=""><td>3romomethane</td><td>244.4</td><td>20</td><td>hg∕L</td><td>200</td><td>0</td><td>122</td><td>4</td><td>157</td><td>252.5</td><td>3.26</td><td>20</td><td></td></tr<>	3romomethane	244.4	20	hg∕L	200	0	122	4	157	252.5	3.26	20	
246.1 50 µg/L 200 0 123 59 147 241.2 2.01 566.9 100 µg/L 400 0 127 10 166 502.3 0.912 256.5 10 µg/L 200 0 127 73 161 246.8 3.07 294.5 20 µg/L 200 0 120 60 144 246.8 3.07 294.5 20 µg/L 200 0 120 60 144 246.8 3.07 240.9 20 µg/L 200 0 120 60 144 246.8 2.3 3.07 10 µg/L 200 0 120 60 144 246.5 2.3 252.2 20 µg/L 200 0 126 44 149 246.5 2.41 252.4 100 µg/L 200 0 126 44 149 248.5<	richlorofluoromethane	291.3	20	μg/L	200	0	146	9	170	303.5	4.1	20	
506.9 100 μg/L 400 0 127 10 166 502.3 0.912 254.5 10 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 147 69 144 246.5 1.32 294.5 20 μg/L 200 0 147 69 144 246.5 2.3 245.5 20 μg/L 200 0 126 71 158 246.5 2.3 2520. 20 μg/L 200 0 126 71 158 246.5 2.3 2520. 20 μg/L 200 0 126 44 149 246.5 2.41 264.8 20 μg/L 200 0 126 44 149 246.5 2.41 265.1 20 μg/L 200 0 126 44 149 3.24 <td>Jiethyl ether</td> <td>246.1</td> <td>20</td> <td>µg/t</td> <td>200</td> <td>0</td> <td>123</td> <td>29</td> <td>147</td> <td>241.2</td> <td>2.01</td> <td>20</td> <td></td>	Jiethyl ether	246.1	20	µg/t	200	0	123	29	147	241.2	2.01	20	
254.5 10 µg/L 200 0 127 73 161 246.8 3.07 164.2 20 µg/L 200 0 62.1 45 156 164.7 0.304 294.5 50 µg/L 200 0 147 69 170 288.9 1.92 246.9 20 µg/L 200 0 120 170 288.9 1.92 252.2 20 µg/L 200 0 126 71 158 247.6 0.882 252.2 20 µg/L 200 0 126 44 149 246.2 2.41 2530 200 µg/L 200 0 126 44 149 246.2 2.41 254.8 20 µg/L 200 0 170 170 164 439.1 1.47 255.3 20 µg/L 200 0 170 170 168 253.2 0.0632 251.4 20 µg/L 200 0 170 169 161 218.5 5.6 252.1 20 µg/L 200 0 170 169 169 147 250.5 0.359 263.2 100 µg/L 200 0 170 169 169 147 250.5 0.359 263.2 100 µg/L 200 0 149 66 155 250.5 0.359 263.2 100 µg/L 200 0 149 67 157 250.5 0.359 263.2 100 µg/L 200 0 149 67 157 250.5 0.359 263.2 100 µg/L 200 0 149 67 157 260.5 0.359 263.2 100 µg/L 200 0 149 67 157 260.5 0.359 263.2 100 µg/L 200 0 149 67 157 260.5 0.359 263.2 100 µg/L 200 0 149 67 157 260.5 0.359 263.2 100 µg/L 200 0 149 67 157 260.5 0.359 263.2 100 µg/L 200 0 149 67 157 260.5 0.359 264 µg/L 200 0 149 67 157 260.5 0.359 265 µg/L 200 0 149 67 157 260.5 0.359 267.9 3.81	Acetone	506.9	8	иg/L	400	0	127	10	166	502.3	0.912	20	
164.2 20 μg/L 200 0 62.1 45 156 164.7 0.304 294.5 50 μg/L 200 0 147 69 170 288.9 1.92 240.9 20 μg/L 200 0 120 60 144 246.5 2.3 240.9 20 μg/L 200 0 120 60 144 246.5 2.3 252.2 20 μg/L 200 0 126 71 158 247.6 0.852 445.6 100 μg/L 200 0 126 71 158 247.6 0.852 253.0 20 μg/L 200 0 126 71 158 247.6 0.852 265.3 20 μg/L 200 0 127 70 156 243.2 4.66 252.3 20 μg/L 200 126 72 49 156 24	.1-Dichloroethene	254.5	1 0	µg∕L	200	0	127	73	161	246.8	3.07	20	
294.5 50 µg/L 200 0 147 69 170 288.9 1.92 240.9 20 µg/L 200 0 120 60 144 246.5 2.3 240.9 20 µg/L 200 0 126 71 158 247.6 0.852 252.2 20 µg/L 200 0 126 71 158 246.5 2.41 253.0 200 µg/L 200 0 126 71 158 246.2 2.41 2445.6 100 µg/L 200 0 126 71 158 243.2 6.0632 2445.6 100 µg/L 200 0 127 70 156 243.2 4.66 252.3 20 µg/L 200 0 127 70 156 243.2 4.66 252.3 20 µg/L 200 0 127 70 156 243.2 4.66 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 252.3 20 µg/L 200 0 126 69 147 250.5 0.359 253.2 100 µg/L 200 0 149 67 150 270 270 258.3 20 µg/L 200 0 140 67 150 270 270 278.3 20 µg/L 200 0 140 67 150 270 270 278.3 20 µg/L 200 0 140 67 150 270 270 278.3 20 µg/L 200 0 140 67 150 270 270 278.3 20 µg/L 200 0 140 67 150 270 270 278.3 3.81 C Detected at the Reporting Limit Sharkhol Blank C PRD outside accepted recovery limits C PRD outside accepted recovery limits C PRD outside accepted recovery limits	arbon disulfide	164.2	20	µ9∕L	200	0	82.1	45	156	164.7	0.304	8	
240.9 20 μg/L 200 120 60 144 246.5 2.3 1e 245.5 20 μg/L 200 0 123 71 158 247.6 0.852 252.2 20 μg/L 200 0 126 71 158 246.2 2.41 253.0 200 μg/L 200 0 126 44 149 253.2 0.0632 254.8 20 μg/L 200 0 171 12 164 439.1 1.47 254.8 20 μg/L 200 0 127 70 156 243.2 4.66 256.3 20 μg/L 200 0 127 70 156 243.2 4.66 252.3 2 μg/L 200 0 127 70 156 258.6 2.47 252.3 2 μg/L 200 0 126 66 156 218.8	Methylene chloride	294.5	20	μg/L	200	0	147	69	170	288.9	1.92	20	
1e 245.5 20 µg/L 200 0 123 71 158 247.6 0.852 252.2 20 µg/L 200 0 126 71 158 246.2 2.41 253.0 200 µg/L 200 0 126 44 149 2532 0.0632 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 256.8 20 µg/L 200 0 127 70 156 243.2 4.66 256.1 20 µg/L 200 0 126 66 155 258.6 2.47 er 256.1 20 µg/L 200 0 126 66 155 258.6 2.47 er 256.1 20 µg/L 200 0 126 66 155 258.6 2.47 282.1 2 µg/L 20 µg/L 20 <td>Aethyl tert-butyl ether</td> <td>240.9</td> <td>20</td> <td>µ9/L</td> <td>200</td> <td>0</td> <td>120</td> <td>9</td> <td>4</td> <td>246.5</td> <td>2.3</td> <td>20</td> <td></td>	Aethyl tert-butyl ether	240.9	20	µ9/L	200	0	120	9	4	246.5	2.3	20	
252.2 20 µg/L 200 0 126 71 158 246.2 2.41 2530 200 µg/L 2000 0 126 44 149 2532 0.0632 445.6 100 µg/L 2000 0 111 12 164 439.1 1.47 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 µg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 µg/L 200 0 126 66 155 258.6 2.47 251.4 20 µg/L 200 0 126 69 175 250.5 0.359 283.2 100 µg/L 200 0 142 44 149 272 4.03 283.1 20 µg/L 200 0 142 44 149 272 4.03 282.1 20 µg/L 200 0 140 67 157 267.9 3.81 4 Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits A Manalyte detected in the associated Method Blank A Manalyte detected in the associated Method Blank	rans-1,2-Dichloroethene	245.5	20	µ9∕L	200	0	123	7	158	247.6	0.852	8	
2530 200 µg/L 2000 0 126 44 149 2532 0.0632 445.6 100 µg/L 400 0 111 12 164 439.1 1.47 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 255.3 20 µg/L 200 0 126 66 155 258.6 2.47 255.1 20 µg/L 200 0 126 66 155 258.6 2.47 255.1 20 µg/L 200 0 126 69 147 250.5 0.359 251.4 20 µg/L 200 0 142 64 155 218.8 3.28 253.2 100 µg/L 200 0 141 67 157 250.5 0.359 282.1 20 µg/L 200 0 141 67 157 282.7 0.212 278.3 20 µg/L 200 0 141 67 157 282.7 0.212 278.3 20 µg/L 200 0 139 70 152 267.9 3.81 4 Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits As Arabite detected in the associated Method Blank	,1-Dichloroethane	252.2	20	µ9∕L	200	0	126	71	158	246.2	2.41	8	
445.6 100 µg/L 400 0 111 12 164 439.1 1.47 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 206.6 20 µg/L 200 0 103 48 161 218.5 5.6 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 µg/L 200 0 126 69 147 250.5 0.359 283.2 100 µg/L 200 0 126 69 147 250.5 0.359 283.1 10 µg/L 200 0 142 44 149 272 4.03 282.1 20 µg/L 200 0 139 70 157 267.9 3.81 1 Detected at the Reporting Limit R - RPD outside accepted recovery limits Analyte detected in the associated Method Bla	ertiary Butanol	2530	200	µg∕L	2000	0	126	4	149	2532	0.0632	8	
254.8 20 μg/L 200 0 127 70 156 243.2 4.66 206.6 20 μg/L 200 0 103 48 161 218.5 5.6 252.3 20 μg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 μg/L 200 0 126 69 147 250.5 0.359 283.2 100 μg/L 200 0 142 44 149 272 4.03 282.1 20 μg/L 200 0 141 67 157 282.7 0.212 278.3 2 μg/L 200 0 139 70 152 267.9 3.81 A detected below quantitation limits R - RPD outside accepted recovery limits MA Analyte detected in the associated Method Blank	-Butanone	445.6	100	µ9∕L	400	0	111	12	2	439.1	1.47	20	
206.6 20 μg/L 200 0 103 48 161 218.5 5.6 252.3 20 μg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 μg/L 200 0 113 64 155 218.8 3.28 251.4 20 μg/L 200 0 142 44 149 272 4.03 282.1 20 μg/L 200 0 141 67 157 282.7 0.212 278.3 20 μg/L 200 0 139 70 152 267.9 3.81 t Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank	Diisopropyl ether	254.8	20	μg⁄L	200	0	127	2	156	243.2	4.66	8	
er 252.3 20 μg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 μg/L 200 0 126 69 147 250.5 0.359 283.2 100 μg/L 200 0 142 44 149 272 4.03 282.1 20 μg/L 200 0 141 67 157 282.7 0.212 278.3 20 μg/L 200 0 139 70 152 267.9 3.81 t Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank Ac detected below quantitation limits Ac pow quantitation limits	.,2-Dichloropropane	206.6	20	µ9∕l.	200	0	103	48	161	218.5	5.6	20	
226.1 20 µg/L 200 0 113 64 155 218.8 3.28 251.4 20 µg/L 200 0 126 69 147 250.5 0.359 283.2 100 µg/L 200 0 141 67 157 282.7 0.212 278.3 20 µg/L 200 0 139 70 152 267.9 3.81 Settlice Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank	is-1,2-Dichloroethene	252.3	20	μg/L	200	0	126	99	155	258.6	2.47	20	
251.4 20 µg/L 200 0 126 69 147 250.5 0.359 283.2 100 µg/L 200 0 142 44 149 272 4.03 282.1 20 µg/L 200 0 141 67 157 282.7 0.212 278.3 20 µg/L 200 0 139 70 152 267.9 3.81 ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits R - RPD outside accepted recovery limits	thyl Tertiary Butyl Ether	226.1	20	µg∕L	200	0	113	8	155	218.8	3.28	20	
283.2 100 µg/L 200 0 142 44 149 272 4.03 282.1 20 µg/L 200 0 141 67 157 282.7 0.212 278.3 20 µg/L 200 0 139 70 152 267.9 3.81 of Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank lyte detected below quantitation limits R - RPD outside accepted recovery limits	Shloroform	251.4	20	иg/L	200	0	126	69	147	250.5	0.359	20	
282.1 20 μg/L 200 0 141 67 157 282.7 0.212 278.3 20 μg/L 200 0 139 70 152 267.9 3.81 ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank syte detected below quantitation limits R - RPD outside accepted recovery limits NA No. Michael Conf. 10 Method Blank	etrahydrofuran	283.2	100	µg/L	200	0	142	4	149	272	4.03	20	
ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank R - RPD outside accepted recovery limits	romochloromethane	282.1	20	μg/L	200	0	141	67	157	282.7	0.212	20	
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	,1,1-Trichloroethane	278.3	20	µg/L	200	0	139	2	152	267.9	3.81	20	
R - RPD outside accepted recovery limits		t at the Reporting Limit	S-	Spike Recover	y outside accepte	d recovery	limits	B - Analyt	e detected in 1	the associated Method	od Blank		
	J - Analyte detecte	d below quantitation limits	Ä	RPD outside a	ccepted recovery	limits		MA Mot	that elder the	on I walness on MD a	1		

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

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Work Order:	1708044								COMMENT RELOKI	MAKI	LE ON
Project:	1700396 MPA Berth 10 Final Design	esign							Sample M	atrix Spik	Sample Matrix Spike Duplicate
1,1-Dichloropropene	256.9	20	µg/L	200	0	128	72	150	252.8	1.61	8
Carbon tetrachloride	le 278.6	70	μg/L	200	0	139	99	152	259.9	6.95	20
1,2-Dichloroethane	237.3	20	μg/L	200	0	119	62	140	242	1.96	20
Benzene	251.1	2	μg/L	200	0	126	99	153	249.1	0.8	20
Trichloroethene	255.7	20	μg/L	200	0	128	63	152	254.1	0.628	20
1,2-Dichloropropane	le 248.2	20	μg/L	200	0	124	89	145	243.5	1.91	20
Bromodichloromethane	hane 270.2	8	иgЛ	200	0	135	74	142	274.7	1.65	20
Dibromomethane	254.3	8	µg/L	200	0	127	89	136	250.7	1.43	20
Fertiary Amyl Methyl Ether	yl Ether 231.9	20	μg/L	200	0	116	29	143	226.4	2.4	20
4-Methyl-2-pentanone	one 484.7	5	hg/L	400	0	121	31	1	473.6	2.32	8
cis-1,3-Dichloropropene	pene 243.8	5	µg/L	200	0	122	29	140	239.6	1.74	20
Toluene	272.7	20	µg/L	200	0	136	65	155	259.9	4.81	20
trans-1,3-Dichloropropene	горепе 238.5	5	µg/L	200	0	119	25	133	231.1	3.15	20
1,1,2-Trichloroethane	ne 256.1	20	µ9∕L	200	0	128	69	142	256.4	0.117	20
1,2-Dibromoethane	253.9	20	μg/L	200	0	127	68	138	252.6	0.513	20
2-Hexanone		100	μg/L	400	0	92.7	8	136	346	6.92	20
1,3-Dichloropropane		8	µg/L	200	0	92.9	\$	126	179.9	3.23	20
Tetrachloroethene		20	µ9/L	200	0	105	62	141	215.2	2.21	20
Dibromochloromethane	hane 199.2	20	иgЛ	200	0	9.66	5	118	195.7	1.77	20
Chlorobenzene	198.6	20	µg/L	200	0	99.3	75	128	192.5	3.12	20
1,1,1,2-Tetrachioroethane	ethane 194.1	20	µg∕l.	200	0	97	89	124	191.4	1.4	20
Ethylbenzene	208	20	hg∕L	200	0	104	89	138	200.7	3.57	20
m,p-Xylene	399.5	20	µ9∕L	400	0	99.9	65	141	396.3	0.804	20
o-Xylene	199.7	20	µ9/L	200	0	99.8	89	140	195.4	2.18	20
Styrene	212.6	20	µ9/L	200	0	106	62	1 4	205.3	3.49	20
Вготобот	152.3	8	μg/L	200	0	76.2	4	112	151	0.857	20
Isopropylbenzene	182.9	20	µ9∕L	200	0	91.5	63	139	175.1	4.36	20
1,1,2,2-Tetrachloroethane	ethane 180.1	8	µg∕l.	200	0	6	<u>2</u> 2	130	183.6	1.92	20
1,2,3-Trichloropropane	ane 182.7	8	µg/L	200	0	91.4	45	130	175.3	4.13	20
Bromobenzene	174.5	8	µg/L	200	0	87.2	72	124	168	3.8	20
n-Propylbenzene	191.2	8	hg/L	200	0	92.6	29	138	182.4	4.71	20
Qualifiers: ND-	ND - Not Detected at the Reporting Limit	1	S - Spike Recove	- Spike Recovery outside accepted recovery limits	recovery	Fimits	B - Analyte d	etected in the a	B - Analyte detected in the associated Method Blank	d Blank	
J-A	J - Analyte detected below quantitation limits		R - RPD outside	R - RPD outside accepted recovery limits	imits		NA MA	1		•	
								THE PROPERTY.			

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CLIENT: Work Order: Project:	GEI Consultants, Inc. 1708044 1700396 MPA Berth 10 Final Design	Inc. rth 10 Final De	esign							QC SUMMARY REPORT Sample Matrix Spike Duplicate	TARY R	EPORT Duplicate
2-Chlorotoluene		185.7	20	идуг	200	°	92.8	69	125	180.7	2.73	92
4-Chlorototuene		189.8	8	µ9/L	200	0	94.9	2	125	183.3	3.48	50 20
1,3,5-Trimethylbenzene	ane ane	198	20	µg/L	200	0	66	99	13	191.2	3.49	70
tert-Butylbenzene		173.8	29	нgЛ	200	0	86.9	99	136	167.9	3.45	20
1,2,4-Trimethylbenzene	ane.	198.1	20	μg/L	200	0	66	83	139	188	5.23	20
sec-Butylbenzene		193.4	20	иgЛ	200	0	96.7	62	4	186.3	3.74	20
4-Isopropyltoluene		201.7	20	µg∕L	200	0	5	83	142	191.2	5.34	20
1,3-Dichlorobenzene		188	20	иgЛ	200	0	94	89	129	181.1	3.74	20
1,4-Dichlorobenzene		184.1	20	µg/L	200	0	92	69	127	175.6	4.73	20
n-Butylbenzene		209.5	70	µg/L	200	0	105	2	142	203.6	2.86	20
1,2-Dichlombenzene		199.2	20	μg/L	200	0	9.66	73	127	193	3.16	70
1,2-Dibromo-3-chloropropane	propane	223.1	20	μg/L	200	0	112	ষ্ক	131	208.8	6.62	20
1,2,4-Trichlorobenzene	10	240.6	8	μg/L	200	0	120	5	135	727	5.82	20
Hexachlorobutadiene		231.3	23	µg/L	200	0	116	38	151	204.1	12.5	20
Naphthalene		225.7	20	µg/L	200	0	113	22	140	213	5.79	20
1,2,3-Trichlorobenzene	Je	220.7	20	μg/L	200	0	110	27	142	207.2	6.31	20
1,3,5-Trichlorobenzene	Je	188.7	8	μg/L	200	0	94.4	48	147	181.1	4.11	20
Surr: Dibromofluoromethane	omethane	297.5	20	µg/L	250	0	119	74	138	0	0	0
Surr. 1,2-Dichloroethane-d4	thane-d4	256	70	μg/L	250	0	102	8	138	0	0	0
Surr: Toluene-d8		278.3	20	µg/L	250	0	#	11	128	0	0	0
Surr. 4-Bromofluorobenzene	openzene	255	20	μg/L	250	0	102	18	113	0	0	0

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-WE-2

Lab Order:

1708044

Collection Date: 8/30/2017 10:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-01B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 8270D SEMIVOLATILE ORGANICS		SW8270D	•			Analyst: NS
Phenol	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/5/2017 7:10:00 PM
2-Chlorophenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Benzyl alcohol	ND	21		µg/L	1	9/5/2017 7:10:00 PM
2-Methylphenol	ND	10		μg/L	1	9/5/2017 7:10:00 PM
1,2-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Bis(2-chloroisopropyl)ether	ND	10		μg/L	1	9/5/2017 7:10:00 PM
4-Methylphenol	ND	10		μg/L	1	9/5/2017 7:10:00 PM
N-Nitrosodi-n-propylamine	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Hexachloroethane	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Nitrobenzene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Isophorone	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2,4-Dimethylphenol	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Benzoic acid	ND	21		μg/L	1	9/5/2017 7:10:00 PM
2-Nitrophenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Bis(2-chloroethoxy)methane	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2,4-Dichlorophenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
1,2,4-Trichlorobenzene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Naphthalene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
4-Chloroanlline	ND	10		μ g/L	1	9/5/2017 7:10:00 PM
Hexachlorobutadiene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
4-Chloro-3-methylphenol	ND	21		µg/L	1	9/5/2017 7:10:00 PM
2-Methylnaphthalene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
2-Chloronaphthalene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
2-Nitroaniline	ND	21		μg/L	1	9/5/2017 7:10:00 PM
Dimethyl phthalate	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Acenaphthylene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
3-Nitroaniline	ND	21		µg/L	1	9/5/2017 7:10:00 PM
4-Nitrophenol	ND	21		μg/L	1	9/5/2017 7:10:00 PM
2,4-Dinitrophenol	ND	21		μg/L	1	9/5/2017 7:10:00 PM
Acenaphthene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Dibenzofuran	ND	10		µg/L	1	9/5/2017 7:10:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-WE-2

Lab Order:

1708044

Collection Date: 8/30/2017 10:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-01B

Analyses	Result	RL	Qual U	inits	DF	Date Analyzed
Diethyl phthalate	ND	10	μ	g/L	1	9/5/2017 7:10:00 PM
4-Chlorophenyl phenyl ether	ND	10	μį	g/L	1	9/5/2017 7:10:00 PM
Fluorene	ND	10	μί	g/L	1	9/5/2017 7:10:00 PM
4-Nitroaniline	ND	21	μg	g/L	1	9/5/2017 7:10:00 PM
4,6-Dinitro-2-methylphenol	ND	21	μģ	g/L .	1	9/5/2017 7:10:00 PM
N-Nitrosodiphenylamine	ND	10	μ	g/L	1	9/5/2017 7:10:00 PM
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
4-Bromophenyl phenyl ether	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Hexachlorobenzene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Pentachlorophenol	ND	21	μς	- g/L	1	9/5/2017 7:10:00 PM
Phenanthrene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Anthracene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Carbazole	ND	10	μg	J/L	1	9/5/2017 7:10:00 PM
DI-n-butyl phthalate	ND	10	hõ	g/L	1	9/5/2017 7:10:00 PM
Fluoranthene	ND	10	μς	g/L	1	9/5/2017 7:10:00 PM
Pyrene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Butyl benzyl phthalate	ND	10]/L	1	9/5/2017 7:10:00 PM
Bis(2-ethylhexyl)phthalate	ND	10	hā]/L	1	9/5/2017 7:10:00 PM
3,3'-Dichlorobenzidine	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Benz(a)anthracene	ND	10	μg	3/L	1	9/5/2017 7:10:00 PM
Chrysene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Di-n-octyl phthalate	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Benzo(b)fluoranthene	ND	10	μg	J/L	1	9/5/2017 7:10:00 PM
Benzo(k)fluoranthene	ND	10	μg)/L	1	9/5/2017 7:10:00 PM
Benzo(a)pyrene	ND	10	μg	J/L	1	9/5/2017 7:10:00 PM
Dibenz(a,h)anthracene	ND	10	μg	_J /L	1	9/5/2017 7:10:00 PM
Indeno(1,2,3-cd)pyrene	ND	10	μg	ı/L	1	9/5/2017 7:10:00 PM
Benzo(g,h,i)perylene	ND	10	þд	ı/L	1	9/5/2017 7:10:00 PM
Surr: 2-Fluorophenol	41.2	25-62	%	REC	1	9/5/2017 7:10:00 PM
Surr: Phenol-d5	35.2	13-43	%I	REC	1	9/5/2017 7:10:00 PM
Surr: Nitrobenzene-d5	58.0	36-108	% l	REC	1	9/5/2017 7:10:00 PM
Surr: 2-Fluorobiphenyl	67.0	44-117	%	REC	1	9/5/2017 7:10:00 PM
Surr: 2,4,6-Tribromophenol	89.2	39-131		REC	1	9/5/2017 7:10:00 PM
Surr: 4-Terphenyl-d14	105	44-122	%I	REC	1	9/5/2017 7:10:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-SW-1

Lab Order:

1708044

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-02B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 8270D SEMIVOLATILE ORGANICS	sv	V8270D				Analyst: NS
Phenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2-Chlorophenol	ND	10		µg/L	1	9/5/2017 7:34:00 PM
1,3-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
1,4-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Benzyl alcohol	ND	21		μg/L	1	9/5/2017 7:34:00 PM
2-Methylphenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
1,2-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/5/2017 7:34:00 PM
4-Methylphenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
N-Nitrosodi-n-propylamine	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Hexachloroethane	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Nitrobenzene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Isophorone	ND	10		μg/L	1	9/5/2017 7:34:00 PM
2,4-Dimethylphenol	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzoic acid	ND	21		µg/L	1	9/5/2017 7:34:00 PM
2-Nitrophenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Bis(2-chloroethoxy)methane	ND	10		μg/L	1	9/5/2017 7:34:00 PM
2,4-Dichlorophenot	ND	10		μg/L	1	9/5/2017 7:34:00 PM
1,2,4-Trichlorobenzene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Naphthalene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
4-Chloroaniline	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Hexachlorobutadiene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
4-Chloro-3-methylphenol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
2-Methylnaphthalene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Hexachlorocyclopentadiene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
2,4,6-Trichlorophenoi	ND	10		μg/L	1	9/5/2017 7:34:00 PM
2,4,5-Trichiorophenol	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2-Chloronaphthalene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2-Nitroaniline	ND	21		µg/L	1	9/5/2017 7:34:00 PM
Dimethyl phthalate	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Acenaphthylene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
3-Nitroaniline	ND	21		µg/L	1	9/5/2017 7:34:00 PM
1-Nitrophenol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
2,4-Dinitrophenol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
Acenaphthene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
2,4-Dinitrotoluene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Dibenzofuran	ND	10		µg/L	1	9/5/2017 7:34:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-SW-1

Lab Order:

1708044

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID: 1708044-02B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diethyl phthalate	ND	10		μg/L	1	9/5/2017 7:34:00 PM
4-Chlorophenyl phenyl ether	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Fluorene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
4-Nitroaniline	ND	21		µg/L	1	9/5/2017 7:34:00 PM
4,6-Dinitro-2-methylphenol	ND	21		μg/L	1	9/5/2017 7:34:00 PM
N-Nitrosodiphenylamine	ND	10		μg/L	1	9/5/2017 7:34:00 PM
1,2-Diphenylhydrazine (as Azobenzene)	ND	10		µg/L	1	9/5/2017 7:34:00 PM
4-Bromophenyi phenyi ether	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Hexachlorobenzene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Pentachlorophenol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
Phenanthrene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Anthracene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Carbazole	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Di-n-butyl phthalate	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Fluoranthene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Pyrene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Butyl benzyl phthalate	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/5/2017 7:34:00 PM
3,3 ⁻ -Dichlorobenzidine	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Benz(a)anthracene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Chrysene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Di-n-octyl phthalate	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzo(k)fluoranthene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzo(a)pyrene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Surr: 2-Fluorophenol	51.4	25-62		%REC	1	9/5/2017 7:34:00 PM
Surr: Phenol-d5	44.3	13-43	S	%REC	1	9/5/2017 7:34:00 PM
Surr: Nitrobenzene-d5	73.8	36-108		%REC	1	9/5/2017 7:34:00 PM
Surr: 2-Fluorobiphenyl	79.6	44-117		%REC	1	9/5/2017 7:34:00 PM
Surr: 2,4,6-Tribromophenol	97.8	39-131		%REC	1	9/5/2017 7:34:00 PM
Surr: 4-Terphenyl-d14	119	44-122		%REC	1	9/5/2017 7:34:00 PM

Date: 25-Sep-17

ð Method Blank **QC SUMMARY REPORT** Prep Date: 8/31/2017 %RPD RPDLimit B - Analyte detected in the associated Method Blank or MS Result Original Sample Analysis Date: 9/5/2017 3:27:00 PM 1005222 LowLimit HighLimit SeqNo: Result %REC S - Spike Recovery outside accepted recovery limits QC Spike Original Sample R - RPD outside accepted recovery limits Units: µg/L Amount SV-4_170905A Test Code: SW8270D Units **1**9/L hg/L pg/L µg/L µg/L J/g/I µg/L µg/L hg/L µg/L rg/L J/Gr hg/L rg/L µg/L μg/L μg/ μğ Jg/L Jg/ pg/L ₽g/L Run ID: 20 5 5 5 5 5 5 2 5 9 2 9 9 9 9 5 5 **5 8 5** 700396 MPA Berth 10 Final Design 梪 J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Batch ID: 27476 QC Sample 9 身 2 읒 9 9 Result 身 ð 9 ₽ 읒 9 9 999 9 ₽ GEI Consultants, Inc. 1708044 Bis(2-chloroethoxy)methane Bis(2-chloroisopropyl)ether N-Nitrosodi-n-propylamine 4-Chloro-3-methylphenol Sample ID: MB-27476 1,2,4-Trichlorobenzene Bis(2-chloroethyt)ether 1,2-Dichlorobenzene Hexachlorobutadiene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2-Methylnaphthalene 2,4-Dimethylphenol 2,4-Dichlorophenol Hexachloroethane Work Order: 2-Methylphenol 4-Methylphenol 2-Chlorophenol Benzyl alcohol 4-Chloroaniline Nitrobenzene 2-Nitrophenol Benzoic acid Naphthalene CLIENT: Qualifiers: isophorone Project: Client ID: Analyte Phenol

NA - Not applicable where J values or ND results occur

CLIENT:	GEI Consultants, Inc.	ڹ			TOOGS AND STANKED TO STANKE TO STANK
Work Order:	1708044				QC SUMMARI KEFORI
Project:	1700396 MPA Berth 10 Final Design	th 10 Final Design	_		Method Blank
Hexachlorocyclopentadiene	pentadiene	ND 10	01	µg/L	
2,4,6-Trichlorophenol	enol	NO T	5	hg/L	
2,4,5-Trichlorophenol	enol	NO T	9	µ9/L	
2-Chloronaphthalene	lene	NO T	5	μg/L	
2-Nitroaniline		ND	20	µg/L	
Dimethyl phthalate	te .	12.61	욘	µg/L	
2,6-Dinitrotoluene	ø.	ND A	5	ug/L	
Acenaphthylene		NO T	9	ng/L	
3-Nitroaniline		ND 22	23	hg/L	
4-Nitrophenol		ND 20	20	µg/L	
2,4-Dinitrophenol		ND 2(20	µg/L	
Acenaphthene		ND T	10	µg/L	
2,4-Dinitrotoluene	m	NO ON	10	µg/L	
Dibenzofuran		N N	5	μg/L	
Diethyl phthalate		ND T	10	µg/L	
4-Chlorophenyl phenyl ether	henyl ether	ND 10	9	µg/L	
Fluorene		ON D	유	µg/L	
4-Nitroaniline		ND 20	20	pg/L	
4,6-Dinitro-2-methylphenol	hylphenol	ND 20	20	hg/L	
N-Nitrosodiphenylamine	lamine	ND T	10	µg/L	
1,2-Diphenylhydrazine (as Azobe	azine (as Azobe	N T	10	µg/L	
4-Bromophenyl phenyl ether	henyi ether	ON 5	5	μg/L	
Hexachlorobenzene	ine	ND T	5	µg/L	
Pentachlorophenol		ND 2C	20	µ9/L	
Phenanthrene		ND ON	5	µg/L	
Anthracene		ND T	10	µg/L	
Carbazole		ND D	10	µg/L	
Di-n-butyl phthalate	ıte	ND to	10	μg/L	
Fluoranthene		ND D	10	µg/L	
Pyrene		ND 10	10	µ9/L	
Butyl benzyl phthalate	alate	ND 10	욘	µg/L	
Qualifiers: NE	ND - Not Detected at the Reporting Limit	ting Limit	S	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
-	J - Analyte detected below quantitation limits	titation limits	24	R - RPD outside accepted recovery limits	
2	RI - Reporting I imit defined as the fo	meters former and a	40.00		NA - NOT applicable where J values of NLJ results occur

CLIENT:	GEI Consultants, Inc.	Inc.								
Work Order:	1708044								~	QC SUMMARY REPORT
Project:	1700396 MPA Berth 10 Final Design	rth 10 Final D	esign							Method Blank
Bis(2-ethylhexyl)phthalate	thalate	S	9	γ ₀ γ						
3,3'-Dichlorobenzidine	ine	2	6	ng/L						
Benz(a)anthracene		2	10	µg/L						
Сһлузепе		2	10	µg/L						
Di-n-octyl phthalate		2	우	µg/L						
Benzo(b)fluoranthene	Пе	9	5	μgγ						
Benzo(k)fluoranthene	92	Ö	9	иgЛ						
Benzo(a)pyrene		9	9	µg/L						
Dibenz(a,h)anthracene	ene	N O	9	µg/L						
Indeno(1,2,3-cd)pyrene	ene	Q	5	μg⁄L						
Benzo(g,h,i)perylene	9	Q	5	μg/L						
Surr: 2-Fluorophenol	lons	30.38	1.0	μg/L	75	0	40.5	22	62	0
Surr. Phenol-d5		19.61	1.0	µg/L	75	0	26.1	5	43	0
Surr: Nitrobenzene-d5	ne-d5	35.57	1.0	µg/L	20	0	71.1	36	108	٥
Surr: 2-Fluorobiphenyl	henyl	38.03	1.0	µ9∕L	20	0	76.1	4	117	0
Surr: 2,4,6-Tribromophenol	mophenol	65.83	1.0	иg/L	75	0	87.8	33	131	0
Surr: 4-Terphenyl-d14	Fd14	40.97	1.0	µg/L	20	0	81.9	4	122	0

Qualifiers:

GEI Consultants, Inc. CLIENT:

Date: 25-Sep-17

ğ Laboratory Control Spike Ø **QC SUMMARY REPORT** Prep Date: 8/31/2017 %RPD RPDLimit NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank Original Sample or MS Result Analysis Date: 9/5/2017 3:52:00 PM LowLimit HighLimit 110 \$ Ξ 102 50 118 8 5 61 97 117 8 5 107 £ 5 38 SeqNo: ₹ %REC 80.5 77.8 81.6 58.5 78.1 129 91.8 83.5 88.3 72.2 73.9 26.2 85.3 84.5 64.8 79.1 93.3 85.2 4 8 88.4 S - Spike Recovery outside accepted recovery limits **QC Spike Original Sample** Result R - RPD outside accepted recovery limits Units: µg/L 50 8 ည 50 50 75 75 50 50 50 50 50 50 Amount 75 50 75 SV-4_170905A Test Code: SW8270D hg/L 妈 Ą 현 亨 ug/L ъg μg/L J/Gr Jør rg/L rg/F 죵 졍 БP μgγ µg∕it 퉏 μgγ Б Run 10: 5 5 2 1700396 MPA Berth 10 Final Design 굾 2 I - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Batch ID: 27476 58.57 52.5 QC Sample Result 38.91 40.82 29.27 39.54 64.56 62.93 45.89 41.74 36.08 55.39 19.68 44.14 59.27 42.67 64.52 44.21 42.25 32.4 46.63 63.91 1708044 Bis(2-chloroethoxy)methane 3is(2-chloroisopropyl)ether N-Nitrosodi-n-propylamine 4-Chioro-3-methylphenol Sample ID: LCS-27476 1,2,4-Trichlorobenzene Bis(2-chloroethyl)ether 3-Dichlorobenzene 4-Dichlorobenzene Hexachlorobutadiene 2-Dichlorobenzene 2-Methylnaphthalene 2,4-Dimethylphenol 2,4-Dichlorophenol Hexachloroethane Work Order: 2-Chlorophenol 2-Methylphenol 4-Methylphenol **-Chloroaniline** Benzyl alcohol Nitrobenzene 2-Nitrophenol Benzoic acid Vaphthalene Qualifiers: sophorone Project: Client ID: Analyte Phenol

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CLIENT:	GEI Consultants, Inc.	, Inc.						6			TOOGIC
Work Order:	1708044									C SUMINIAR I	EFORI
Project:	1700396 MPA Berth 10 Final Design	Serth 10 Final D	esign							Laboratory Control Spike	ntrol Spike
Hexachlorocyclopentadiene	entadiene	4.96	10	µ9/L	20	0	9.92	5	91		St.
2,4,6-Trichlorophenol	nol	76.21	10	µ9⁄L	75	0	102	48	129	•	
2,4,5-Trichlorophenol	lou	85.45	10	ng∕L	75	0	114	45	131	0	
2-Chloronaphthalene	Je	50.52	9	µg/L	20	0	101	48	107	0	
2-Nitroaniline		58.75	20	µg/L	20	0	118	4	122	0	
Dimethyl phthalate		67.71	9	µg/L	20	0	135	28	114	0	BS
2,6-Dinitrotoluene		50.91	5	µg/L	20	0	102	22	115	0	
Acenaphthylene		44.96	9	µg/L	50	0	89.9	25	110	0	
3-Nitroaniline		47.31	20	µg/L	20	0	94.6	20	121	0	
4-Nitrophenol		51.98	20	µg/L	75	0	69.3	4	53	0	S
2,4-Dinitrophenol		73.39	20	µg/L	75	0	97.9	19	122	0	•
Acenaphthene		48.17	6	µg/L	90	0	96.3	25	110	0	
2,4-Dinitrotoluene		52.68	5	μg/L	20	0	105	29	116	0	
Dibenzofuran		48.81	5	µg∕L	20	0	97.6	51	119	0	
Diethyl phthalate		51.81	9	µg∕L	20	0	\$	24	115	0	
4-Chlorophenyl phenyl ether	enyl ether	53.29	9	μg/L	20	0	107	26	114	0	
Fluorene		49.42	5	µg/L	20	0	98.8	\$	115	0	
4-Nitroaniline		49.69	20	μg/L	50	0	99.4	49	119	0	
4,6-Dinitro-2-methylphenol	/lpheno!	71.45	70	μg/L	75	0	95.3	4	127	0	
N-Nitrosodiphenylamine	tmine	41.82	6	µg/L	20	0	83.6	51	118	0	
1,2-Diphenylhydrazine (as Azobe	zine (as Azobe	42.15	9	μg/L	20	0	84.3	43	118	0	
4-Bromophenyl phenyl ether	enyl ether	47.71	9	µ9/L	20	0	95.4	99	115	0	
Hexachiorobenzene	Ð	50.17	9	µ9∕L	20	0	100	26	114	0	
Pentachlorophenol		97.53	20	μg/L	75	0	130	39	128	0	S
Phenanthrene		46.33	0	μg/L	20	0	92.7	Z	112	0	
Anthracene		45.34	01	μg/L	20	0	90.7	\$	113	0	
Carbazole		45.51	9	μg/L	50	0	9	25	120	0	
Di-n-buty! phthalate	A	47.86	5	µg/L	20	0	95.7	28	114	0	
Finoranthene		51.3	5	μg/L	90	0	103	28	115	0	
Pyrene		46.7	5	µg/L	20	0	93.4	53	119	0	
Butyl benzyl phthalate	ate	45.8	6	ng/L	20	0	91.6	83	120	0	
Qualifiers: ND-	ND - Not Detected at the Reporting Limit	eporting Limit		S - Spike Recov	S - Spike Recovery outside accepted recovery limits	d recovery li	mits	B - Analyte d	etected in the a	B - Analyte detected in the associated Method Blank	
∀-ſ	J - Analyte detected below quantitation limits	quantitation limits		R - RPD outside	R - RPD outside accepted recovery limits	limits		MA Misteria	1:1:		
2	DI Demonstrat I impire de Canada de		,	•				NA - NUI app	icadic wiete J	NA - NOI applicable where J values or NLJ results occur	

Project: 170804d Project: 170804d Project: 1700396 MPA Berth 10 Final Design Laboratory C Bist2-ethylhexylphthalate 46.84 10 µg/L 50 0 33.7 55 122 0 3.3-Oichlorobenzidine 58.26 10 µg/L 50 0 117 31 126 0 Chrysene 49.14 10 µg/L 50 0 98.3 53 118 0 Chrysene 49.14 10 µg/L 50 0 99.8 56 116 0 Chrysene 48.2 10 µg/L 50 0 99.8 56 116 0 Chrysene 48.2 10 µg/L 50 0 99.8 56 116 0 Chrysene 48.2 10 µg/L 50 0 91.8 50 113 0 114 0 114 50 114 0 114 0 114	CLIENT:	GEI Consultants, Inc.	10.								
1700396 MPA Berth 10 Final Design alate 46.84 10 µg/L 50 0 93.7 55 122 e 58.26 10 µg/L 50 0 117 31 126 49.14 10 µg/L 50 0 99.3 53 118 48.5 10 µg/L 50 0 91.8 50 114 48.2 10 µg/L 50 0 91.8 50 114 48.1 10 µg/L 50 0 91.8 50 114 e 54.11 10 µg/L 50 0 98.4 55 113 e 54.11 10 µg/L 50 0 108 59 115 e 51.69 10 µg/L 50 0 102 51 113 e 51.69 10 µg/L 50 0 103 51 113 e 51.69 10 µg/L 50 0 103 51 113 e 51.69 10 µg/L 50 0 103 51 113 e 51.69 10 µg/L 50 0 103 51 113 e 51.69 10 µg/L 50 0 103 114 f 65 10 µg/L 50 0 103 114 f 75 10 µg/L 50 0 113 e 51.51 10 µg/L 50 0 113 e 62.25 10 µg/L 50 0 103 114 f 75 10 µg/L 50 0 117 f 75 10 117 f 75 117 f	Work Order:	1708044									AC SUMMARY REPORT
alate 46.84 10 µg/L 50 0 93.7 55 8	Project:	1700396 MPA Berl	th 10 Final D	esign							Laboratory Control Spike
e 58.26 10 µg/L 50 0 117 31 49.14 10 µg/L 50 0 98.3 53 49.5 10 µg/L 50 0 98.3 53 45.92 10 µg/L 50 0 91.8 50 48.2 10 µg/L 50 0 98.4 55 e 51.1 10 µg/L 50 0 98.4 56 e 51.1 10 µg/L 50 0 98.4 56 e 51.1 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 47.6 56 ol 35.68 1.0 µg/L 75 0 47.6 25 d5 44.04 1.0 µg/L 50 0 47.6 25 nyl 46.07 1.0 µg/L	Bis(2-ethylhexyl)pht	halate	46.84	5	ug/L	20	0	93.7	. 22	122	C
49.14 10 µg/L 50 0 98.3 53 49.5 10 µg/L 50 0 99.5 56 45.92 10 µg/L 50 0 91.8 50 48.2 10 µg/L 50 0 91.8 50 54.11 10 µg/L 50 0 98.4 56 e 51.69 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 102 51 ol 35.68 10 µg/L 50 0 97.7 50 ol 35.68 1.0 µg/L 50 0 31.4 13 d5 44.04 1.0 µg/L 50 0 88.1 36 nyl 46.07 1.0 µg/L 50 0 31.4 36 nyl 46.07 1.0 µg/L 50 0 31.4 36 nyl 46.07 1.0 µg/L 50 0 103 31.4 ophenol 82.25 1.0 µg/L 50 0 103 31.4 14 51.7 1.0 µg/L 50 0 103 31.4	3,3'-Dichlorobenzidi	ne	58.26	10	иgЛ	20	0	117	3	126	. 0
49.5 10 µg/L 50 0 99 56 45.92 10 µg/L 50 0 91.8 50 48.2 10 µg/L 50 0 91.8 50 54.11 10 µg/L 50 0 108 59 e 51.1 10 µg/L 50 0 108 59 e 51.6 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 103 51 d 35.68 1.0 µg/L 50 0 37.7 50 d 35.68 1.0 µg/L 50 0 37.4 13 d 44.04 1.0 µg/L 50 0 31.4 13 d 51.7 1.0 µg/L 50 0 32.1 44 d 51.7 1.0 µg/L 50 0 100 32.1 44 d 51.7 1.0 µg/L 50 0 100 32.1 44 d 51.7 1.0 µg/L 50 0 100 100 100 d 50.1 100 µg/L 50 0 100 100 100 d 50.1 100 µg/L 50 0 100 100 100 d 144 51.7 1.0 µg/L 50 0 100 100 100	Benz(a)anthracene		49.14	0	иg/L	20	0	98.3	53	118	0
45.92 10 µg/L 50 0 91.8 50 48.2 10 µg/L 50 0 96.4 55 54.11 10 µg/L 50 0 96.4 56 e 51.1 10 µg/L 50 0 98.4 56 e 51.69 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 103 51 ol 35.68 1.0 µg/L 75 0 47.6 25 d5 44.04 1.0 µg/L 75 0 31.4 13 nyl 46.07 1.0 µg/L 50 0 88.1 36 nyl 46.07 1.0 µg/L 75 0 82.1 44 nyl 46.07 1.0 µg/L 75 0 110 39 14 51.7 10 µg/L 75 0 110 31 14 51.7 10 <td>Chrysene</td> <td></td> <td>49.5</td> <td>10</td> <td>µg/L</td> <td>20</td> <td>0</td> <td>66</td> <td>99</td> <td>116</td> <td>0</td>	Chrysene		49.5	10	µg/L	20	0	66	99	116	0
48.2 10 µg/L 50 0 96.4 55 54.11 10 µg/L 50 0 108 59 e 51.1 10 µg/L 50 0 98.4 56 e 51.1 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 97.7 50 ol 35.68 1.0 µg/L 75 0 47.6 25 d5 44.04 1.0 µg/L 75 0 31.4 13 nyl 46.07 1.0 µg/L 50 88.1 36 nyl 46.07 1.0 µg/L 50 92.1 44 nyl 10 µg/L 75 0 110 39 14 51.7 10 µg/L 50 10 10 39	Di-n-octyl phthalate		45.92	10	µg/L	20	0	91.8	20	124	. 0
54.11 10 µg/L 50 0 108 59 e 51.1 10 µg/L 50 0 98.4 56 e 51.69 10 µg/L 50 0 103 51 e 51.69 10 µg/L 50 0 97.7 50 ol 35.68 1.0 µg/L 75 0 47.6 25 d5 44.04 1.0 µg/L 50 0 31.4 13 nyl 46.07 1.0 µg/L 50 0 88.1 36 nyl 46.07 1.0 µg/L 50 0 92.1 44 nyl 10 µg/L 50 0 110 39 14 51.7 10 µg/L 50 0 103 44	Benzo(b)fluoranthen	•	48.2	9	µg/L	20	0	96.4	55	113	•
49.19 10 µg/L 50 0 98.4 56 ne 51.69 10 µg/L 50 0 102 51 ne 51.69 10 µg/L 50 0 103 51 48.84 10 µg/L 75 0 97.7 50 nol 35.68 1.0 µg/L 75 0 47.6 25 23.53 1.0 µg/L 75 0 31.4 13 anyl 46.07 1.0 µg/L 50 0 92.1 44 nophenol 82.25 1.0 µg/L 75 0 110 39 414 51.7 1.0 µg/L 75 0 103 44	Benzo(k)fluoranthen	Q	54.11	10	µg/L	20	0	108	29	115	. 0
10 51.1 10 µg/L 50 0 102 51 11 µg/L 50 0 103 51 <t< td=""><td>Benzo(a)pyrene</td><td></td><td>49.19</td><td>5</td><td>µg/L</td><td>20</td><td>0</td><td>98.4</td><td>26</td><td>112</td><td>0</td></t<>	Benzo(a)pyrene		49.19	5	µg/L	20	0	98.4	26	112	0
ne 51.69 10 µg/L 50 0 103 51 48.84 10 µg/L 50 0 97.7 50 ol 35.68 1.0 µg/L 75 0 47.6 25 23.53 1.0 µg/L 75 0 31.4 13 ed5 44.04 1.0 µg/L 50 0 88.1 36 snyl 46.07 1.0 µg/L 50 0 92.1 44 ophenol 82.25 1.0 µg/L 75 0 110 39 d14 51.7 1.0 µg/L 50 0 103 44	Dibenz(a,h)anthrace	ine	51.1	t	μg/L	20	0	102	51	113	0
48.84 10 µg/L 50 0 97.7 50 10 35.68 1.0 µg/L 75 0 47.6 25 23.53 1.0 µg/L 50 0 31.4 13 13 44.04 1.0 µg/L 50 0 88.1 36 14 51.7 1.0 µg/L 50 0 103 44	Indeno(1,2,3-cd)pyn	ane	51.69	9	иg/L	20	0	103	51	113	, 0
35.68 1.0 µg/L 75 0 47.6 25 23.53 1.0 µg/L 75 0 31.4 13 5 44.04 1.0 µg/L 50 0 88.1 36 yl 46.07 1.0 µg/L 50 0 92.1 44 phenol 82.25 1.0 µg/L 75 0 110 39 4 51.7 1.0 µg/L 50 0 103 44	Benzo(g,h,i)perylene	0	48.84	5	rg/L	20	0	7.76	8	113	a
23.53 1.0 µg/L 75 0 31.4 13 44.04 1.0 µg/L 50 0 88.1 36 46.07 1.0 µg/L 50 0 92.1 44 82.25 1.0 µg/L 75 0 110 39 51.7 1.0 µg/L 50 0 103 44	Surr: 2-Fluorophe	not	35.68	1.0	ng/L	75	0	47.6	22	29	
44.04 1.0 μg/L 50 0 88.1 36 46.07 1.0 μg/L 50 0 92.1 44 82.25 1.0 μg/L 75 0 110 39 51.7 1.0 μg/L 50 0 103 44	Surr. Phenol-d5		23.53	1.0	pg/L	75	0	31.4	13	43	. 0
46.07 1.0 μg/L 50 0 92.1 44 82.25 1.0 μg/L 75 0 110 39 51.7 1.0 μg/L 50 0 103 44	Surr. Nitrobenzen	e-d5	44.04	1.0	µ9/L	20	0	88.1	36	108	. 0
82.25 1.0 µg/L 75 0 110 39 51.7 1.0 µg/L 50 0 103 44	Surr: 2-Fluorobipt	enyl	46.07	1.0	µg/L	20	0	92.1	4	117	•
51.7 1.0 µg/L 50 0 103 44	Surr. 2,4,6-Tribro	nophenol	82.25	1.0	µg/L	75	0	110	33	131	0
	Surr: 4-Terphenyl	d14	51.7	1.0	µg/L	20	0	103	4	122	0

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit: defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation fimits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

GEI Consultants, Inc. CLIENT:

1708044 Work Order:

Date: 25-Sep-17

QC SUMMARY REPORT

Sample ID: LCSD-27476	Batch ID: 27476	Test Code:	e: SW8270D	Units: µg/L			Analysis D	ate: 9/5/2017	Analysis Date: 9/5/2017 4:16:00 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	SV-4_170905A	15A			SeqNo:	1005224		•		
	QC Sample		a	QC Spike Original Sample	al Sample			U	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ŏ
Phenol	25.46	5	hg/L	75	0	33.9	13	47	26.72	4.83	25	
Bis(2-chloroethyl)ether	38.27	10	rg/L	20	0	76.5	42	102	40.26	5.07	3 2	
2-Chlorophenol	54.66	0	µg∕L	75	0	72.9	88	1	58.57	6.9	32	
1,3-Dichlorobenzene	36.95	9	hg/L	20	0	73.9	ਲ	6	38.91	5.17	22 12	
1,4-Dichlorobenzene	38.66	9	µ9/L	20	0	77.3	35	66	40.82	5.44	72	
Benzyl alcohol	26.15	70	hg/L	20	0	52.3	3	96	29.27	11.3	25	
2-Methylphenol	49.15	5	µg/L	75	0	65.5	35	100	52.5	6.59	52	
1,2-Dichlorobenzene	38.41	5	μg/L	50	0	76.8	37	66	39.54	2.9	25	
Bis(2-chloroisopropyl)ether	61.06	9	hg/L	22	0	122	31	\$	64.56	5.57	52	
4-Methylphenol	54.07	9	пg/L	150	0	36	23	61	62.93	15.1	25	
N-Nitrosodi-n-propylamine	41.99	6	µg/L	20	0	84	43	=======================================	45.89	8.88	25	
Hexachloroethane	43.46	5	hg∕L	20	0	86.9	33	97	41.74	4.04	25	
Nitrobenzene	42.58	9	hg∕L	20	0	85.2	46	102	44.14	3.6	52	
sophorone	32.65	우	hg∕L	20	0	65.3	38	105	36.08	96.6	25	
2,4-Dimethylphenol	52.49	6	hg/L	75	0	20	38	110	55.39	5.38	52	
Benzoic acid	15.65	2	µ9∕L	75	0	20.9	10	55	19.68	22.8	22	
2-Nitrophenoi	55.22	5	µg∕L	75	0	73.6	4	118	59.27	7.07	25	
Bis(2-chloroethoxy)methane	38.91	9	hg/L	90	0	8.77	20	901	42.67	9.22	52	
2,4-Dichlorophenol	60.21	5	µg∕L	75	0	80.3	20	117	64.52	6.91	52	
1,2,4-Trichlorobenzene	41.86	6	µg/L	20	0	83.7	4	103	44.21	5.46	25	
Naphthalene	39.39	9	µg/L	20	0	78.8	45	9	42.25	7.01	25	
4-Chloroaniline	30.05	9	µg∕L	20	0	60.1	28	113	32.4	7.53	52	
Hexachlorobutadiene	43.87	5	μg/L	20	0	87.7	4	101	46.63	6.1	25	
4-Chloro-3-methylphenol	61.37	20	рg/L	75	0	81.8	47	119	63.91	4.05	25	
2-Methylnaphthalene	38.03	5	µg∕L	20	0	76.1	4	107	41.61	8.99	52	
Qualifiers: ND - Not Detected	ND - Not Detected at the Reporting Limit	S-S	pike Recovery	- Spike Recovery outside accepted recovery limits	i recovery	limits	B - Analyte	detected in the	B - Analyte detected in the associated Method Blank	od Blank	i	i
I - Analyte detecte	I - Amalista dadament Lalam manatania - I - I - I - I - I - I - I - I - I -	•	;				•					

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CLIENT:	GEI Consultants, Inc.	lic.		1									
Work Order:	1708044									QC SUMMARY REPORT	MARY	ŒPO!	Z
Project:	1700396 MPA Berth 10 Final Design	rth 10 Final D	esign						Lal	Laboratory Control Spike Duplicate	ntrol Spik	Duplic	ate
Hexachlorocyclopentadiene	entadiene	4.45	₽	hg/L	99	٥	8.9	₽	91	4.96	10.8	25	l _s
2,4,6-Trichloropheno	Jou	74.42	0	µg/L	75	0	99.2	48	129	76.21	2.38	52	,
2,4,5-Trichlorophenol	Jou	80.22	9	μg/L	75	0	107	45	131	85.45	6.31	52	
2-Chloronaphthalene	ine	46.31	0	μg/L	20	0	97.6	48	107	50.52	8.7	52	
2-Nitroaniline		59.22	20	μg⁄L	20	0	118	4	122	58.75	0.797	52	
Dimethyl phthalate		64.4	5	hg∕L	20	0	129	28	114	67.71	5.01	52	SS
2,6-Dinitrotoluene		48.34	5	µg/L	20	0	96.7	22	115	50.91	5.18	25	}
Acenaphthylene		43.22	10	µg/L	20	0	86.4	25	110	44.96	3.95	52	
3-Nitroaniline		46.13	20	µg/L	20	0	92.3	29	121	47.31	2.53	52	
4-Nitrophenol		47.13	20	иg/L	75	0	62.8	4	53	51.98	9.79	25	U:
2,4-Dinitrophenol		70.93	20	µg/L	75	0	94.6	19	122	73.39	3.41	52)
Acenaphthene		45.04	10	µ9/L	20	0	90.1	25	110	48.17	6.72	52	
2,4-Dinitrotofuene		51.76	9	µg/L	20	0	104	29	116	52.68	1.76	52	
Dibenzofuran		46.83	0	µg/L	20	0	93.7	51	119	48.81	4.14	52	
Diethyl phthalate		50.55	6	µg/L	20	0	101	25	115	51.81	2.46	22	
4-Chlorophenyl phenyl ether	enyl ether	51.92	우	µg/L	20	0	104	99	114	53.29	2.6	52	
Fluorene		48.2	9	µg/L	20	0	96.4	\$	115	49.42	2.5	25	
4-Nitroaniline		48.77	70	μg/L	20	0	97.5	49	119	49.69	1.87	52	
4,6-Dinitro-2-methylphenol	ylphenol	8.79	20	µg/L	75	0	90.4	40	127	71.45	5.24	25	
N-Nitrosodiphenylamine	tmine	39.67	9	µg/L	20	0	79.3	51	118	41.82	5.28	25	
1,2-Diphenylhydrazine (as Azobe	zine (as Azobe	40.84	5	µg∕L	20	0	81.7	43	118	42.15	3.16	25	
4-Bromophenyl phenyl ether	enyl ether	44.85	10	μ9/L	20	0	89.7	26	115	47.71	6.18	25	
Hexachlorobenzene	a p	41.1	9	hg/L	20	0	82.2	26	114	50.17	19.9	25	
Pentachlorophenol		88.78	20	μg⁄L	75	0	118	33	128	97.53	9.39	22	
Phenanthrene		42.98	우	µg/L	90	0	98	2	112	46.33	7.5	25	
Anthracene		42.27	5	µg∕L	20	0	84.5	\$	113	45.34	7.01	25	
Carbazole		40.56	5	µg/L	20	0	1.18	25	120	45.51	11.5	52	
Di-n-butyl phthalate	m	41.82	우	µg/L	20	0	83.6	28	114	47.86	13.5	52	
Fluoranthene		44.74	6	µg∕L	20	0	89.5	28	115	51.3	13.7	22	
Pyrene		41.36	5	µg/L	20	0	82.7	53	119	46.7	12.1	52	
Butyl benzyl phthalate	ate	40.09	5	hgv	20	0	80.2	23	120	45.8	13.3	22	
Qualifiers: ND	ND - Not Detected at the Reporting Limit	orting Limit		S - Spike Recover	- Spike Recovery outside accepted recovery limits	recovery		B - Analyte de	stected in the a	B - Analyte detected in the associated Method Blank	Blank		1
A-L	J - Analyte detected below quantitation limits	antitation limits		R - RPD outside a	- RPD outside accepted recovery fimits	imits	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# - # # - # # - # # - # # # # # # # # #				
. IS	RL - Reporting Limit defined as the lowest con	as the formert con-	le montener				_	NA - NOI app	ilcabie where J	NA - NOT applicable where J values or NLJ results occur	ults occur		

CLIENT:	GEI Consultants, Inc.	
Work Order:	1708044 QC SUMMARY REPORT	PORT
Project:	1700396 MPA Berth 10 Final Design	nplicate

Tieject. I /00350 IME	1/00370 INITA DEIUI IU FIIIAI DESIGN	Design						ran	ravoratory common opine Duplicate	nide ioni	o Duplicate	ı)
Bis(2-ethylhexyl)phthalate	41.97	5	hgr!	90	0	83.9	55	122	46.84	=	25	
3,3'-Dichlorobenzidine	50.29	9	ngy	S	0	101	3	126	58.26	14.7	3 2	
Benz(a)anthracene	42.36	10	pg/L	90	0	7.48	23	118	49.14	14.8	3 15	
Chrysene	42.08	10	μg/L	50	0	84.2	26	116	49.5	16.2	25	
Di-n-octyl phthalate	40.12	10	µ9∕L	20	0	80.2	20	124	45.92	13.5	52 72	
Benzo(b)fluoranthene	46.73	9	µg/L	20	0	93.5	55	113	48.2	3.1	25	
Benzo(k)fluoranthene	39.8	9	рgЛ	20	0	79.6	29	115	54.11	30.5		2
Benzo(a)pyrene	42.21	10	µg√L	20	0	84.4	99	112	49.19	15.3		
Dibenz(a,h)anthracene	46.93	유	µg/L	90	0	93.9	51	113	51.1	8.51	25	
Indeno(1,2,3-cd)pyrene	47.28	10	µg/L	20	0	94.6	51	113	51.69	8.91	25	
Benzo(g,h,i)perylene	45.9	5	µg/L	20	0	91.8	20	113	48.84	6.21	25	
Surr: 2-Fluorophenol	31.97	1.0	иgЛ	75	0	42.6	22	62	0	0	0	
Surr. Phenol-d5	20.38	1.0	µ9/L	75	0	27.2	13	43	0	0	. 0	
Surr: Nitrobenzene-d5	39.86	1.0	μg/L	50	0	79.7	36	108	0	0		
Sur: 2-Fluorobiphenyl	42.55	1.0	µg/L	20	0	85.1	4	117	0	0	0	
Surr: 2,4,6-Tribromophenol	73.14	1.0	ug/L	75	0	97.5	39	131	0	0	0	
Surr. 4-Terphenyl-d14	44.11	1.0	μg/L	20	0	88.2	4	122	0	0	0	

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated I	B - Analyte detected in the associated
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	NA - Not annihi akte iden I was I
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.	ration the laboratory can accurately quantitate.	10 10.0 applicable with a values of

Qualifiers:

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

1708044

Client Sample ID: 1700396-WE-2

Lab Order:

Collection Date: 8/30/2017 10:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-01B

Analyses	Result	RL	Qual Units	DF	Date Analyzed
PAH BY EPA 8270D SIM	s	W8270D	<u>.</u>	··· 00 <u>-</u>	Analyst: NS
Naphthalene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
2-Methylnaphthalene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Acenaphthylene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Acenaphthene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Fluorene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Phenanthrene	ND	0.072	μg/L	1	9/6/2017 5:38:00 PM
Anthracene	ND	0.10	µg/L	1	9/6/2017 5:38:00 PM
Fluoranthene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Pyrene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Benz(a)anthracene	ND	0.062	µg/∟	1	9/6/2017 5:38:00 PM
Chrysene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Benzo(b)fluoranthene	ND	0.082	μg/L	1	9/6/2017 5:38:00 PM
Benzo(k)fluoranthene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Benzo(a)pyrene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Dibenz(a,h)anthracene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Benzo(g,h,i)perylene	ND	0.10	µg/L	1	9/6/2017 5:38:00 PM
Surr: Nitrobenzene-d5	61.4	33-107	%REC	1	9/6/2017 5:38:00 PM
Surr: 2-Fluorobiphenyl	54.8	39-107	%REC	1	9/6/2017 5:38:00 PM
Surr: 4-Terphenyl-d14	98.0	31-133	%REC	1	9/6/2017 5:38:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-SW-1

Lab Order:

1708044

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-02B

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
PAH BY EPA 8270D SIM	S	W8270D			Analyst: NS
Naphthalene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
2-Methylnaphthalene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Acenaphthylene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Acenaphthene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Fluorene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Phenanthrene	ND	0.073	µg/L	1	9/6/2017 6:13:00 PM
Anthracene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Fluoranthene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Pyrene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Benz(a)anthracene	ND	0.062	µg/L	1	9/6/2017 6:13:00 PM
Chrysene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Benzo(b)fluoranthene	ND	0.083	μg/L	1	9/6/2017 6:13:00 PM
Benzo(k)fluoranthene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Benzo(a)pyrene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Dibenz(a,h)anthracene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Benzo(g,h,l)perylene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Surr: Nitrobenzene-d5	71.6	33-107	%REC	1	9/6/2017 6:13:00 PM
Surr: 2-Fluorobiphenyl	63.6	39-107	%REC	1	9/6/2017 6:13:00 PM
Surr: 4-Terphenyl-d14	106	31-133	%REC	1	9/6/2017 6:13:00 PM

QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1708044 Work Order: CLIENT: Project:

Method Blank

Date: 25-Sep-17

Sample ID: MB-27476	Batch ID: 27476	Test Code	Test Code: SW8270D	Units: µg/L			Analysis [ate: 9/6/201	Analysis Date: 9/6/2017 12:17:00 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	SV-4_170906A	6A			SeqNo:	1005251				
	QC Sample		ŏ	QC Spike Original Sample	l Sample			J	Original Sample			
Analyte	Result	굺	Units	Amount	Result	Result %REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ő
Naphthalene	Q	0.10	hg/L									
2-Methylnaphthalene	2	0.10	µg/L									
Acenaphthylene	9	0.10	µg/L									
Acenaphthene	QN	0.10	µg/L									
Fluorene	2	0.10	µg/L									
Phenanthrene	Q	0.070	µg∕L									
Anthracene	Q	0.10	μg/L									
Fluoranthene	<u>N</u>	0.10	µg/L									
Pyrene	2	0.10	иgЛ									
Benz(a)anthracene	2	0.060	μg⁄L									
Chrysene	Q	0.10	µ9/L									
Benzo(b)fluoranthene	2	0.080	µg/L									
Benzo(k)fluoranthene	2	0.10	µg/L									
Benzo(a)pyrene	Q	0.10	hg∕L									
Dibenz(a,h)anthracene	2	0.10	µg/L									
Indeno(1,2,3-cd)pyrene	Q	0.10	µ9/L									
Benzo(g,h,i)perylene	Q	0.10	μg/L									
Surr. Nitrobenzene-d5	7.345	1.0	иgЛ	10	0	73.5	8	107	0			
Surr. 2-Fluorobiphenył	6.5	1.0	иg/L	10	0	65	33	107	0			
Surr: 4-Terphenyl-d14	8.55	1.0	hg/L	10	0	85.5	3	133	0			
			•									

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

GEI Consultants, Inc. CLIENT:

1708044 Work Order: 1700396 MPA Berth 10 Final Design Project:

QC SUMMARY REPORT

Date: 25-Sep-17

Laboratory Control Spike

Client ID:	Batch ID: 27476	Test Code	Test Code: SW8270D	Units: µg/L			Analysis D	ate: 9/6/2017	Analysis Date: 9/6/2017 12:53:00 PM	Prep Date	Prep Date: 8/31/2017	
		Run iD:	SV-4_170906A	y.			SeqNo:	1005252				
	QC Sample		ö	QC Spike Original Sample	Sample			J	Original Sample			
Analyte	Result	귐	Units A	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Naphthalene	4.125	0.10	µg/L	S	0	82.5	32	113	0			
2-Methylnaphthalene	3.84	0.10	µg/L	ß	0	76.8	32	121	0			
Acenaphthylene	4.31	0.10	µg/L	S.	0	86.2	38	126	0			
Acenaphthene	4.045	0.10	µg/L	ĸ	0	80.9	38	123	0			
Fluorene	4.515	0.10	µg∕L	5	0	90.3	47	127	0			
Phenanthrene	5.12	0.070	µg∕L	2	0	102	51	117	0			
Anthracene	4.17	0.10	пgЛ	ĸ	0	83.4	52	123	0			
Fluoranthene	5.24	0.10	µg∕L	ß	0	105	25	125	0			
Pyrene	5.765	0.10	µg/L	ស	0	115	48	13	0			
Benz(a)anthracene	5.275	0.060	μg/L	Ŋ	0	106	51	125	0			
Chrysene	5.255	0.10	μg/L	ស	0	105	25	130	0			
Benzo(b)fluoranthene	5.455	0.080	hg/L	S)	0	109	26	129	0			
Benzo(k)fluoranthene	6.035	0.10	µg/L	S	0	121	51	134	0			
Benzo(a)pyrene	5.305	0.10	нgЛ	មា	0	106	53	129	0			
Dibenz(a,h)anthracene	5.115	0.10	μg/L	ß	0	102	25	127	0			
Indeno(1,2,3-cd)pyrene	5.16	0.10	иgЛ	ស	0	103	53	124	0			
Benzo(g,h,i)perylene	5.17	0.10	μg/L	ស	0	103	53	126	0			
Surr: Nitrobenzene-d5	96.0	0.50	µg/L	-	0	96	33	107	0			
Surr: 2-Fluorobiphenyl	96:0	0.50	иgЛ	-	0	96	39	107	0			
Surr. 4-Terphenyl-d14	1.325	1.0	µg∕L	-	0	132	સ	133	0			

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

Project: 1700396 MPA Berth 10 Final Design

QC SUMMARY REPORT

Date: 25-Sep-17

Laboratory Control Spike Duplicate

Sample ID: LCSD-27476	Batch ID: 27476	Test Code	Test Code: SW8270D	Units: µg/L			Analysis D	ate: 9/6/2017	Analysis Date: 9/6/2017 1:29:00 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	SV-4_170906A	P 90			SeqNo:	1005253				
	QC Sample		a	QC Spike Original Sample	al Sample			U	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Naphthalene	3.785	0.10	µ9/L	ស	0	75.7	32	113	4.125	8.6	25	
2-Methylnaphthalene	3.835	0.10	μg/L	9	0	7.97	32	121	3.84	0.13	52	
Acenaphthylene	4.085	0.10	идуг	5	0	81.7	38	126	4.31	5.36	52	
Acenaphthene	3.84	0.10	рg/L	5	0	76.8	38	123	4.045	5.2	25	
Fluorene	4.3	0.10	μg/L	9	0	98	47	127	4.515	4.88	25	
Phenanthrene	4.64	0.070	ዞያሌ	9	0	92.8	51	117	5.12	9.84	52	
Anthracene	3.715	0.10	µg∕t.	S	0	74.3	25	123	4.17	11.5	25	
Fluoranthene	4.495	0.10	µg∕L	9	٥	89.9	25	125	5.24	15.3	25	
Pyrene	4.885	0.10	иgЛ	9	0	7.76	48	134 34	5.765	16.5	25	
Benz(a)anthracene	4.55	0.060	µg∕L	5	0	91	51	125	5.275	14.8	22	
Chrysene	4.465	0.10	иgЛ	ß	0	89.3	25	130	5.255	16.3	25	
Benzo(b)fluoranthene	4.97	0.080	µg∕L	ιΩ	0	99.4	99	129	5.455	9.3	52	
Benzo(k)fluoranthene	4.885	0.10	иg/L	S	0	7.76	51	134	6.035	21.1	52	
Benzo(a)pyrene	4.645	0.10	µg∕t.	មា	0	92.9	53	129	5.305	13.3	52	
Dibenz(a,h)anthracene	4.475	0.10	μg/L	ស	0	89.5	25	127	5.115	13.3	22	
Indeno(1,2,3-cd)pyrene	4.485	0.10	µ9∕L	ဌ	0	89.7	53	124	5.16	*	22	
Benzo(g,h,i)perylene	4.495	0.10	µg∕L	9	0	89.9	53	126	5.17	7	52	
Surr: Nitrobenzene-d5	0.915	0.50	рgЛ.		0	91.5	33	107	0	0	0	
Sur: 2-Fluorobiphenyl	98.0	0.50	рgЛ	-	0	98	39	107	0	0	0	
Surr. 4-Terphenyl-d14	1.085	0.1	µg/L	-	0	108	31	133	0	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits R- RPD outside accepted recovery limit RL - Reporting Limit; defined as the lowest concentration the faboratory can accurately quantitate.

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-01

Collection Date: 8/30/2017 10:30:00 AM

Collection Time:

Client Sample ID: 1700396-WE-2

Matrix: GROUNDWATER

Analyses	Result	RL Qu	ual Units	DF	Date Analyzed
PCBS BY EPA8082	s	W8082A			Analyst: NS
Aroclor 1016	ND	0.21	μg/L	1	9/7/2017 2:49:00 PM
Aroclor 1221	ND	0.21	µg/L	1	9/7/2017 2:49:00 PM
Aroclor 1232	ND	0.21	µg/L	1	9/7/2017 2:49:00 PM
Arocior 1242	ND	0.21	μg/L	1	9/7/2017 2:49:00 PM
Aroclor 1248	ND	0.21	μg/L	1	9/7/2017 2:49:00 PM
Aroclor 1254	ND	0.21	µg/L	1	9/7/2017 2:49:00 PM
Aroclor 1260	ND	0.21	μg/L	1	9/7/2017 2:49:00 PM
Surr: Decachlorobiphenyl	76.1	27-131	%REC	1	9/7/2017 2:49:00 PM
Surr: Tetrachloro-m-xylene	75.0	37-130	%REC	1	9/7/2017 2:49:00 PM

Lab ID:

1708044-02

Collection Date: 8/30/2017 12:00:00 PM

Collection Time:

Client Sample ID: 1700396-SW-1

Matrix: GROUNDWATER

Analyses	Result	RL Qual	Units	DF	Date Analyzed
PCBS BY EPA8082	S	W8082A			Analyst: NS
Aroclor 1016	ND	0.24	µg/L	1	9/7/2017 3:16:00 PM
Aroclor 1221	ND	0.24	µg/L	1	9/7/2017 3:16:00 PM
Aroclor 1232	ND	0.24	µg/L	1	9/7/2017 3:16:00 PM
Aroclor 1242	ND	0.24	µg/L	1	9/7/2017 3:16:00 PM
Aroclor 1248	ND	0.24	μg/L	1	9/7/2017 3:16:00 PM
Aroclor 1254	ND	0.24	μg/L	1	9/7/2017 3:16:00 PM
Aroclor 1260	ND	0.24	μ g/L	1	9/7/2017 3:16:00 PM
Surr: Decachloroblphenyl	87.4	27-131	%REC	1	9/7/2017 3:16:00 PM
Surr: Tetrachloro-m-xylene	85.9	37-130	%REC	1	9/7/2017 3:16:00 PM

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

Project: 1700396 MPA Berth 10 Final Design

QC SUMMARY REPORT

Date: 25-Sep-17

Method Blank

Sample ID: MB-27482	Batch ID: 27482	Test Code	Test Code: SW8082A	Units: µg/L			Analysis D	ate: 9/7/201	Analysis Date: 9/7/2017 1:27:00 PM	Prep Date	Prep Date: 9/5/2017	ı
Client ID:		Run ID:	GC-ELVIS_170907A	_170907A			SeqNo:	1005541				
Analyte	QC Sample Result	굺	Units	QC Spike Original Sample Amount Resuft	I Sample Result	%REC	LowLimit	C HighLimit	Original Sample LowLimit HighLimit or MS Result	%RPD	RPDLimit	Q
Aroclor 1016	QN	0.20	µg/L							-		
Aroclor 1221	9	0.20	µg/L									
Arocior 1232	9	0.20	ьgЛ									
Aroclor 1242	Q	0.20	µg/L									
Aroclor 1248	Q	0.20	µ9∕L									
Aroclor 1254	9	0.20	rgr									
Aroclor 1260	Q	0.20	μgγ									
Surr: Decachlorobiphenyl	0.04913	0	rg/L	0.064	0	76.8	27	131	0			
Surr, Tetrachloro-m-xylene	0.0571	0	μg/L	0.064	0	89.2	37	130	0			

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

B - Analyte detected in the associated Method Blank NA - Not applicable where J values or ND results occur

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

1700396 MPA Berth 10 Final Design

Project:

QC SUMMARY REPORT

Date: 25-Sep-17

Laboratory Control Spike

Sample ID: LCS-27482	Batch ID: 27482	Test Code:	Test Code: SW8082A	Units: pg/L			Analysis D.	ate: 9/7/2017	Analysis Date: 9/7/2017 1:54:00 PM	Prep Date	Prep Date: 9/5/2017	
Client ID:		Run ID:	GC-ELVIS_170907A	170907A			SeqNo:	1005542				
	QC Sample		J	QC Spike Original Sample	I Sample			O	Original Sample			
Analyte	Result	귛	Units	Amount	Result	Result %REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Aroclar 1016	3.052	0.20	µ9/L	4	0	76.3	4	119	0			
Aroclor 1260	3.32	0.20	рg/	4	0	83	48	123	0			
Surr: Decachlorobiphenyl	0.05112	0	hg/L	0.064	0	79.9	27	131				
Surr: Tetrachloro-m-xylene	0.05072	0	ng∕L	0.064	0	79.2	37	130	0			
Sample ID: LCSD-27482	Batch ID: 27482	Test Code:	Test Code: SW8082A	Units: µg/L			Analysis Da	ate: 9/7/2017	Analysis Date: 9/7/2017 2:21:00 PM	Prep Date	Prep Date: 9/5/2017	
Client ID:		Run ID:	GC-ELVIS_170907A	170907A			SeqNo:	1005543				
	QC Sample		G	QC Spike Original Sample	l Sample			0	Original Sample			
Analyte	Result	4	Units	Amount	Result %REC	%REC	LowLimit HighLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Aroclor 1016	3.327	0.20	μg/L	4	0	83.2	4	119	3.052	8.65	20	
Aroclor 1260	3.581	0.20	hg/L	4	0	89.5	48	123	3.32	7.56	23	
Surr. Decachlorobiphenyl	0.05273	0	hg/L	0.064	0	82.4	27	131	0	0	0	
Surr: Tetrachloro-m-xylene	0.05814	0	µg∕L	0.064	0	90.8	37	130	0	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-01

Collection Date: 8/30/2017 10:30:00 AM

Collection Time:

Client Sample ID: 1700396-WE-2					Matrix:	GROL	NDWATER
Analyses	Result	RL	Qual	Units		DF	Date Analyzed
ICP-TOTAL METALS BY 200.7		E200.7					Analyst: AL
Cadmium	ND	8.0		µg/L		2	9/1/2017
Chromium	ND	20		µg/L		2	9/1/2017
Copper	ND	50		µg/L		2	9/1/2017
Iron	27,000	200		µg/L		2	9/1/2017
Nickel	ND	80		μg/L		2	9/1/2017
Silver	ND	14		µg/L		2	9/1/2017
Zinc	470	40		µg/L		2	9/1/2017
RSENIC, TOTAL		E200.9_AS					Analyst: AL
Arsenic	5.4	2.0	PS	µg/L		1	9/6/2017 1:08:00 PM
EAD, TOTAL		E200.9_PB					Analyst: AL
Lead	ND	5.0	PS	µg/L		1	9/6/2017 6:04:52 PM
NTIMONY, TOTAL		E200.9_SB					Analyst: AL
Antimony	ND	5.0		µg/L		1	9/5/2017 3:20:14 PM
ELENIUM, TOTAL		E200.9_SE					Analyst: AL
Selenium	ND	5.0		μg/L		1	9/5/2017 6:54:25 PM
IERCURY, TOTAL		E245.1					Analyst: AL
Mercury	ND	0.20		µg/L		1	9/6/2017 3:15:20 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-02

Collection Date: 8/30/2017 12:00:00 PM

Collection Time:

Client Sample ID: 1700396-SW-1

Matrix: GROUNDWATER

Chem cample ib. 1700570-047-1				14154	IIIX: GROU	NDWATER
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP- TOTAL METALS BY 200.7	ı	E200.7				Analyst: AL
Cadmium	ND	12		μg/L	3	9/1/2017
Chromium	ND	30		µg/L	3	9/1/2017
Copper	ND	75		µg/L	3	9/1/2017
Iron	ND	300		µg/L	3	9/1/2017
Nickel	ND	120		µg/L	3	9/1/2017
Silver	ND	21		µg/L	3	9/1/2017
Zinc	ND	60		µg/L	3	9/1/2017
ARSENIC, TOTAL	E	E200.9_AS				Analyst: AL
Arsenic	ND	2.0	PS	µg/L	1	9/6/2017 1:35:18 PM
LEAD, TOTAL	E	E200.9_PB				Analyst: AL
Lead	ND	5.0	PS	µg/L	1	9/6/2017 6:32:00 PM
ANTIMONY, TOTAL	E	E200.9_SB				Analyst: AL
Antimony	ND	5.0		µg/L	1	9/5/2017 3:45:41 PM
SELENIUM, TOTAL		200.9_SE				Analyst: AL
Selenium	ND	5.0		µg/L	1	9/5/2017 7:22:04 PM
MERCURY, TOTAL	E	245.1				Analyst: AL
Mercury	ND	0.20		μg/L	1	9/6/2017 3:19:12 PM

GEl Consultants, Inc. CLIENT:

Date: 25-Sep-17

Work Order: 170	1708044								QC SUMMARY REPORT	IMARY	REPO	RT
	1700396 MPA Berth 10 Final Design	Design								~	Method Blank	ank
Sample ID: mb-27472	Batch ID: 27472	Test Code: E200.7	: E200.7	Units: na/l			Analysis	Jate: 9/1/201	Analysis Date: 9/1/2017 1:34:09 DM	Pren Cate	Pren Date: 8/31/2017	
Client ID:		Run ID:	ICP-OPTIMA_170901A	A_170901A			SeqNo:	1005140				
•	QC Sample	i		QC Spike Original Sample	Il Sample				Original Sample			
Analyte	Result	굾	Units	Amount	Result %REC		LowLimit	LowLimit HighLimit	or MS Result	%RPD	%RPD RPDLimit	ð
Cadmium	QN	4.0	ng/L									
Chromium	ON	10	µ9/L									
Copper	Q	25	рgЛ									
iron	2	100	иgЛ									
Nicket	Q	40	рg/L									
Silver	QN	7.0	µg/L									
Zinc	QN	20	µg/L									
Sample ID: MB-27472	Batch ID: 27472	Test Code	Test Code: E200.9_As	Units: µg/L			Analysis D	ate: 9/6/201	Analysis Date: 9/6/2017 1:02:25 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	AANALYST	AANALYST 600_170906			SeqNo:	1005401				
Analyte	QC Sample	ă	Ö sirili	QC Spike Original Sample		J#476	iai pio		Original Sample	9	,	å
Arsenic	S	2.0			1	4			Om 5			ğ
Sample ID: MR.27472	Batch ID: 27472	Teet Code	Test Code: E200 9 Dh	I faite: 124			Anahose	- 0161304	Anabusis Date: 0/8/2047 #.50.54 DBF	oto C	Date: Older	1
Client ID:		Run (D:	AANALYST	8			SeqNo:	1005479			11021120	
	QC Sample		ā	QC Spike Original Sample	l Sample				Original Sample			
Analyte	Result	교	Units	Amount	Result %REC	%REC	LowLimit	LowLimit HighLimit	or MS Result	%RPD	RPDLimit	Ö
Lead	QN	5.0	μg/L									

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

Date: 25-Sep-17

CLIENT: Work Order:	GEI Consultants, Inc. 1708044								QC SUMMARY REPORT	MARY	REPO]	RT
Project:	1700396 MPA Berth 10 Final Design	l Design									Method Blank	sr
Sample ID: MB-27472	772 Batch ID: 27472	Test Code	Test Code: E200.9_Sb	Units: µg/L			Analysis (Date: 9/5/201	Analysis Date: 9/5/2017 3:07:41 PM	Prep Date	Prep Date: 8/31/2017	1
Analyte	QC Sample Result	로 -	Units	Advactor over 170905 QC Spike Original Sample Units Amount Result	al Sample Result	Sample Result %REC		Sequo: 1005377 C LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Antimony	Q Q	5.0	родг				! : !					
Sample ID: MB-27472	72 Batch ID: 27472	Test Code	Test Code: E200.9_Se	Units: pg/L			Analysis [Jate: 9/5/201	Analysis Date: 9/5/2017 6:41:45 PM	Prep Date	Prep Date: 8/31/2017	1
Analyte	QC Sample Resuft	로 5	Units	AANALTS 1 000_170303 QC Spike Original Sample Units Amount Result	al Sample Result	%REC	Sequo:	100535 100535 HighLimit	Original Sample or MS Result	%RPD	RPDLimit	õ
Selenium	QN	5.0	hg/L									
Sample ID: mb-27477 Client ID:	.77 Batch ID: 27477	Test Code: E245.1 Run ID: HG-FIN	: E245.1 Unit	Units: µg/L 70906A			Analysis [SeqNo:	Jate: 9/6/2017 1005586	Analysis Date: 9/6/2017 2:18:11 PM SeqNo: 1005586	Prep Date	Prep Date: 9/5/2017	
Analyte	QC Sample Result	굲	Units	OC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	Sample Result %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ŏſĭ
Mercury	ON	0.20	µg/L									

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

CLIENT: Work Order: Project:	GEI Con 1708044 1700396	GEI Consultants, Inc. 1708044 1700396 MPA Berth 10 Final Design	Design							QC SUMMARY REPORT Laboratory Control Spike	(MARY	JMMARY REPORT Laboratory Control Spike	RT sike
Sample ID: Ics-27472 Client ID:	472	Batch ID: 27472	Test Code: E200.7 Run ID: ICP-OR	E E E E E E E E E E E E E E E E E E E	E200.7 Units: µg/L			Analysis D SeqNo:	hate: 9/1/2017 1005142	Analysis Date: 9/1/2017 2:03:23 PM SeqNo: 1005142	Prep Date	Prep Date: 8/31/2017	1
Analyte		QC Sample Result	굲	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	C HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ŏ
Cadmium		773.6	4.0	J/6rl	800	0	96.7	88	115	0			
Chromium		4074	10	J.Sr	3976	0	102	82	115	0			
Copper		1998	25	rg/L	2004	0	99.7	85	115	0			
Iron		4279	100	rg/L	4004	0	107	82	115	0			
Nickel		4134	40	Lg/L	3984	0	104	82	115	0			
Silver		394.7	7.0	pg/t	400	0	98.7	82	115	0			
Zinc		3856	20	hg∕L	3984	0	96.8	82	115	0			
Sample ID: LCS-27472	:7472	Batch ID: 27472	Test Code	Test Code: E200.9_As	· Units: µg/L			Analysis D)ate: 9/6/2017	Analysis Date: 9/6/2017 1:05:12 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:			Run ID:	AANALYS	AANALYST 600_170906			SeqNo:	1005402				
		QC Sample		•	QC Spike Original Sample	l Sample			J	Original Sample			

Qualifiers:	Qualifiers: ND - Not Detected at the Reporting Limit	it S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	NA - Not applicable where J values or ND results occur
	RL - Reporting Limit; defined as the lowest concentration	lowest concentration the laboratory can accurately quantitate.	

ŏ

%RPD RPDLimit

or MS Result

LowLimit HighLimit

Result %REC

Amount

Units µ9∕L

딦

Result 19.63

QC Sample

QC Spike Original Sample

115

88

98.2

0

2

5.0

Original Sample

Ö

%RPD RPDLimit

or MS Result

Result %REC LowLimit HighLimit

Amount 20

Units Ę

പ

Result 20.4

Analyte Arsenic

2.0

0

115

82

102

0

Units: µg/L

Test Code: E200.9_Pb

Batch ID: 27472

Sample ID: LCS-27472

Client ID:

Analyte Lead

AANALYST 600_170906

Run 1D:

Prep Date: 8/31/2017

Analysis Date: 9/6/2017 6:01:38 PM 1005480

SeqNo:

CLIENT: GEl Consultants, Inc.

OC SIIMMARY REPORT

Date: 25-Sep-17

Work Order: 1708	1708044								QC SUMMARY REPORT	IMARY	REPO	RT
	1700396 MPA Berth 10 Final Design	Design							Lal	Laboratory Control Spike	ontrol Sp	ike
						l						I
Sample ID: LCS-27472	Batch ID: 27472	Test Code:	Test Code: E200.9_Sb	Units: µg/L			Analysis D	ate: 9/5/201	Analysis Date: 9/5/2017 3:17:05 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	AANALYST	AANALYST 600_170905			SeqNo:	1005320				
4	QC Sample	i		QC Spike Original Sample	Sample		:	_	Original Sample			
Analyte	Kesult	7	Onits	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Antimony	19.63	5.0	µg∕l.	70	0	98.2	85	115	0			
Sample ID: LCS-27472	Batch ID: 27472	Test Code:	Test Code: E200.9_Se	Units: µg/L			Analysis D	ate: 9/5/201	Analysis Date: 9/5/2017 6:51:28 PM	Prep Date:	Prep Date: 8/31/2017	
Client ID:		Run ID:	AANALYST	AANALYST 600_170905			SeqNo:	1005362				
	QC Sample		ď	QC Spike Original Sample	Sample			J	Original Sample			
Analyte	Result	2	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Selenium	19.62	5.0	µg/L	20	0	98.1	82	115	0			
Sample ID: Ics-27477	Batch ID: 27477	Test Code: E245.1	E245.1	Units: µg/L			Analysis D	ate: 9/6/201	Analysis Date: 9/6/2017 2:21:56 PM	Prep Date: 9/5/2017	9/5/2017	ĺ
Client ID:		Run ID:	HG-FIMS_170906A	70906A			SeqNo:	1005587				
Another Services	QC Sample	ā		QC Spike Original Sample		i i			Original Sample		;	•
oriente de la company de la co		2		Amount	Kesult	%KEC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Mercury	3.787	0.20	µg/L	4	0	94.7	80	120	0			
Sample ID: Icsd-27477	Batch ID: 27477	Test Code: E245.1	E245.1	Units: µg/L			Analysis D	ate: 9/6/2017	Analysis Date: 9/6/2017 2:25:42 PM	Prep Date: 9/5/2017	9/5/2017	1
Client ID:		Run ID:	HG-FIMS_170906A	70906A			SeqNo:	1005588				
A	QC Sample	č		QC Spike Original Sample	Sample		:		Original Sample			
Analyte	Kesuit	귈	Onits	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Mercury	3.825	0.20	µg∕l.	4	0	92.6	8	120	3.787	0.994	20	

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

B - Analyte detected in the associated Method Blank NA - Not applicable where J values or ND results occur

GEI Consultants, Inc. CLIENT:

1708044 Work Order: 1700396 MPA Berth 10 Final Design Project:

QC SUMMARY REPORT

Date: 25-Sep-17

Sample Matrix Spike

Sample ID.	Sample ID: 1708044-01HMS	Batch ID: 27472	Test Code: E200.7	E200.7	Units: pg/L	ے		Analysis [late: 9/1/201	Analysis Date: 9/1/2017 3:14:48 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:	1700396-WE-2		Run ID:	ICP-OPT	ICP-OPTIMA_170901A			SeqNo:	1005149				
		QC Sample			QC Spike Original Sample	nal Sample			J	Original Sample			
Analyte		Result	굺	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ö
Cadmium		728.2	4.0	µg/L	800	0	9	70	130	0			İ
Chromium		3784	0	µg/L	3976	0	95.2	20	130	0			
Copper		2394	25	ng/L	2004	19.61	119	20	130	Ö			
Iron		29690	100	hg/L	4004	24950	118	2	130	0			
Nickel		3916	4	µg/L	3984	7.658	98.1	70	130	0			
Silver		453.8	7.0	J∕grl	400	0	113	92	130	0			
Zinc		4168	20	μg/L	3984	454.3	93.2	70	130	0			
Sample ID:	Sample ID: 1708044-01HMSD	Batch ID: 27472	Test Code: E200.7	: E200.7	Units: µg/L			Analysis D	ate: 9/1/201	Analysis Date: 9/1/2017 3:21:31 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:	Client ID: 1700396-WE-2		Run ID:	ICP-OPT	ICP-OPTIMA_170901A			SeqNo:	1005150				
		QC Sample			QC Spike Original Sample	al Sample			Ü	Original Sample			
Analyte		Result	귙	Units	Amount	Result	%REC	LowLimit	Hight_imit	or MS Result	%RPD	RPDLimit	Õ
Cadmium		741.7	4.0	μg/L	800	0	92.7	20	130	728.2	1.85	20	
Chromium		3899	5	rg/L	3976	0	98.1	20	130	3784	2.97	20	
Copper		2482	25	hg/L	2004	19.61	123	20	130	2394	3.59	20	
lron		29090	100	µg∕L	4004	24950	103	2	130	29690	2.06	20	
Nickel		4040	40	µg∕L	3984	7.658	101	20	130	3916	3.12	8	
Silver		475.4	7.0	µg∕L	400	0	119	2	130	453.8	4.65	20	
Zinc		4244	8	µ9∕L	3984	454.3	95.1	02	130	4168	1.82	20	

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

Date: 25-Sep-17

GEI Consultants, Inc.

QC SUMMARY REPORT 1708044 Work Order: CLIENT: Project:

Project: 1700396	1700396 MPA Berth 10 Final Design	Design								Sample	Sample Matrix Spike	pike
Sample ID: 1708044-01HMS Client ID: 1700396-WE-2	Batch ID: 27472	Test Code Run ID:	Test Code: E200.9_As Run ID: AANALYST	E200.9_As Units: pg/L AANALYST 600_170906			Analysis D SeqNo:	Jate: 9/6/2017 1005406	Analysis Date: 9/6/2017 1:24:03 PM SeqNo: 1005406	Prep Date	Prep Date: 8/31/2017	
Analyte	QC Sample Result	굲	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Arsenic	19.01	2.0	μg/L	20	5.415	89	202	130	0			ဟ
Sample ID: 1708044-01HMSD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code	Test Code: E200.9_As	E200.9_As Units: µg/L			Analysis D	late: 9/6/201	Analysis Date: 9/6/2017 1:26:50 PM	Prep Date	Prep Date: 8/31/2017	
	QC Sample Result	교	Units	QC Spike Original Sample Amount Result	l Sample Result %REC		Seque: 100540 LowLimit HighLimit		/ Original Sample or MS Result	%RPD	%RPD RPDLimit	ð
Arsenic	19.49	2.0	hg/L	20	5.415	70.4	22	130	19.01	2.49	0	
Sample ID: 1708044-01HMS Client ID: 1700396-WE-2	Batch ID: 27472	Test Code Run ID:	Test Code: E200.9_Pb Run ID: AANALYST	E200.9_Pb Units: µg/L AANALYST 600_170906			Analysis D. SeqNo:	late: 9/6/2017 1005484	Analysis Date: 9/6/2017 6:25:59 PM SeqNo: 1005484	Prep Date	Prep Date: 8/31/2017	
Analyte	QC Sample Result	2	Units	QC Spike Original Sample Amount Result	Sample Result %REC	%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Öñ
Lead	10.08	5.0	hg/L	20	0	50.4	0/	130	0			S
Sample ID: 1708044-01HMSD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: Run ID:	Test Code: E200.9_Pb Run ID: AANALYST	E200.9_Pb Units: µg/L AANALYST 600_170906			Analysis Da SeqNo:	ate: 9/6/2017 1005485	Analysis Date: 9/6/2017 6:29:13 PM SeqNo: 1005485	Prep Date:	Prep Date: 8/31/2017	
Analyte	QC Sample Result	₽	Units	QC Spike Original Sample Amount Result	Sample Result %REC		LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Lead	8.27	5.0	μg⁄L	20	0	41.4	92	130	10.08	19.7	20	S

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

CLIENT: GEI Consultants, Inc.

CLIENT:		GEI Consultants, Inc.								QC SUMMARY REPORT	IMARY	REPO	RT
Project:		1700396 MPA Berth 10 Final Design	Design								Sample	Sample Matrix Spike	ike
Sample ID: Client ID:	Sample ID: 1708044-01HMS Client ID: 1700396-WE-2	Batch ID: 27472	Test Code	Test Code: E200.9_Sb	E200.9_Sb Units: µg/L			Analysis D.	ate: 9/5/2017	Analysis Date: 9/5/2017 3:40:07 PM	Prep Date	Prep Date: 8/31/2017	ıl
Analyte	man mana de	QC Sample Result	7	Units	OC Spike Original Sample Amount Result	Sample Result %REC		LowLimit HighLimit		Original Sample or MS Result	%RPD	RPDLimit	Ö
Antimony		18.45	5.0	µg/L	20	0	92.2	70	130	0			
Sample ID: Client ID:	Sample ID: 1708044-01HMSD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code Run ID:	Test Code: E200.9_Sb Run ID: AANALYST	E200.9_Sb Units: µg/L AANALYST 600_170905			Analysis Di SeqNo:	ate: 9/5/2017 1005325	Analysis Date: 9/5/2017 3:42:54 PM SeqNo: 1005325	Prep Date	Prep Date: 8/31/2017	
Analyte		QC Sample Result	굺	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit HighLimit	-	Original Sample or MS Result	%RPD	RPDLimit	Ö
Antimony	:	18.3	5.0	п9/1	20	0	91.5	2	130	18.45	0.816	20	
Sample ID: Client ID:	Sample ID: 1708044-01HMS Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: Run ID:	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se Units: µg/L AANALYST 600_170905			Analysis Di SeqNo:	ate: 9/5/2017 1005366	Analysis Date: 9/6/2017 7:15:26 PM SeqNo: 1005366	Prep Date	Prep Date: 8/31/2017	l
Analyte	14.	QC Sample Result	곱	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ŏ
Selenium		QN	5.0	рдЛ	50	0	0	02	130	0			ဟ
Sample 1D: Client ID:	Sample ID: 1708044-01HMSD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: Run ID:	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se Units: µg/L AANALYST 600_170905			Analysis Da SeqNo:	ate: 9/5/2017 1005367	Analysis Date: 9/5/2017 7:18:45 PM SeqNo: 1005367	Prep Date	Prep Date: 8/31/2017	
Analyte		QC Sample Result	ᄰ	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ő
Selenium		Q	5.0	µ9∕L	20	0	0	20	130	0	0	20	ဟ

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits R - RPD outside accepted recovery fimits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

GEI Consultants, Inc. 1708044 Work Order: CLIENT:

Work Order: 1708 Project: 1700	708044 700396 M	1708044 1700396 MPA Berth 10 Final Design	Design							QC SUMMARY REPORT Sample Matrix Spike	[MARY Sample]	MARY REPORT Sample Matrix Spike	RT oike
Sample ID: 1708040-02bms Client ID:	SES	Batch ID: 27477	Test Code: E245.1 Run ID: HG-FIN	: E245.1 HG-FIM	E245.1 Units: µg/L HG-FIMS_170906A	1.		Analysis D SeqNo:	Jate: 9/6/2017	Analysis Date: 9/6/2017 2:37:02 PM SeqNo: 1005591	Prep Date: 9/5/2017	9/5/2017	ıl
Analyte		QC Sample Result	궚	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	HighLimit	Sample Original Sample Result %REC LowLimit HighLimit or MS Result	%RPD	%RPD RPDLimit	Öñ
Mercury		3.249	0.20	μg/L	4	0	0 81.2	75	125	0		1	
Sample ID: 1708040-02bmsd Client ID:		Batch ID: 27477	Test Code: E245.1 Run ID: HG-FIN	: E245.1 HG-FIM	E245.1 Units: µg/L HG-FIMS_170906A			Analysis D SeqNo:	late: 9/6/2017 1005592	Analysis Date: 9/6/2017 2:40:51 PM SeqNo: 1005592	Prep Date: 9/5/2017	9/5/2017	
Analyte		QC Sample Result	귬	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	Sample O Result %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	%RPD RPDLimit Que	Ö
Mercury		3.645	0.20	hg/L	4	0	0 91.1	75	125	3.249	11.5	20	İ

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

Project: 1700396 MPA Berth 10 Final Design

QC SUMMARY REPORT

Date: 25-Sep-17

Sample Duplicate

Sample ID: 1708044-01HD	Batch ID: 27472	Test Code: E200.7	: E200.7	Units: ua/L		l	Analysis	ate: 9/1/201	Analysis Date: 9/1/2017 2:43:37 Du	O con O	Deen Oute: 0/24/2014	
Client ID: 1700396-WE-2		Run ID:	ICP-OPTIM	ICP-OPTIMA_170901A			SeqNo:	1005148			. 6/3/1/2017	
	QC Sample		O	QC Spike Original Sample	Sample			J	Original Sample			
Analyte	Result	귛	Units	Amount	Result %REC	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Öű
Cadmium	QV	4.0	µg/L	0	0	0	0	0	0		5	
Chromium	QN	10	иg/L	0	0	0	0	0	0	• •	3 8	
Copper	13.22	25	иgу	0	0	0	0	0	19.61	38.9	2 2	Œ
fron	26130	100	рgЛ	0	0	0	0	0	24950	4.61	20	í
Nickel	5.975	40	иg/L	0	0	0	0	0	7.658	24.7	20	<u>~</u>
Silver	Q	7.0	ng/L	0	0	0	0	0	0	0	ج 1	;
Zinc	472.2	20	₽g∕L	0	0	0	0	0	454.3	3.87	S0 1	
Sample ID: 1708044-01HD	Batch ID: 27472	Test Code	Test Code: E200.9_As	Units: µg/L			Analysis D	ate: 9/6/2017	Analysis Date: 9/6/2017 1:20:54 PM	Prep Date	Prep Date: 8/31/2017	l
Client ID: 1700396-WE-2		Run ID:	AANALYST	AANALYST 600_170906			SeqNo:	1005405		•		
	QC Sample		a	QC Spike Original Sample	Sample			Û	Original Sample			
Analyte	Result	귙	Units	Amount	Result %REC	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Öű
Arsenic	1.736	2.0	hg/L	0	0	0	0	0	5.415	103	50	뜻
Sample ID: 1708044-01HD	Batch ID: 27472	Test Code:	Test Code: E200.9_Pb	Units: µg/L			Analysis D	ate: 9/6/2017	Analysis Date: 9/6/2017 6:23:12 PM	Prep Date	Prep Date: 8/31/2017	
Client ID: 1700396-WE-2		Run ID:	AANALYST	AANALYST 600_170906			SeqNo:	1005483				
	QC Sample		ø	QC Spike Original Sample	Sample			0	Original Sample			
Analyte	Result	교	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Lead	Q	5.0	µ9∕L	0	0	0	0	0	0	0	29	

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

GEI Consultants, Inc. CLIENT:

Date: 25-Sep-17

Work Order: 1708044									QC SUMMARY REPORT	IMARY	REPO	RT
Project: 1700396	1700396 MPA Berth 10 Final Design	Design								Samj	Sample Duplicate	ate
Sample ID: 1708044-01HD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: E200.9_Sb Run ID: AANALYST	E200.9_St	E200.9_Sb Units: µg/L AANALYST 600_170905			Analysis D SeqNo:	late: 9/5/2017 1005323	Analysis Date: 9/5/2017 3:37:19 PM SeqNo: 1005323	Prep Date	Prep Date: 8/31/2017	11
Analyte	QC Sample Result	교	Units	QC Spike Original Sample Amount Result	Sample	Sample Result %REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	%RPD RPDLimit	Ö
Antimony	QN .	5.0	µ9⁄L	0	0	0	0	0	0	0	50	
Sample ID: 1708044-01HD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se AANALYS	E200.9_Se Units: µg/L AANALYST 600_170905			Analysis D SeqNo:	ate: 9/5/2017 1005365	Analysis Date: 9/5/2017 7:12:28 PM SeqNo: 1005365	Prep Date	Prep Date: 8/31/2017	
Analyte	QC Sample Result	చ	Units	QC Spike Original Sample Amount Result	Sample Result %REC	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Selenium	QN	5.0	hg/L	0	0	0	0	0	0	0	20	
Sample ID: 1708040-02bd Client ID:	Batch ID: 27477	Test Code: E245.1 Run ID: HG-FIN	E245.1 Unit HG-FIMS_170906A	Units: µg/L 170906A			Analysis D SeqNo:	ate: 9/6/2017 1005590	Analysis Date: 9/6/2017 2:33:16 PM SeqNo: 1005590	Prep Date: 9/5/2017	9/5/2017	
Analyte	QC Sample Result	굾	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	Sample Result %REC LowLimit HighLimit	C HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Mercury	QN	0.20	μg/L	0	0	0	0	0	0	0	20	

Page 63 of 73

ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

J - Analyte detected below quantitation limits

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-01

Collection Date: 8/30/2017 10:30:00 AM

Collection Time:

Client Sample ID: 1700396-WE-2			M	latrix: GROU	NDWATER
Analyses	Result	RL Q	ual Units	DF	Date Analyzed
HEXAVALENT CHROMIUM		SW7196A			Analyst: AL
Chromium, Hexavalent	ND	0.010	mg/L	1	8/31/2017 10:15:00 AM
HEXAVALENT CHROMIUM, DISSOLVED		SW7196A			Analyst: AL
Chromium, Hexavalent	ND	0.010	mg/L	1	8/31/2017 10:15:00 AM
OIL & GREASE, TPH (NON-POLAR MATE	RIAL)	E1664			Analyst: AL
SGT-Hexane Extractable Material	ND	5.0	mg/L	1	9/12/2017
TOTAL SUSPENDED SOLIDS		SM2540 D			Analyst: MB
Suspended Solids (Residue, Non- Filterable)	68	4.0	mg/L	1	8/31/2017
CHLORINE, TOTAL RESIDUAL (MODIFIEI	D)	M4500-CL G			Analyst: AL
Chlorine, Total Residual	ND	0.10 H	l mg/L	1	8/31/2017 9:15:00 AM
CYANIDE, TOTAL		SM4500-CN C,	=		Analyst: AL
Cyanide	ND	0.010	mg/L	1	9/11/2017
AMMONIA AS NITROGEN		SM4500-NH3, C	;		Analyst: AL
Nitrogen, Ammonia (As N)	ND	1.0	mg/L	1	9/11/2017

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-02

Collection Date: 8/30/2017 12:00:00 PM

Collection Time:

Client Sample ID: 1700396-SW-1				Ŋ	Matrix: GROUN	DWATER
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM		SW7196A				Analyst: AL
Chromium, Hexavalent	ND	0.010		mg/L	1	8/31/2017 10:15:00 AM
HEXAVALENT CHROMIUM, DISSOLVED		SW7196A				Analyst: AL
Chromium, Hexavalent	ND	0.010		mg/L	1	8/31/2017 10:15:00 AM
OIL & GREASE, TPH (NON-POLAR MATE	RIAL)	E1664				Analyst: AL
SGT-Hexane Extractable Material	ND	5.0		mg/L	1	9/12/2017
TOTAL SUSPENDED SOLIDS		SM2540 D				Analyst: MB
Suspended Solids (Residue, Non- Filterable)	4.0	4.0		mg/L	1	8/31/2017
CHLORINE, TOTAL RESIDUAL (MODIFIED)	M4500-CL 0	3			Analyst: AL
Chlorine, Total Residual	ND	0.10	н	mg/L	1	8/31/2017 9:15:00 AM
CYANIDE, TOTAL		SM4500-CN	C,E			Analyst: AL
Cyanide	ND	0.010		mg/L	1	9/11/2017
AMMONIA AS NITROGEN		SM4500-NH	3, C			Analyst: AL
Nitrogen, Ammonia (As N)	ND	1.0		mg/L	1	9/11/2017

Date: 25-Sep-17

GEI Consultants, Inc.

Ö ő Ö ğ Method Blank **QC SUMMARY REPORT** %RPD RPDLimit %RPD RPDLimit **RPDLimit** %RPD RPDLimit Prep Date: Prep Date: Prep Date: Prep Date: %RPD Analysis Date: 8/31/2017 10:15:00 AM Analysis Date: 8/31/2017 10:15:00 AM or MS Result Analysis Date: 8/31/2017 10:15:00 AM Original Sample Analysis Date: 8/31/2017 10:15:00 AM Original Sample or MS Result or MS Result Original Sample Original Sample or MS Result 1005759 1005759 1005759 1005759 LowLimit HighLimit LowLimit HighLimit LowLimit HighLimit LowLimit HighLimit SeqNo: SeqNo: SeqNo: SeqNo: Result %REC Result %REC %REC Result %REC QC Spike Original Sample QC Spike Original Sample Result QC Spike Original Sample QC Spike Original Sample Units: mg/L Units: mg/L Units: mg/L Units: mg/L ING-WET_170831C ING-WET_170831C ING-WET_170831C Amount Amount ING-WET_170831C Amount Amount Test Code: SW7196A Test Code: SW7196A Test Code: SW7196A Test Code: SW7196A Units mg/L Units mg/L Units mg/L Units mg/L Run ID: Run ID: Run ID: Run ID: 0.010 0.010 딦 씸 0.010 1700396 MPA Berth 10 Final Design ద 0.010 쿈 Batch ID: R59951 Batch ID: R59951 Batch ID: R59951 Batch ID: R59951 Result 9 QC Sample Result Result QC Sample 9 9 Result QC Sample 9 QC Sample 1708044 Sample ID: MB-R59951 Sample ID: MB-R59951 Sample ID: MB-R59951 Chromium, Hexavalent Chromium, Hexavalent Sample ID: MB-R59951 Chromium, Hexavalent Chromium, Hexavalent Work Order: CLIENT: Project: Client ID: Client 10; Client ID: Analyte Client 1D: Analyte Analyte Analyte

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Page 66 of 73

GEI Consultants, Inc. CLIENT:

CLANAMA DO

Date: 25-Sep-17

Work Order: 170	1708044								QC SUMMARY REPORT	[MAR]	(REPO	RT
Project: 170	1700396 MPA Berth 10 Final Design	Design									Method Blank	lank
Sample ID: MB-R59950 Client ID:	Batch ID: R59950	Test Code: E1664 Run ID: ING-W	:: E1664 ING-WEI	E1664 Units: mg/L	mg/L		Analysis (Analysis Date: 9/12/2017	12	Prep Date:	i ii	11
Analyte	QC Sample Result	몹	Units	QC Spike Or Amount	QC Spike Original Sample Amount Result	Sample Result %REC	Sedition:		<u> </u>	6		•
SGT-Hexane Extractable Material	Material	5.0	mg/L						O MO RESUIT	WRPU WARPU	KFOLIMI	ð
Sample ID: MB-R59918 Client ID:	Batch ID: R59918	Test Code Run ID:	Test Code: SM2540 D Run ID: ING-WET_	SM2540 D Units: mg/L ING-WET_170831A	mg/L		Analysis [SeqNo:	Analysis Date: 8/31/2017 SeqNo: 1005238	17	Prep Date:	<u> </u>	
Analyte	QC Sample Result	젒	Chrits	QC Spike On Amount	QC Spike Original Sample Amount Result	%REC	LowLimit	Sample Result %REC LowLimit HighLimit	Original Sample or MS Resuit	%RPD	%RPD RPDLimit	ë
Suspended Solids (Residue, Non	ue, Non	4.0	mg/L									
Sample ID: MB-R59941 Client ID:	Batch ID: R59941	Test Code: Run ID:	ie: M4500-CI G ING-WET_17	M4500-CI G Units: mg/L ING-WET_170831B	mg/L		Analysis C SeqNo:	Jate: 8/31/201	Analysis Date: 8/31/2017 9:15:00 AM SeqNo: 1005647	Prep Date:	24.2	
Analyte	QC Sample Result	교	Units	QC Spike Ori Amount	QC Spike Original Sample Amount Result	%REC	Sample Result %REC LowLimit	O HighLimit	Original Sample	%RPD		à
Chlorine, Total Residual	QN	0.10	mg/L									Š
Sample ID: MB-R59946 Client ID:	Batch ID: R59946	Test Code: Run ID:	SM4500-C	Test Code: SM4500-CN C Units: mg/L Run ID: ING-WET_170911C	ng/L		Analysis D SeqNo:	Analysis Date: 9/11/2017 SeqNo: 1005687	7	Prep Date:		1
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	iginai Sample Result	%REC	Sample Result %REC LowLimit HighLimit	-	Original Sample or MS Result	%RPD	%RPD RPDI imit	Š
Cyanide	QN	0.010	mg/L									

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

GEI Consultants, Inc. CLIENT:

1708044 Work Order:

Project:

Method Blank **QC SUMMARY REPORT** 1700396 MPA Berth 10 Final Design

Date: 25-Sep-17

Sample ID: MB-R59945	Batch ID: R59945	Test Code	SM4500	Test Code: SM4500.NH3 Inite: mail			4					
!					1		Analysis D	Analysis Date: 9/11/2017	<u>~</u>	Prep Date:		
Cirent ID:		Run 10:	ING-WE	ING-WET_170911B			SeqNo:	1005680				
	QC Sample			QC Spike Original Sample	ial Sample				Original Sample			
Analyte	Result	2	Units	Amount	Result	%REC	LowLimit	HighLimit	Result %REC LowLimit HighLimit or MS Result	%RPD	%RPD RPDLimit Our	ä
Nitrogen, Ammonia (As N)	QN	1.0	mg/L									;

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualificrs:

Date: 25-Sep-17

	GEI Consultants, Inc.											
rder:	1708044								QC SUMMARY REPORT	MARY	REPO	RT
Project: 170	1700396 MPA Berth 10 Final Design	l Design							Lab	Laboratory Control Spike	Control S	pike
												I
Sample ID: LCS-R59951	Batch ID: R59951	Test Code.	Test Code: SW7196A	Units: mg/L			Analysis D	late: 8/31/20	Analysis Date: 8/31/2017 10:15:00 AM	Prep Date:		İ
Client ID:		Run 10:	ING-WET_170831C	170831C			SeqNo:	1005760			•	
Analyte	QC Sample Resuft	R	Units	QC Spike Original Sample Amount Resutt	al Sample Result	%REC	LowLimit	High! imit	Original Sample	900		ć
Chromium, Hexavalent	0.101	0.010	mg/L	0.1	0				0	O'AN	RFOLIME THE PLANT OF THE PLANT	3
Sample ID: LCS-R59951	Batch ID: R59951	Test Code:	Test Code: SW7196A	Units: mg/L			Analysis D.	ate: 8/31/20	Analysis Date: 8/31/2017 10:15:00 AM	Pren Date:		1
Client ID:		Run ID:	ING-WET_170831C	170831C			SeqNo:	1005760	_			
Analyte	QC Sample Result	4	Units	QC Spike Original Sample Amount Result	l Sample Result %REC	%REC	LowLimit HighLimit	_	Original Sample or MS Result	%RPD		ě
Chromium, Hexavalent	0.101	0.010	mg/L	0.1	•	5	8	120	0			j
Sample ID: LCS-R59951	Batch ID: R59951	Test Code: SW7196A	SW7196A	Units: mg/L			Analysis Da	ate: 8/31/201	Analysis Date: 8/31/2017 10:15:00 AM	Dran Date:		1
Client ID:		Run ID:	ING-WET_170831C	170831C			SeqNo:	1005760		riep Date.		
Analyte	QC Sample Result	ፚ	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD		à
Chromium, Hexavalent	0.101	0.010	mg/L	0.1	0	101		120	0			Ž
Sample ID: LCS-R59961	Batch ID: R59951	Q	le: SW7196A	Units: mg/L			Analysis Da	ite: 8/31/201	Analysis Date: 8/31/2017 10:15:00 AM	Prep Date:		I
Client ID:		Run ID:	ING-WET_170831C	170831C			SeqNo:	1005760				
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.101	0.010	mg/L	0.1	0	101	8	120	0			ĺ

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

!!												
	GEI Consultants, Inc.											ij
Work Order: 17	1708044								QC SUMMARY REPORT	IMAR	REPO	RT
Project: 17	1700396 MPA Berth 10 Final Design	Design							Lat	Laboratory Control Spike	Control S	pike
!	l											I
Sample ID: LCS-R59950	50 Batch ID: R59950	Test Code: E1664	: E1664	Units: mg/L	l.		Analysis [Analysis Date: 9/12/2017	1	Preo Date:		
Client ID:		Run ID:	ING-WET	ING-WET_170912C			SeqNo:	1005754			ť	
Analyte	QC Sample Result	굲	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	Lowl imit	Hicht imit	Original Sample	9		(
SGT-Hexane Extractable Material	le Material 20.1	5.0	mg/L	58	0	9	42.4		O O	מולאא	RPDCIME.	Š
Sample ID: LCS-R59918	18 Batch ID: R59918	Test Code:	Test Code: SM2540 D	Units: mg/l.	_ ا		Analysis [Analysis Date: 8/31/2017		oten need		1
Client ID:		Run ID:	ING-WET_170831A	170831A			SeqNo:	1005239	•	rich Dale.	.,	
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	O LowLimit HighLimit	Original Sample	000%	:::: 	ċ
Suspended Solids (Residue, Non	due, Non 949	4.0	mg/L	951	0	99.8	97	103	0	2		Š
Sample ID: LCS-R59941	1 Batch ID: R59941	Test Code:	Test Code: M4500-CI G	G Units: mg/L			Analysis D	ate: 8/31/201	Analysis Date: 8/31/2017 9:15:00 AM	Pren Date:		1
Client ID:		Run ID:	ING-WET_170831B	170831B			SeqNo:	1005648				
Analyte	QC Sample Result	로 	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	O HiahLimit	Original Sample or MS Result	MRDN		à
Chlorine, Total Residual	1.096	0.10	mg/L	-	0	110	8	110	0			ž
Sample ID: LCS-R59946	6 Batch ID: R59946	Test Code:	SM4500-C	SM4500-CN C Units: mg/L	١.		Analysis D	Analysis Date: 9/11/2017		Pren Date:		ı
Client ID:		Run ID:	ING-WET_170911C	170911C			SeqNo:	1005688				
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD		à
Cyanide	0.206	0.010	mg/L	0.2	0	103	2	121	0			5 9

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

CLIENT: GEl Consultants, Inc.

Work Order: 1708044

1700396 MPA Berth 10 Final Design

Project:

Date: 25-Sep-17

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: LCS-R59945	Batch ID: R59945	Test Code	SM4500	t Code: SM4500-NH3, Units: mg/L		Analysis D	Analysis Date: 9/11/2017		Prep Date:		
Client ID:		Run ID:	ING-WE	ING-WET_170911B		SeqNo:	1005681		L		
	QC Sample			QC Spike Original Sample			Ö	Original Samole			
Analyte	Result	귙	Units	Amount Result	%REC	LowLimit	Result %REC LowLimit HighLimit or MS Result	or MS Result	%RPD	%RPD RPDLimit Out	Ö
Nitrogen, Ammonia (As N)	9.38	1.0	тgЛ	10 0	93.8	88	95	0			(:)

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

B - Analyte detected in the associated Method Blank

NA - Not applicable where J values or ND results occur

Date: 25-Sep-17

GEI Consultants, Inc. CLIENT:

Work Order:

Sample Matrix Spike **QC SUMMARY REPORT** 1700396 MPA Berth 10 Final Design 1708044 Project:

Sample ID: 1708044-02EMS	Batch ID: R59951	Test Code: SW7196A	SW7196A	Units: mg/L	mg/L		Analysis [Jate: 8/31/20	Analysis Date: 8/31/2017 10:15:00 AM	Prep Date:		
Client ID: 1700396-SW-1		Run ID:	ING-WET_170831C	170831C			SeqNo:	1005764	-			
Analyte	QC Sample Result	귙	Units	C Spike Or Amount	QC Spike Original Sample Amount Result	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	õ
Chromium, Hexavalent	0.1	0.010	mg/L	0.1	0.004	96	75	125	0			
Sample ID: 1708044-02EMS Client ID: 1700396-SW-1	Batch ID: R59951	Test Code: SW7196A Run ID: ING-WET	SW7196A Unit	Units: mg/L 170831C	mg/L		Analysis C SeqNo:	Jate: 8/31/20-	Analysis Date: 8/31/2017 10:15:00 AM SeqNo: 1005764	Prep Date:		
Analyte	QC Sample Result	굾	Units	C Spike Or Amount	QC Spike Original Sample Amount Result	%REC	LowLimit) HighLímit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.1	0.010	mg/L	0.1	0.004	96	75	125	0			1
Sample ID: 1708044-02EMS Client ID: 1700396-SW-1	Batch ID: R59951	Test Code: SW7196A Run ID: ING-WET_	SW7196A Unit	Units: mg/L 170831C	mg/L		Analysis D SeqNo:	Jate: 8/31/20-	Analysis Date: 8/31/2017 10:15:00 AM SeqNo: 1005764	Prep Date:		
Analyte	QC Sample Result	궚	Units	IC Spike Or Amount	QC Spike Original Sample Amount Result	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Que
Chromium, Hexavalent	0.1	0.010	шgЛ	0.1	0.004	96	75	125	0			
Sample ID: 1708044-02EMS Client ID: 1700396-SW-1	Batch ID: R59951	Test Code: SW7196A Run ID: ING-WET_	SW7196A Unit	Units: mg/L 170831C	mg/L		Analysis D SeqNo:	ate: 8/31/20 ⁻	Analysis Date: 8/31/2017 10:15:00 AM SeqNo: 1005764	Prep Date:		
Analyte	QC Sample Result	起	Cuits	C Spike Or Amount	QC Spike Original Sample Amount Result	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.1	0.010	mg/L	0.1	0.004	96	75	125	0			

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

CI IENT

CLIENT: Work Order:	GEI Con 1708044	GEI Consultants, Inc. 1708044								OC SIIMMARV BEDODE	TMARV	/ Drd	Tot
Project:	1700396	1700396 MPA Berth 10 Final Design	Design								Sample	Sample Matrix Snike	nike
											•		
Sample ID: 1708044-01CMS	4-01CMS	Batch ID: R59950	Test Code: E1664	:: E1664	Units: mg/L	igh.		Analysis [Analysis Date: 9/12/2017	7	Pren Date:		
Cilent IU: 1700396-WE-2	6-WE-2		Run 10:	ING-WEI	ING-WET_170912C			SeqNo:	1005757			i	
Analyte		QC Sample Result	굲	Units	QC Spike Original Sample Amount Result	jinal Sample Result	%REC	l owl	i i i	Original Sample	6 6 8		1
SGT-Hexane Extractable Material	table Materi	ial 20.2	5.0	mg/L	50	9.0	i	78		O Carlo	OLINA DELINA	A COLUMN	ő
Sample ID: 1708044-02DMS	L-02DMS	Batch ID: R59941	Test Code	Test Code: M4500-CI G	G Units: mg/L	9/L		Analysis D.	ate: 8/31/20	Analysis Date: 8/34/2017 0-15-00 AM	100		
Client ID: 1700396-SW-1	3-SW-1		Run ID:	ING-WET	ING-WET_170831B	1		SeqNo:	1005652		rich cale.		
Analyte		QC Sample Result	₹	Units	QC Spike Original Sample Amount Result	inal Sample Result	%REC	%REC LowLimit	Hight imit	Original Sample or MS Recut	% CBBD	: :	Ċ
Chlorine, Total Residual	ival	1.073	0.10	mg/L	-	0	107		118	C	 		֓֞֓֓֓֓֓֟֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓
Sample ID: 4708044 040165	940.69	D-4-1-0	1							,			C
Client ID: 1700396-WE-2	-VE-2	Batch ID: R59946	Test Code: Run ID:	SM4500-CN C Unit ING-WET_170911C	SM4500-CN C Units: mg/L ING-WET_170911C	g/L		Analysis Da SeqNo:	Analysis Date: 9/11/2017 SeqNo: 1005692	11	Prep Date:		
Analyte		QC Sample Result	쥖	Units	QC Spike Original Sample Amount Result	nal Sample Result	%REC	LowLimit HighLimit	_	Original Sample	000%	.! 	ć
Cyanide		0.13	0.010	mg/L	0.2	0	65	89	119	0	2		ĕ α
Sample ID: 1708044-01IMS Client ID: 1700396-WE-2	-01IMS -WE-2	Batch ID: R59945	Test Code: Run ID:	SM4500-NH3, Unit	SM4500-NH3, Units: mg/L	-H		Analysis Da	Analysis Date: 9/11/2017	7	Prep Date:		1
Analyte		QC Sample Result	75	Chits	OC Spike Original Sample		9		-	Œ			
Nitrogen, Ammonia (As N)	As N)	9.1	1.0	mg/L	10		ì	78 78	raignLimit 107	or MS Result	%RPD	%RPD RPDLimit	ð
								•					

ND - Not Detected at the Reporting Limit Qualifiers:

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

Page 73 of 73



317 Elm Street Milford, NH 03055 (603) 673-5440

(603) 673-5440 Fax (603) 673-0366 Sales@chemservelab.com

Thursday, September 21, 2017
Nancy Stewart
AMRO
111 Herrick Street
Merrimack NH 03054

Project Name: MPA Berth 10 Final Design Lab ID: 17090159

Project #: 1700396 Date Received: 9/15/2017

Project Location: MA Control #: 17090159

Dear Nancy Stewart

Enclosed please find the laboratory results for the above referenced samples that were received by the ChemServe sample custodian on the above referenced date. Any abnormalities to the samples upon receipt would be noted on the enclosed chain of custody document. This report is not valid without a completed chain of custody with the corresponding control number, attached.

All samples analyzed by ChemServe are subject to quality standards. These standards are as stringent or more stringent than those established under NELAC, 40 CFR Part 136, state certification programs, and corresponding methodologies. ChemServe has a written QA/QC Procedures Manual that outlines these standards, and is available for your reference, upon request. Unless otherwise stated on the Chain of Custody or within the report, all holding times, preservation techniques, container types, and analytical methods are analogous with those outlined by NELAC. All units are based on "as received" weight unless denoted "dry".

Residual chlorine, sulfite and pH are intended to be performed as an immediate field analysis. Should any of these analyses be performed in the lab instead of in the field it will result in those analyses being performed out of holding time.

I certify that I have reviewed the above referenced analytical data and state forms, and I have found this report within compliance with the procedures outlined within NELAC. ChemServe's certified parameter list can be found at http://www.chemservelab.com/Laboratory-Information-and-Documentation.aspx

I Oliver I Device William Diversity

Jay Chrystal - President/Laboratory Director





317 Elm Street Milford, NH 03055 (603) 673-5440

Sales@chemservelab.com

AMRO **Lab ID**: 17090159

Nancy Stewart Control #: 17090159 **Date:** 9/21/2017

111 Herrick Street Project Number: 1700396

Merrimack NH 03054 Project Name: MPA Berth 10 Final Design

Project Location: MA

Lab ID: 17090159

Sample Receiving and Comment Summary

Were samples submitted with a chain of custody?	Yes
Do all samples received match the chain of custody?	Yes
Were all samples received within applicable holding times?	Yes
Were all containers intact when received?	Yes
Were samples for volatile organic analysis free of headspace (per method)?	N/A
Was there evidence of cooling or were samples received on the same day as collection?	Yes
If the sample pH was not correct was it adjusted where applicable?	Yes
Were samples for dissolved metals already filtered by the client or field sampling?	N/A
Were Samples for O-phos filtered in the field?	N/A
Were samples received in the appropriate containers?	Yes
Were samples submitted with a chain of custody?	Yes
·	

Sample	Method	Client Identity	Matrix	Analyst
17090159-001	SW 9056	1700396-WE-2	Groundwater	PaulF

Comment: no comment

^{*} Blank comment sections denote "No Comment"



317 Elm Street
Milford, NH 03055
(603) 673-5440
Sales@chemservelab.com

AMRO

Analytical Results

Nancy Stewart

Control #: 17090159

Lab ID: 17090159

111 Herrick Street

Project Number: 1700396

9/21/2017

Merrimack

NH 03054

Project Name: MPA Berth 10 Final Design

Project Location: MA

Sample Client Sample Identity

Start Date/Time Sampled:

Date:

Matrix

17090159-001

1700396-WE-2

8/30/2017 10:30:00 AM

Groundwater

Composite Start Date and Time

8/30/2017 10:30:00 AM

Composite End Date and Time

Qualifier

Date/Time Dilution

Parameter

Method

Result

Analyzed Fact

Factor RDL

Chloride

SW 9056

15300 mg/L

9/19/2017

1

1



317 Elm Street
Milford, NH 03055
(603) 673-5440
Sales@chemservelab.com

9/19/2017

1

1

AMRO <u>Analytical Results</u>

 Nancy Stewart
 Control #:
 17090159
 Lab ID:
 17090159

 111 Herrick Street
 Project Number:
 1700396
 Date:
 9/21/2017

Merrimack NH 03054 Project Name: MPA Berth 10 Final Design

Project Location: MA

 Sample
 Client Sample Identity
 Start Date/Time Sampled:
 Matrix

 17090159-002
 1700396-SW-1
 8/30/2017 12:00:00 PM
 Groundwater

Composite Start Date and Time 8/30/2017 12:00:00 PM Composite End Date and Time

Parameter Method Result Date/Time Dilution

Result Qualifier Analyzed Factor RDL

Chloride SW 9056 20200 mg/L

Qualifier: Description:

B- Method blank contaminated with target analyte.

B1- BOD had total oxygen loss. Result reported as ">"the highest dilution.
B2- BOD had no oxygen loss. Result reported as "<" the lowest dilution.

G- Reporting limit elevated due to matrix interference.

H- Method prescribed holding time exceeded.

J- Indicates an estimated value. Value is less than the quantitation limit.

IL- Internal Standard(s) recovery was low due to matrix. Result may be biased high.
 IH- Internal Standard(s) recovery was high due to matrix. Result may be biased low.

LHLaboratory control spike(s) was high. Results may be biased high.
LLLaboratory control spike(s) was low. Results may be biased low.
MHMatrix spike recovery high due to matrix. Results may be biased high.
MLMatrix spike recovery low due to matrix. Results may be biased low.

N- Non-target compound. Reported as a TIC.

NC- Spike recovery was not calculated due to the concentration of the analyte being >4 times the concentration of the spike added.

RRPD outside acceptable recovery limits.
ROSample received out of holding time.
SHSurrogate recovery high due to matrix
SLSurrogate recovery low due to matrix

U- BOD/CBOD blank had an oxygen depletion greater than the suggested amount of 0.200.

V- Sample pH for volatile analysis was not <2 when checked at time of analysis.

Z Too numerous to count (TNTC)

An "A" in the result column on the report indicates absent for presence/absent bacteria and a "P" indicates present for presence/absent bacteria.

AMRO Environmental Laboratories Corporation
111 Herrick Street
Merrimack, NH 03054 | 7090159 9/29

CHAIN-OF-CUSTODY RECORD

62031N

Office: (603) 424-2022 Fax: (603) 429-8496

web: www.amrolabs.com

Learning: Lab Copy Y	legibly and comp turnaround tim resolved.	W/wxam	1///	V-ARA-Y	Relinguished By:	E-mail: Mancy @ amro	Mern mack, NA	1255 T	AMPO ENVILAD.	Send Results To: N	Preservative: CI-HCl, MeOH, N-I	Andrew Control of the						1-80576-5W-1		コールールーニ	Sample ID.:	QUOTE#:	P.O.#:	100396
Yellow: Client Copy	etely. Samples can not clock will not start unti)		rolabs. com	_		020	Ţ	MeOH, N-HN03, S-H2SO4, Na							00:21	10:10		Date/Time Sampled	Seal Intact? Yes No N/A	Results Needed by:	Project Name: MPA Berth 10
		1	61-11-6	9-15-17	Date/Time	Ž	AUTHORIZATION No.:	have a coded	Before submitt	RIORITYTI	Na-NaOH, O- Other							3	SIS		Matrix			Design
	Samples arriving after 12:00 received on the following day		line	1100	Time		TION No.:	have a coded AUTHORIZATION NUMBER	Before submitting samples for expedited TAT, you must	NOTE VERSORALITY STALL UNITORANALIL ALLIBOIRA	Other							+	7002		Total # of Cont. &	Size		Project N
	ing after 12 e following			1.116			-	TION NUM	expedited T	TIME AUT								<	 -		Comp. Grah Chlori	10		MA
	Samples arriving after 12:00 noon will be tracked and bill received on the following day:		with	Ko-	// Re		BY:	IBER	AT, you must	IORIZATION											CALOTI			Project Manager:
SHEET	cked and billed as		15 Sep/	\	Received By	MCP Presumpti	Dissolved Metal			METALS											-	**************************************	REQ	ager:
0F 1			7 10.80	***************************************	7.000	MCP Presumptive Certainty Required? YES NO Required?	Dissolved Metals Field Filtered?		6010 200.7	1													EQUESTED ANALYSES	Samplers
AMROCOC2004, Rev.3, 08/18/04	AMRO policy requires notification in writing to the laboratory in cases where the samples were collected from highly contaminated sites.	<u> </u>	EDD required:	level needed: しら	AMRO report package	MCP Methods Needed: YES NO	YES NO		Other Metals:	1														Samplers (Signature):
	KNOWN SITE CONTAMINATION:		 [S-3 GW-3	S-2 GW-2	S-1 GW-1	11 131864 Farden		14 MCF	AACH TITLE				To Address to Aller	Pa	ge 5	5 of 5						Remarks	AMRO Project No.;



 Work Order:
 17090159
 Date Analyzed:
 9/19/2017
 Analyst:
 PF

Method Blank ID:	MB091917	
	Method Blank	Detection
	Results	Limits
Chloride	<dl< th=""><th>1.0 (mg/L)</th></dl<>	1.0 (mg/L)

Control Spike ID	DIMS091917	
	Spiked Amount	LCS mg/L
Chloride	1.00	1.04
		RPD

Serial_No:03261819:46

Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:**17873** Revision 11

Published Date: 1/8/2018 4:15:49 PM

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: <u>NPW</u>: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; <u>SCM</u>: lodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: <u>DW:</u> Bromide EPA 6860: <u>SCM:</u> Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Document Type: Form Pre-Qualtrax Document ID: 08-113

Appendix C

Source Water Laboratory Data Report



111 Herrick Street, Merrimack, NH 03054 TEL: (603) 424-2022 • FAX: (603) 429-8496 www.amrolabs.com

September 25, 2017

ANALYTICAL TEST RESULTS

Molly Greer GEI Consultants, Inc. 400 Unicorn Park Drive Woburn, MA 01801 TEL: (781) 721-4000

FAX: (781) 721-4073

Subject: 1700396 MPA Berth 10 Final Design

Workorder No.: 1708044

Dear Molly Greer:

AMRO Environmental Laboratories Corp. received 2 samples on 8/30/2017 for the analyses presented in the following report.

AMRO is accredited in accordance with NELAC and certifies that these test results meet all the requirements of NELAC, where applicable, unless otherwise noted in the case narrative.

The enclosed Sample Receipt Checklist details the condition of your sample(s) upon receipt. Please be advised that any unused sample volume and sample extracts will be stored for a period of 60 days from sample receipt date (90 days for samples from New York). After this time, AMRO will properly dispose of the remaining sample(s). If you require further analysis, or need the samples held for a longer period, please contact us immediately.

This report consists of a total of 73 pages. This letter is an integral part of your data report. All results in this project relate only to the sample(s) as received by the laboratory and documented in the Chain-of-Custody. This report shall not be reproduced except in full, without the written approval of the laboratory. If you have any questions regarding this project in the future, please refer to the Workorder Number above.

Sincerely.

Nancy Stewart Vice President

State Certifications: NH (NELAC): 1001, MA: M-NH012, CT: PH-0758, NY: 11278 (NELAC), ME: NH012 and 1001.

Hard copy of the State Certification is available upon request.

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Date Received: 8/30/2017

Work Order Sample Summary

Lab Sample ID	Cllent Sample ID	Collection Date	Collection Time
1708044-01A	1700396-WE-2	8/30/2017	10:30 AM
1708044-01B	1700396-WE-2	8/30/2017	10:30 AM
1708044-01C	1700396-WE-2	8/30/2017	10:30 AM
1708044-01D	1700396-WE-2	8/30/2017	10:30 AM
1708044-01E	1700396-WE-2	8/30/2017	10:30 AM
1708044-01F	1700396-WE-2	8/30/2017	10:30 AM
1708044-01G	1700396-WE-2	8/30/2017	10:30 AM
1708044-01H	1700396-WE-2	8/30/2017	10:30 AM
1708044-011	1700396-WE-2	8/30/2017	10:30 AM
1708044-02A	1700396-SW-1	8/30/2017	12:00 PM
1708044-02B	1700396-SW-1	8/30/2017	12:00 PM
1708044-02C	1700396-SW-1	8/30/2017	12:00 PM
1708044-02D	1700396-SW-1	8/30/2017	12:00 PM
1708044-02E	1700396-SW-1	8/30/2017	12:00 PM
1708044-02F	1700396-SW-1	8/30/2017	12:00 PM
1708044-02G	1700396-SW-1	8/30/2017	12:00 PM
1708044-02H	1700396-SW-1	8/30/2017	12:00 PM
1708044-021	1700396-SW-1	8/30/2017	12:00 PM

DATES REPORT

AMRO Environmental Laboratories Corp.

1708044 Lab Order: Client:

GEI Consultants, Inc.

Project:	1700396 MPA Berth 10 Final Desi	Desi			DATES REFORT	ī	
Sample ID	Client Sample ID	Collection Date	Matrix	Analytical Test Name		Analysis Date	
				Preparatory Test Name	Prep Date	Batch ID	TCLP Date
1708044-01A	1700396-WE-2	8/30/2017 10:30:00 AM	Groundwater	EPA 8260C VOLATILES by GCMS		9/5/2017	
			3	EPA 5030B	8/30/2017	R59921	
1708044-01B				EPA 8082A PCBS IN WATER		7102/1/6	
				EPA 3510 AQPREP SEP FUNNEL: PCB	6/5/2017	27482	
				EPA 8270D SEMIVOLATILE ORGANICS, Aqueous		9/5/2017	
				EPA 3510 AQPREP SEP FUNNEL: BNA	8/31/2017	27476	
				PAH BY EPA 8270D SIM		9/6/2017	
F					8/31/2017	27476	
1708644-01C				TPH, EPA 1664A		9/12/2017	
3 of						R59950	
1708844-01D				SM 4500G Chlorine, Total Residual (modified)		8/31/2017	
						R59941	3
				Standard Methods - Total Suspended Solids		8/31/2017	
	- (a) - (a)				70	R59918	
1708044-01E				EPA 7196 HEXAVALENT CHROMIUM		8/31/2017	
						R59951	
1708044-01F				EPA 7196 HEXAVALENT CHROMIUM		8/31/2017	1000
						R59951	
1708044-01G				Standard Methods - Cyanide, Total		9/11/2017	1
				710		R59946	
1708044-01H				EPA 200.7 ICP METALS, TOTAL		9/1/2017	
				200 Series Prep: ICP/GFAA	8/31/2017	27472	
				EPA 200.7 ICP METALS, TOTAL	! 	9/1/2017	
					8/31/2017	27472	

DATES REPORT

AMRO Environmental Laboratories Corp.

Lab Order: 1708044

Client: GEI Consultants, Inc.

Project: 1700396 MPA Berth 10 Final Desi

Sample ID	Client Sample ID	Collection Date	Matrix	Analytical Test Name		Analysis Date	
				Preparatory Test Name	Prep Date	Batch ID	TCLP Date
1708044-01H	1700396-WE-2	8/30/2017 10:30:00 AM Groundwater	Groundwater	EPA 200.9 ARSENIC, Total		21079/6	
	1 mm m m 1 mm 1 mm 1 mm 1 mm 1 mm 1 mm			200 Series Prep: ICP/GFAA	8/31/2017	27472	
				EPA 200.9 LEAD, Total		9/6/2017	
,					8/31/2017	27472	
				EPA 200.9 SELENIUM, Total		9/5/2017	
					8/31/2017	27472	
				EPA 200.9 ANTIMONY, Total		9/5/2017	
					8/31/2017	27472	
Page				EPA 245.1 MERCURY, Total		9/6/2017	
e 4 of				MERCURY PREP: EPA 245.1/7040	9/5/2017	27477	
1708044-011				Standard Methods - Ammonia as Nitrogen		7102/11/6	
						R59945	
1708044-02A	1700396-SW-1	8/30/2017 12:00:00 PM		EPA 8260C VOLATILES by GC/MS	· · · · · · · · · · · · · · · · · · ·	9/5/2017	
,				EPA 5030B	8/30/2017	R59921	
1708044-02B				EPA 8082A PCBS IN WATER		9772017	
				EPA 3510 AQPREP SEP FUNNEL: PCB	9/5/2017	27482	
				EPA 8270D SEMIVOLATILE ORGANICS, Aqueous		9/5/2017	
				EPA 3510 AQPREP SEP FUNNEL: BNA	8/31/2017	27476	
				PAH BY EPA 8270D SIM		9/6/2017	
					8/31/2017	27476	
1708044-02C				TPH, EPA 1664A		9/12/2017	
		man and the first same & amountained day to be seen as for the first same of				R59950	
1708044-02D				SM 4500G Chlorine, Total Residual (modified)		8/31/2017	
						R59941	

25-Sep-17

AMRO Environmental Laboratories Corp.

TCLP Date Analysis Date Batch ID 8/31/2017 8/31/2017 8/31/2017 9/11/2017 7102/1/6 R59918 9/11/2017 R59951 9/1/2017 R59951 R59946 9/6/2017 9/6/2017 9/5/2017 9/5/2017 7102/9/6 27472 R59945 27472 27472 27472 27472 27472 27477 DATES REPORT Prep Date 8/31/2017 8/31/2017 8/31/2017 8/31/2017 8/31/2017 8/31/2017 2102/5/6 Standard Methods - Total Suspended Solids EPA 7196 HEXAVALENT CHROMIUM EPA 7196 HEXAVALENT CHROMIUM Standard Methods - Ammonia as Nitrogen MERCURY PREP: EPA 245.1/7040 Standard Methods - Cyanide, Total EPA 200.7 ICP METALS, TOTAL EPA 200.7 ICP METALS, TOTAL EPA 200.9 SELENIUM, Total EPA 200.9 ANTIMONY, Total EPA 245.1 MERCURY, Total 200 Series Prep: ICP/GFAA EPA 200.9 ARSENIC, Total Preparatory Test Name EPA 200.9 LEAD, Total Analytical Test Name 8/30/2017 12:00:00 PM Groundwater Matrix Collection Date 1700396 MPA Berth 10 Final Desi GEI Consultants, Inc. Client Sample ID 1700396-SW-1 1708044 Lab Order: 1708044-02D 1708044-02E 1708044-02G 1708044-02F Project: Sample ID 1708044-021 Client:

Chain-o	Chain-of-Custody Record			Labo	Laboratory:				7 2	Laboratory Job #	# qof #		3	408V4	#		
			1			Project	Project Information	5								F	
<u></u>	Project	Project Name: MPA Berth 10 Final Design	rth 10 Final	Design			Project Project	Project Location: Boston, MA Project Manager: Mike Sabulis	Boston, Mike Sab	MA					H		Page_1_ of_1_
ر 		Project Number: 1700396	396														
400	400 Unicom Park Drive Send Report to:	sport to:	Molly Green	16				1 P					ij				
Ş 4 ì	Wobum, MA 01801 PH: 781.721.4000	Send EDD to: labdata@geiconsultants.com	geiconsultar	mos:sh			호	None	None H2SO4	SO4 None	ne None	None	NaOH	H ONT	NaOH HNO3 HNO3 H2SO4	\ \	Sample Handling
	. 101.141,4013) 						===	188	W.	5 0				¥)	S	Samples Field Filtered
MCP PRESU	MCP PRESUMPTIVE CERTAINTY REQUIRED	- YES N	NO	27	55	38	ч					9W0			(2)		YES NO NA
If Yes, Are MC	If Yes, Are MCP Analytical Methods Required?		YES	ON.	¥		iw (()	_) pirde	N4C			,†) 8	上	Campled Chinaca
If Yes, Are Dri	If Yes, Are Drinking Water Samples Submitted?		YES	2	ş		NE' 9	WIS 04Z8	(AS8	- (əpi	(1) s	lejel		With Ice
If Yes, Have Y	If Yes, Have You Met Minimum Field QC Requirements?	nents?	YES	2	¥		S8) IAT	p)	(80	1799			nsy	619	l be	Si	YES NO
Lab Sample Number	GE Sampte 10	Coffe	Collection	# stotal	No. of Bottles	Sampler(s) initials	VOCs DBE, TBA	SVOC	SBO	it)HqT	T5S, T	vlossiC	O leto]	M lejo]	vloesiC	nomm	
	1700396-WE-2	8/30/2017	10:30	GW	15	MEG	×	×		×	Ľ	<u> </u>	,	,		十	Do not run dissolved metals
	1700396-SW-1	8/30/2017	12:00	ΜĐ	15	MEG	*	,	-	┞	-	,	 	<u> </u>		T	until authorized by GEI, but do
								+	╀	<u> </u>	<u>{</u>		+ *	×	×	 	IGH HOA. CHOSE
								+	+	<u> </u>	+		+	+		+	
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age								\dagger	+	+	-		\dagger	\dashv			
6 of 7								$ \cdot $	H	\prod			$\dagger \dagger$	-			
MCP Level Ne	MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analyties	ant Method 1 MC	P standard	be met for	all analyt	%		=		International Time	-					-	
Whenever possible.	vible.	The			20000	CALLED CA	8		(Busine	(Business days):	() ()		ocione su notify the	laborator	rusn turna ry to confi	around s	perore submitting rush tumaround samples, you must notify the laboratory to confirm that the TAT can be
	CHITCH SISOIN	1400	QQ	Samol	nok	Ir Frida		Norma 10-Day	Normal	Other 7-Day	 		achieved.		•		
¥	Sanole France 817	している	Moderation	Programs)	70/1	•		5-Day	×	3-Day							
Refinquished by (sign	ı	_	2. // rt/L						A. HE	Addit	Additional Requirements/Comments/Remarks:	uiremen	ь/Сотп	ents/Re	marks:		
3 (110C)	4,000 8134	77) / ///	S	Y	1	(1) Metals:	Antimony, a	irsenic, cad	(1) Metaks: Antimony, arzenic, cadmium, chromium, copper, lead, mercury, nickel, selenium,silver, zinc, lorn.	nkum, copper,	lead, merc	ury, nickel	selenium,s	fiver, zinc, lo	É	
1 h.M.	Shan Spalin	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7			1	(Z) Dissolv	ed metals ar	of hex chro	2) Dissolved metals and hex chrome field filtered	P						
X	11/4			4				ae use EPA	Remediatio	n General Pc	rmk (RGP) n	ethods and	defection	imite enecti	fed is attach	Angel Per	(3) Pleas use EPA Remediation General Permit (RGP) methods and detection limits snac-flad in attached Anneads of a color in La soft in Land
														miles abore	nen ili eneri	an whitel	de vii di rer Perrin.

SAMPLE RECEIPT CHECKLIST

i 11 Herrick Street Merrimack, NH 03054

Client: (2F)		T		(603) 424-2022
	AMRO	. — .	1708	2049
Project Name: MP Next 10 Filed Degree Ship via: (circle one) Fed Ex., UPS, AMRO Courier	Date Re	c.:	8/3	30/12
Hand Del., Other Courier, Other:	Date Du	le:		6117
Since Council, Other.			- '/	
Items to be Checked Upon Receipt				
1. Army Samples received in Individual plastic bags?	Yes	No No	NA	Comments
2. Custody Seals present?			V	
3. Custody Seals Intact?			V	
			V	
4. Air Bill included in folder if received?			V	
5. Is COC included with samples?	V			
6. Is COC signed and dated by client?	V			
7. Laboratory receipt temperature. Samples rec. with icelce packsneither				
Samples rec. with Ice Vice packs neither				
6. Were samples received the same day they were sampled?				
Is client temperature = or <6°C?	V	_		
If no obtain authorization from the client for the analyses.	-			
Client authorization from: Date: Obtained by:				
9. Is the COC filled out correctly and completely?				
10. Does the info on the COC match the samples?	V			
11. Were samples rec. within holding time?	V			
12. Were all samples properly labeled?	8			
13. Were all samples properly preserved?				
14. Were proper sample containers used?	J		12 12 13 pp - 12 12 pp - 12 12 pp - 12 12 pp - 12 12 pp - 12 12 pp - 1	
15. Were all samples received intact? (none broken or leaking)	V			
16. Were VOA vials rec. with no air bubbles?	v			
17. Were the sample volumes sufficient for requested analysis?	/			
18. Were all samples received?	J			
19. VPH and VOA Solls only:	V			
Sampling Method VPH (circle one): M=Methanol, E=EnCore (air-tight container)			V	6
Sampling Method VOA (circle one): Methodology Belloure (air-tight container)				
Sampling Method VOA (circle one): M=Methanol, SB=Sodlum Bisulfate, E=EnCo	ore, B-Bulk, I	D= DI wat	er	
Does preservative cover the solf?				
Does preservation level come close to the fill line on the vial?				
Date/Time DI Preserved vials Frozen on:				
Frozen by Client?				
Were vials provided by AMRO?				
If NO then weights MUST be obtaine Was dry weight aliquot provided?	d from client			
20. Subcontracted Samples: If NO then notified client and inform	the VOA lab	THE RESERVE AND THE PERSON NAMED IN		
What samples sents O/ AD	V		X-a	
What samples sent: 01,02 Where sent: Chem Sarve				
Date: 9-15-17				
Analysis: Chloride				
TAT.				
TAT: 5+2 1. Information entered into:				
		T		
Internal Tracking Log?	V			
Dry Weight Log?				
Client Log?		- 1		
Composite Log?		TV		
Filtration Log?			/	
eceived By: US Date: 8/30/19 Logged in By: NS			10/01/	(0)
abeled By: MAID Date: 8/3/ 17 Checked By: MAI	N		c:8/3//	7
T T T T			e 1 71 1	/ 1 II

Please Circle if: Sample= Soil Sample= Waste

AMRO ID: 1708044

Sample ID	Analysis	Volume Sample	Preserv.	lnitial	Acceptable? Y or N	List Preserv. Added by AMRO	Solution 1D f	Volume Preservative Added	Final adjusted pH	1 /
01A-02A		2×401					0. 1.000. 1.	Added	Pri	24 hours)
						 	-			06
018-028				7	y	<u> </u>				
010-020			th 80 c							
010-020	TES, TRC	W/15/L	<u> </u>	7	L 8					
01F-02E	Her Chi	4 1× 500		7	14					
"OIF-02F	Diss. Hox	1/x 500	_	7	W	1.*			 	
019-029	T Cleri-	1×20	K-OH AS		y,		 		 	
01 H-02H	TOUR	1,400	4402	62	7 /	╫───	 	 	 	
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01I-02I	Am nuri	17-700	Party	22	W	 				
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								2.		
<u></u>						9 8 50 0	5-1-			
Sample ID	Analysis	Volume Sample	Preserv. Listed	Initial TRC	Acceptable? Y or N	List Preserv. Added by AMRO	Solution ID # of Preserv.	Volume Preservative Added	Final dijusted TRC	Acceptable?
		•		1 1 1		197211				
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				:	×0.0			100		
							70			
			- 1							
		100								
* = if the laborate	ory preserve	es the drin	King water	sample	(s) for EPA Me	ethod 200 sei	ies, sample (s) s	should be held	at least	
<i>16 hours prior to</i> pH Checked B	<i>analysis or</i> y: <u> </u>	11/19	for water si	<i>ample (s</i> Date: _	s). <u>8/3//b</u> -	pH adju	sted By:		Date:	
pH Checked B					,		or 24hrs)By:_	—	Date:	

tories Corp. Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

CASE NARRATIVE

GC/MS VOLATILES- 8260C:

1. A Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were performed on 09/05/17 on V-3 (Batch ID: R59921). All %Rs and RPDs were within the laboratory control limits with the following exception(s):

- 1.1 The %R for 1 analyte out of 67 analytes in the LCS were outside the control limits.
- 1.2 The %R for 2 analytes out of 67 analytes in the LCSD were outside the control limits.
- 1.3 The RPD for 2 analytes out of 67 analytes were outside the control limits.
- 2. A Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample 1700396-WE-2 (1708044-01). All %Rs and RPDs were within the laboratory control limits with the following exception(s):
- 2.1 The RPD for 1 analyte out of 67 analytes was outside the control limits.
- 3. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

GC/MS SEMIVOLATILES-8270D:

- 1. A Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were performed on 09/05/17 on SV-4 (Batch ID: 27476). All %Rs and RPDs were within the laboratory control limits with the following exception(s):
- 1.1 The %R for 5 analytes out of 67 analytes in the LCS were outside the control limits.
- 1.2 The %R for 4 analytes out of 67 analytes in the LCSD were outside the control limits.
- 1.3 The RPD for 1 analyte out of 67 analytes was outside the control limits.
- 2. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

GC/MS SEMIVOLATILES- 8270D-SIM:

1. No analytical or quality issues were noted, other than those described in the Data Comment page.

GC/ECD-PCBs-8082A:

1. No analytical or quality issues were noted, other than those described in the Data Comment page.

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

CASE NARRATIVE

METALS:

1. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample 1700396-SW-1 (1708044-02). All %Rs and RPDs were within the laboratory control limits with the following exception(s):

- 1.1 Arsenic recovered above the control limits in the MS. However, in the MSD was within control limits.
- 1.2 Lead recovered below the control limits in both MS and MSD.
- 1.3 Selenium was not recovered in both MS and MSD
- 2. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

WET CHEMISTRY:

- 1. The samples for Total Residual Chlorine were received past holding time.
- 2. A Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample 1700396-WE-2 (1708044-01) for Cyanide analysis. MS %R was below laboratory control limits.
- 3. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

SUB-CONTRACTED

1. Some analyses in this project were sub-contracted to another laboratory. Please see the sample receipt checklist for details and the sub-contract lab report for their certification status. AMRO does not transcribe data from another lab. A copy of the subcontract lab report is included in this report. AMRO keeps the original report on file with this work order.

DATA COMMENT PAGE

Organic Data Qualifiers

- ND Indicates compound was analyzed for, but not detected at or above the reporting limit.
- Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than the method detection limit.
- H Method prescribed holding time exceeded.
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- B This flag is used when the analyte is found in the associated blank as well as in the sample.
- R RPD outside accepted recovery limits
- RL Reporting limit; defined as the lowest concentration the laboratory can accurately quantitate.
- S Spike Recovery outside accepted recovery limits.
- # See Case Narrative
- Q RPD between signal 1 and signal 2 >40%.

Micro Data Qualifiers

TNTC Too numerous to count

Inorganic Data Qualifiers

- ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.
- J Indicates a value greater than or equal to the method detection limit, but less than the quantitation limit.
- H Indicates analytical holding time exceedance.
- B Indicates that the analyte is found in the associated blank, as well as in the sample.
- MSA Indicates value determined by the Method of Standard Addition
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- R RPD outside accepted recovery limits
- RL Reporting limit; defined as the lowest concentration the laboratory can accurately quantitate.
- S Spike Recovery outside accepted recovery limits.
- PS The analyte was below the Reporting Limit but has significant matrix interference as noted by the poor recovery of the Post Digestion Spike.
- # See Case Narrative
- MCL Exceeded

Report Comments:

- 1. Soil, sediment and sludge sample results are reported on a "dry weight" basis.
- 2. Reporting limits are adjusted for sample size used, dilutions and moisture content, if applicable.

Date: 25-Sep-17

CLIENT:

GEl Consultants, Inc.

Lab Order: 1708044

1700396 MPA Berth 10 Final Design

Project: Lab ID:

1708044-01A

Client Sample ID: 1700396-WE-2

Collection Date: 8/30/2017 10:30:00 AM

Matrix: GROUNDWATER

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA 8260C VOLATILES BY GC/MS	SV	/8260C			Analyst: JK
1,4-Dioxane	ND	50	μg/L	1	9/5/2017 2:50:00 PM
Dichlorodifluoromethane	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
Chloromethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Vinyl chloride	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Chloroethane	ND	5.0	µg/L	1	9/5/2017 2:50:00 PM
Bromomethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Trichlorofluoromethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Diethyl ether	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
Acetone	ND	10	μg/L	1	9/5/2017 2:50:00 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	9/5/2017 2:50:00 PM
Carbon disulfide	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Methylene chloride	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
Methyl tert-butyl ether	ND	2.0	μ g/L	1	9/5/2017 2:50:00 PM
trans-1,2-Dichloroethene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
1,1-Dichloroethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Tertiary Butanoi	ND	20	µg/L	1	9/5/2017 2:50:00 PM
2-Butanone	ND	10	μg/L	1	9/5/2017 2:50:00 PM
Diisopropyl ether	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
cis-1,2-Dichloroethene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Ethyl Tertiary Butyl Ether	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Chloroform	ND	2.0	μ g/L	1	9/5/2017 2:50:00 PM
Tetrahydrofuran	ND	10	μg/L	1	9/5/2017 2:50:00 PM
Bromochloromethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,1,1-Trichloroethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,1-Dichloropropene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Carbon tetrachloride	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
1,2-Dichloroethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Benzene	ND	1.0	μg/L	1	9/5/2017 2:50:00 PM
Trichloroethene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,2-Dichloropropane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Bromodichloromethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Dibromomethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Tertiary Amyl Methyl Ether	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
4-Methyl-2-pentanone	ND	10	µg/L	1	9/5/2017 2:50:00 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	9/5/2017 2:50:00 PM
Toluene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	9/5/2017 2:50:00 PM
1,1,2-Trichloroethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-WE-2

Lab Order:

1708044

Collection Date: 8/30/2017 10:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-01A

analyses	Result	RL	Qual Units	DF	Date Analyzed
1,2-Dibromoethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
2-Hexanone	ND	10	μg/L	1	9/5/2017 2:50:00 PM
1,3-Dichloropropane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Tetrachloroethene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Dibromochloromethane	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Chiorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Ethylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
m,p-Xylene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
o-Xylene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Styrene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Bromoform	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
isopropyibenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,1,2,2-Tetrachioroethane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Bromobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
n-Propylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
2-Chlorotoluene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
4-Chlorotoluene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,3,5-Trimethylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
tert-Butylbenzene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
1,2,4-Trimethylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
sec-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1-isopropyitoluene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,3-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,4-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
n-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
1,2,4-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
Hexachlorobutadiene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Naphthalene	ND	5.0	μg/L	1	9/5/2017 2:50:00 PM
1,2,3-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 2:50:00 PM
,3,5-Trichlorobenzene	ND	2.0	µg/L	1	9/5/2017 2:50:00 PM
Surr: Dibromofluoromethane	116	74-138	%REC	1	9/5/2017 2:50:00 PM
Surr: 1,2-Dichloroethane-d4	110	64-138	%REC	1	9/5/2017 2:50:00 PM
Surr: Toluene-d8	110	77-128	%REC	1	9/5/2017 2:50:00 PM
Surr: 4-Bromofluorobenzene	96.6	81-113	%REC	1	9/5/2017 2:50:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

1708044

Client Sample ID: 1700396-SW-1

Lab Order:

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-02A

Analyses	Result	RL	Qual Units	DF	Date Analyzed
EPA 8260C VOLATILES BY GC/MS	sv	V8260C			Analyst: JK
1,4-Dioxane	ND	50	μ g /L	1	9/5/2017 3:27:00 PM
Dichlorodifluoromethane	ND	5.0	µg/L	1	9/5/2017 3:27:00 PM
Chloromethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Vinyl chloride	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Chloroethane	ND	5.0	µg/L	1	9/5/2017 3:27:00 PM
Bromomethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Trichlorofluoromethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Diethyl ether	ND	5.0	μg/L	1	9/5/2017 3:27:00 PM
Acetone	ND	10	μg/L	1	9/5/2017 3:27:00 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	9/5/2017 3:27:00 PM
Carbon disulfide	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Methylene chloride	ND	5.0	μg/L	1	9/5/2017 3:27:00 PM
Methyl tert-butyl ether	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
trans-1,2-Dichloroethene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,1-Dichloroethane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Tertiary Butanol	ND	20	μg/L	1	9/5/2017 3:27:00 PM
2-Butanone	ND	10	μg/L	1	9/5/2017 3:27:00 PM
Dilsopropyi ether	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
2,2-Dichloropropane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
cis-1,2-Dichloroethene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Ethyl Tertiary Butyl Ether	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Chloroform	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Tetrahydrofuran	ND	10	µg/L	1	9/5/2017 3:27:00 PM
Bromochloromethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,1,1-Trichloroethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,1-Dichloropropene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Carbon tetrachloride	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,2-Dichloroethane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Benzene	ND	1.0	μg/L	1	9/5/2017 3:27:00 PM
Trichloroethene	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
1,2-Dichloropropane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Bromodichloromethane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Dibromomethane	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
Tertiary Amyl Methyl Ether	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	9/5/2017 3:27:00 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	9/5/2017 3:27:00 PM
Toluene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	9/5/2017 3:27:00 PM
1,1,2-Trichloroethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-SW-1

Lab Order:

1708044

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-02A

Analyses	Result	RL	Qual Uni	its DF	Date Analyzed
1,2-Dibromoethane	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
2-Hexanone	ND	10	μg/L	. 1	9/5/2017 3:27:00 PM
1,3-Dichloropropane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Tetrachloroethene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Dibromochloromethane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Chlorobenzene	ND	2.0	µg/L	. 1	9/5/2017 3:27:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Ethylbenzene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
m,p-Xylene	ND	2.0	µg/L	. 1	9/5/2017 3:27:00 PM
o-Xylene	ND	2.0	µg/L	. 1	9/5/2017 3:27:00 PM
Styrene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Bromoform	ND	2.0	μg/L		9/5/2017 3:27:00 PM
Isopropyibenzene	ND	2.0	µg/L	. 1	9/5/2017 3:27:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
Bromobenzene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
n-Propylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
2-Chlorotoluene	ND	2.0	μg/L	. 1	9/5/2017 3:27:00 PM
4-Chiorotoluene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,3,5-Trimethylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
tert-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,2,4-Trimethylbenzene	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
sec-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
4-Isopropyltoluene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,3-Dichlorobenzene	ND	2.0	µg/L	1	9/5/2017 3:27:00 PM
1,4-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
n-Butylbenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	9/5/2017 3:27:00 PM
1,2,4-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Hexachlorobutadiene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Naphthalene	ND	5.0	μg/L	1	9/5/2017 3:27:00 PM
1,2,3-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
1,3,5-Trichlorobenzene	ND	2.0	μg/L	1	9/5/2017 3:27:00 PM
Surr: Dibromofluoromethane	118	74-138	%RE	C 1	9/5/2017 3:27:00 PM
Surr: 1,2-Dichloroethane-d4	108	64-138	%RE	C 1	9/5/2017 3:27:00 PM
Surr: Toluene-d8	110	77-128	%RE	C 1	9/5/2017 3:27:00 PM
Surr: 4-Bromofluorobenzene	96.1	81-113	%RE	C 1	9/5/2017 3:27:00 PM

Date: 25-Sep-17

ð Method Blank **QC SUMMARY REPORT** %RPD RPDLimit Prep Date: 9/5/2017 B - Analyte detected in the associated Method Blank Original Sample or MS Result Analysis Date: 9/5/2017 2:14:00 PM 1005280 LowLimit HighLimit SeqNo: Result %REC S - Spike Recovery outside accepted recovery limits QC Spike Original Sample R - RPD outside accepted recovery limits Units: µg/L Amount V-3_170905A Test Code: SW8260C Units µg/L µg/L rg/L ug/L µg/L Fg/ Fg/ rg/L μg/L μğ pg/ μg/L 肾 µg/L rg/L µg/L Hg/L rg/L ug/L рg/ μğ ng/ рgИ Run ID: 5.0 2.0 2.0 5.0 2.0 2.0 5.0 5 2.0 5.0 5 2.0 2.0 쿈 20 9 2.0 2.0 2.0 2.0 2.0 5 700396 MPA Berth 10 Final Design J - Analyte detected below quantitation fimits ND - Not Detected at the Reporting Limit Batch ID: R59921 QC Sample Result 9 9 ð ₽ 읒 9 ₽ 9 ₽ ₽ 9 ₽ ₽ 9 9 9 GEI Consultants, Inc. 1708044 Sample ID: mb-09/05/17 trans-1,2-Dichloroethene Dichlorodifluoromethane Ethyl Tertiary Butyl Ether richlorofluoromethane cis-1,2-Dichloroethene Methyl tert-butyl ether Bromochloromethane 1,1,1-Trichloroethane 2,2-Dichloropropane i.1-Dichloroethene Methylene chloride I, 1-Dichloroethane Diisopropyi ether Work Order: Carbon disulfide Tertiary Butanol Chloromethane Bromomethane Tetrahydrofuran Vinyl chloride Chloroethane 1,4-Dioxane Diethyl ether CLIENT: Qualifiers: 2-Butanone Chloroform Project: Client ID: Analyte Acetone

NA - Not applicable where J values or ND results occur

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT:	GEl Consultants, Inc.			
Work Order:	1708044			QC SUMMARY REPORT
Project:	1700396 MPA Berth 10 Final Design	inal Design		Method Blank
1, 1-Dichloropropene	ND	2.0	μg/L	
Carbon tetrachloride	ON e	2.0	µg/L	
1,2-Dichloroethane	QN	2.0	h9∕L	
Benzene	QN	1.0	μg/L	
Trichloroethene	QN	2.0	ng/L	
1,2-Dichloropropane	e ND	2.0	hg/L	
Bromodichloromethane	ND ND	2.0	μg/L	
Dibromomethane	QN	2.0	hg/L	
Tertiary Amyl Methyl Ether	yl Ether ND	2.0	µg/L	
4-Methyl-2-pentanone	ND ND	9	μg/L	
cis-1,3-Dichloropropene	ON ND	1.0	hg/L	
Toluene	QN	2.0	µg/L	
trans-1,3-Dichloropropene	ON whene	1.0	hg/L	
1,1,2-Trichloroethane	ND ND	2.0	J/6rd	
1,2-Dibromoethane	Q	2.0	J/6ri	
••	<u>Q</u>	10	µ9/L	
1,3-Dichloropropane	QN	2.0	µg/L	
Tetrachloroethene	QN	2.0	μg/L	
Dibromochloromethane	ND ND	2.0	hg/L	
Chlorobenzene	ON	2.0	j. Company of the c	
1,1,1,2-Tetrachloroethane	ethane ND	2.0	μg/L	
Ethylbenzene	QN	2.0	µg/L	
m,p-Xylene	QN	2.0	µg/L	
o-Xylene	Q	2.0	hg/L	
Styrene	QN	2.0	µ9/L	
Bromoform	QN	2.0	µg/L	
Isopropylbenzene	QN	2.0	µg/L	
1,1,2,2-Tetrachloroethane	Sthane ND	2.0	hg/L	
1,2,3-Trichloropropane	ND ND	2.0	ng/L	
Bromobenzene	QN	2.0	µg/L	
n-Propylbenzene	QN	2.0	µg/L	
Qualifiers: ND-	ND - Not Detected at the Reporting Limit	.=	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
₩-f	J - Analyte detected below quantitation limits	imits	R - RPD outside accepted recovery limits	NA Not and include the colored in th
RL.	RL - Reporting Limit: defined as the lowest concentration	est concentration		ing - thus applicable where J values of ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT	GEI Consultants Inc.	<u></u>								
Work Order:	1708044								ŏ	QC SUMMARY REPORT
Project:	1700396 MPA Berth 10 Final Design	rth 10 Final Do	esign							Method Blank
2-Chlorotoluene		Ð	2.0	rig/L						
4-Chlorotoluene		9	2.0	µg/L						
1,3,5-Trimethylbenzene	zene	2	2.0	µg/L						
tert-Butylbenzene		8	2.0	₽ ₀ /L						
1,2,4-Trimethylbenzene	zene	S Q	2.0	hg/L						
sec-Butylbenzene		Q	2.0	ng/L						
4-tsopropyitoluene		Q	2.0	μg/L						
1,3-Dichlorobenzene	9	Q	2.0	пgЛ						
1,4-Dichlorobenzene	•	2	2.0	µ9∕L						
n-Butylbenzene		Q	2.0	19%						
1,2-Dichlorobenzene	Q	Q Q	2.0	µg/L						
1,2-Dibromo-3-chloropropane	ropropane	Q	9.0	hg/L						
1,2,4-Trichlorobenzene	ene	S	2.0	μg/L						
Hexachlorobutadiene	je.	Q	2.0	ug/L						
Naphthalene		QN	5.0	μg/L						
1,2,3-Trichlorobenzene	епе	Q.	2.0	hg/L						
1,3,5-Trichlorobenzene	ene	S	2.0	µg/L						
Surr: Dibromofluoromethane	comethane	27.92	2.0	µg/L	25	0	112	74	138	0
Surr: 1,2-Dichloroethane-d4	bethane-d4	27.07	2.0	µ9∕L	25	0	90	\$	138	0
Surr. Toluene-d8		27.1	2.0	µg/L	25	0	108	22	128	0
Surr: 4-Bromofluorobenzene	orobenzene	23.85	2.0	µg∕L	25	0	95.4	2	113	0

!:			
Qualificrs:	Qualifiers: ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits B	B - Analyte detected in the associated Method Blank
	 J - Analyte detected below quantitation limits 	R - RPD outside accepted recovery limits	NA - Not annitrable where I values or ND recuite occur
	RL - Reporting Limit; defined as the lowest concentration	est concentration the laboratory can accurately quantitate.	man cumou of the commence of t

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

1700396 MPA Berth 10 Final Design

Project:

QC SUMMARY REPORT

Date: 25-Sep-17

Laboratory Control Spike

CoC Sample Ru Discription Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Result Amount Amount Result Amount Amount Amount Amount Result Amount Sample ID: 1cs-09/05/17	Batch ID: R59921	Test Code	Test Code: SW8260C	Units: µg/L			Analysis D	ate: 9/5/2017	Analysis Date: 9/5/2017 11:11:00 AM	Prep Date	Prep Date: 9/5/2017		
Coc Sample Amount Result ARPO Coppinal Sample Amount Result ARPO Result R	Client ID:		Run ID:	V-3_170905				SeqNo:	1005278				
Passutt Ria Units Annount Result & SPEC Lowling HighLinig or MS Result SAPPO RPDLinig		QC Sample		a	C Spike Origina	1 Sample			U	Original Sample			
136 56 1901. 100 0 136 30 172 0 22,22 2.0 1901. 20 0 137 10 156 0 24,23 2.0 1901. 20 0 131 45 144 0 24,23 2.0 1901. 20 0 121 45 140 0 22,43 2.0 1901. 20 0 131 45 140 0 24,83 5.0 1901. 20 0 124 154 0 24,83 5.0 1901. 20 0 124 140 0 25,37 5.0 1901. 20 0 127 69 152 0 24,33 2.0 1901. 20 0 127 69 159 0 24,41 20 1901. 20 0 120 120 144 10 24,51 2.0 1901. 20 0 120 120 140 0 24,51 2.0 1901. 20 0 120 120 140 0 24,51 2.0 1901. 20 0 120 120 140 0 25,24 2.0 1901. 20 0 120 120 140 0 24,51 2.0 1901. 20 0 120 120 140 0 25,29 2.0 1901. 20 0 120 120 140 0 25,30 2.0 1901. 20 0 120 120 140 0 25,30 2.0 1901. 20 0 120 120 140 0 25,30 2.0 1901. 20 0 120 120 140 0 25,20 2.0 1901. 20 0 120 120 140 0 25,30 2.0 1901. 20 0 120 120 140 0 25,30 2.0 1901. 20 0 120 120 140 0 25,30 2.0 1901. 20 0 120 120 140 0 25,30 2.0 1901. 20 1901. 20 120 120 140 0 25,20 2.0 1901. 20 1901. 20 120 120 140 0 25,20 2.0 1901. 20 1901. 20 120 120 140 0 25,20 2.0 1901. 20 1901. 20 120 120 120 140 0 25,20 2.0 1901. 20 1901. 20 120 120 120 140 0 25,20 2.0 1901. 20 1901. 20 120 20 120 20 120 20 25,20 2.0 1901. 20 1901. 20 120 20 20 20 20 20 2	Analyte	Result	귤	į	Amount		%REC	LowLimit		or MS Result	%RPD	RPDLimit	Ö
Part Part	1,4-Dioxane	136	20	µg/L	9	0	136	93	172			1	
22.22 2.0 μg/L 20 0 111 45 144 0 0 24.23 2.0 μg/L 20 0 121 45 140 0 22.56 2.0 μg/L 20 0 123 45 140 0 22.56 2.0 μg/L 20 0 123 45 140 0 24.63 2.0 μg/L 20 0 123 45 140 0 24.65 1.0 μg/L 20 0 123 65 142 0 24.65 1.0 μg/L 20 0 123 65 142 0 25.65 2.0 μg/L 20 0 124 149 0 25.76 1.0 μg/L 20 0 123 69 159 0 25.31 2.0 μg/L 20 0 123 69 159 0 25.31 2.0 μg/L 20 0 123 69 162 0 25.31 2.0 μg/L 20 0 123 69 162 0 25.31 2.0 μg/L 20 0 123 69 162 0 25.31 2.0 μg/L 20 0 120 120 120 120 144 0 24.1 24.1 20 μg/L 20 0 120 120 144 0 24.1 2.0 μg/L 20 0 120 120 120 120 120 144 0 24.1 2.0 μg/L 20 0 120 120 120 120 120 120 144 0 24.3 2.0 μg/L 20 0 120 120 120 120 120 120 144 0 24.3 2.0 μg/L 20 0 120 120 120 120 120 120 144 0 25.29 2.0 μg/L 20 0 120 120 120 120 120 120 120 144 0 25.39 10 μg/L 20 120 120 120 120 120 120 120 120 120	Dichlorodifluoromethane	27.36	5.0	µg/L	70	0	137	5	158	0			
24.23 2.0 μg/L 20 0 121 45 140 0 27.56 5.0 μg/L 20 0 138 49 140 0 27.66 2.0 μg/L 20 0 158 71 154 0 27.66 2.0 μg/L 20 0 158 71 154 0 24.83 5.0 μg/L 20 0 124 65 142 0 24.83 5.0 μg/L 20 0 124 65 142 0 24.85 1.0 μg/L 20 0 123 65 142 0 24.85 1.0 μg/L 20 0 123 42 149 0 25.37 5.0 μg/L 20 0 125 67 144 0 0 24.93 2.0 μg/L 20 0 125 63 149 0 24.01 <t< td=""><td>Chloromethane</td><td>22.22</td><td>2.0</td><td>µg∕L</td><td>20</td><td>0</td><td>11</td><td>45</td><td><u>‡</u></td><td>0</td><td></td><td></td><td></td></t<>	Chloromethane	22.22	2.0	µg∕L	20	0	11	45	<u>‡</u>	0			
22.54 5.0 µg/L 20 0 113 49 140 0 0 1 31.65 2.0 µg/L 20 0 138 54 149 0 0 24.83 5.0 µg/L 20 0 124 65 149 0 0 45.62 1.0 µg/L 20 0 124 65 149 0 0 45.62 1.0 µg/L 20 0 124 65 149 0 0 25.37 5.0 µg/L 20 0 127 69 152 0 25.37 5.0 µg/L 20 0 127 69 159 0 24.1 20 µg/L 20 0 127 69 169 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.1 20 µg/L 20 0 120 149 0 24.3 2.0 µg/L 20 0 120 149 0 24.4 9 µg/L 20 0 120 149 0 25.29 20 µg/L 20 0 120 149 0 25.29 20 µg/L 20 0 120 149 0 25.29 20 µg/L 20 0 120 149 0 25.29 20 µg/L 20 0 120 149 0 25.29 20 µg/L 20 0 120 149 0 25.29 20 µg/L 20 0 120 150 149 0 25.29 20 µg/L 20 0 120 150 150 149 0 25.29 20 µg/L 20 0 120 150 150 150 149 0 25.29 20 µg/L 20 0 120 150 150 150 150 150 150 150 150 150 15	Vinyl chloride	24.23	2.0	µg/L	20	0	121	45	140	0			
te 31.66 2.0 μg/L 20 0 138 54 149 0 0 24.66 1.0 μg/L 20 0 158 71 154 0 0 24.66 1.0 μg/L 20 0 172 69 152 0 0 24.66 1.0 μg/L 20 0 124 69 152 0 0 24.66 1.0 μg/L 20 0 123 69 152 0 0 25.37 5.0 μg/L 20 0 125 69 159 0 25.39 2.0 μg/L 20 0 125 69 159 0 23.9 20 μg/L 20 0 125 69 159 0 24.1 20 μg/L 20 0 126 67 144 0 24.1 20 μg/L 20 0 126 67 144 0 24.1 20 μg/L 20 0 120 67 144 0 24.1 20 μg/L 20 0 120 67 144 0 24.1 20 μg/L 20 0 120 67 144 0 25.3 4 14 12 0 19/L 20 0 120 149 16 164 0 25.4 1 20 μg/L 20 0 120 149 16 164 0 25.3 1 19 μg/L 20 0 149 17 0 149 17 0 25.3 1 19 μg/L 20 0 149 17 0 149 17 0 25.3 1 19 μg/L 20 0 149 17 0 149 17 0 149 17 0 25.3 1 10 μg/L 20 0 120 176 176 179 0 25.3 1 10 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 0 25.3 1 19 μg/L 20 0 120 176 179 179 0 25.3 1 19 μg/L 20 0 120 176 179 179 0 25.3 1 19 μg/L 20 0 120 176 179 179 0 25.3 1 19 μg/L 20 0 120 176 179 179 179 179 179 179 179 179 179 179	Chloroethane	22.54	5.0	иg/L	20	0	113	49	140	0			
1,65 2,0 μg/L 20 124 65 142 0 0 144 14	Bromomethane	27.66	2.0	µg/L	20	0	138	¥	149	0			
24.83 5.0 μg/L 20 124 65 142 0 45.62 10 μg/L 40 0 114 10 179 0 24.66 1.0 μg/L 20 0 123 69 152 0 16.59 2.0 μg/L 20 0 127 69 159 0 25.37 5.0 μg/L 20 0 127 69 159 0 24.93 2.0 μg/L 20 0 127 44 0 0 24.93 2.0 μg/L 20 0 126 67 144 0 24.93 2.0 μg/L 20 0 120 147 0 24.93 2.0 μg/L 20 0 120 149 0 149 0 27.4 2.0 μg/L 20 0 120 149 0 149 0 </td <td>Trichlorofluoromethane</td> <td>31.65</td> <td>2.0</td> <td>µg/L</td> <td>20</td> <td>0</td> <td>158</td> <td>7</td> <td>154</td> <td>0</td> <td></td> <td></td> <td>(C)</td>	Trichlorofluoromethane	31.65	2.0	µg/L	20	0	158	7	154	0			(C)
45.62 10 µg/L 40 0 114 24.66 1.0 µg/L 20 0 123 16.59 2.0 µg/L 20 0 123 25.37 5.0 µg/L 20 0 125 24.93 2.0 µg/L 20 0 125 24.01 20 µg/L 20 0 120 24.01 20 µg/L 20 0 120 36 10 µg/L 20 0 120 36 10 µg/L 20 0 120 37.4 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.29 2.0 µg/L 20 0 0 120 25.20 20 µg/L 20 0 0 120 25.20 20 µg/L 20 0 0 120 25.20 20 µg/L 20 0 0 120 25.20 20 µg/L 20 0 0 120 25.20 20 µg/L 20 0 0 120 25.20 20 µg/L 20 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 0 120 25.20 20 µg/L 20 0 0 0 120 25.20 20 µg/L 20 0 0 0 0 120 25.20 20 µg/L 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Diethy! ether	24.83	5.0	µg∕L	20	0	124	99	142	٥)
24.66 1.0 µg/L 20 0 123 16.59 2.0 µg/L 20 0 127 24.93 2.0 µg/L 20 0 127 24.93 2.0 µg/L 20 0 127 22.4 2.0 µg/L 20 0 125 23.9 2.0 µg/L 20 0 120 36 10 µg/L 20 0 120 36 10 µg/L 20 0 120 24.1 20 µg/L 20 0 120 24.5 20 µg/L 20 0 120 27.4 2.0 µg/L 20 0 120 27.4 2.0 µg/L 20 0 120 24.5 20 µg/L 20 0 120 24.5 20 µg/L 20 0 120 24.5 20 µg/L 20 0 120 24.3 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 20 µg/L 20 0 120 25.29 µg/L 20 120 25.29 µg/L 20 µg/L 20 0 120	Acetone	45.62	9	µg/L	40	0	114	9	179	0			
16.59 2.0 μg/L 20 0 83 25.37 5.0 μg/L 20 0 127 24.93 2.0 μg/L 20 0 125 ane 22.4 2.0 μg/L 20 0 112 24.01 20 μg/L 20 0 120 240.1 20 μg/L 20 0 120 24.1 2.0 μg/L 20 0 120 24.1 2.0 μg/L 20 0 120 24.1 2.0 μg/L 20 0 120 24.51 2.0 μg/L 20 0 120 24.51 2.0 μg/L 20 0 120 24.51 2.0 μg/L 20 0 122 24.51 2.0 μg/L 20 0 122 24.59 2.0 μg/L 20 0 122 24.99 2.0 μg/L 20 0 122 25.29 2.0 μg/L 20 0 120 24.09 2.0 μg/L 20 0 120 25.29 20 μg/L 20 20 120 25.29 μg/L 20 20 120 25.29 μg/L 20 120 26.09 μg/L 2	1,1-Dichloroethene	24.66	1.0	µ9/L	20	0	123	69	152	0			
25.37 5.0 μg/L 20 0 127 24.93 2.0 μg/L 20 0 125 sne 22.4 2.0 μg/L 20 0 112 23.9 2.0 μg/L 20 0 112 240.1 20 μg/L 20 0 120 36 10 μg/L 20 0 120 24.1 2.0 μg/L 20 0 120 27.4 2.0 μg/L 20 0 120 27.4 2.0 μg/L 20 0 120 27.4 2.0 μg/L 20 0 123 s 24.51 2.0 μg/L 20 0 122 24.51 2.0 μg/L 20 0 123 24.59 10 μg/L 20 0 122 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 2.0 μg/L 20 120 25.29 μg/L 20 120 25.29 2.0 μg/L 20 120 25.20 20 μg/L 20 120 25.20 20 μg/L 20 120 25.20 20 μg/L 20 120 25.20 20 μg/L 20 120 25.20 20 μg/L 20 120 25.20 20 μg/L 20 120 25.20 20 μg/L 20 120 25.20 20 μg/L 20 20 20 20 25.20 20 μg/L 20 20 20 20 25.20 20 μg/L 20 20 20 25.20 20 μg/L 20 20 20 20 25.20 20 μg/L 20 20 20 20 25.20 20 μg/L 20 20 20 20 25.20 20 μg/L 20 20 20 20 25.20 20 μg/L 20 20 20 20 25.20 20 μg/L 20 20 20 20 25.20 20 μg/L 20 20 20 20 25.20 20 20 20 20 20 25.20 20 20 20 20 20 20 25.20 20 20 20 20 20 20 25.20 20 20 20 20 20 20 25.20 20 20 20 20 20 20 25.20 20 20 20 20 20	Carbon disulfide	16.59	2.0	µg/L	20	0	83	42	149	0			
24.93 2.0 μg/L 20 0 125 sne 22.4 2.0 μg/L 20 0 112 23.9 2.0 μg/L 20 0 120 36 10 μg/L 20 0 120 24.1 2.0 μg/L 20 0 137 9 24.51 2.0 μg/L 20 0 120 27.4 2.0 μg/L 20 0 120 24.51 2.0 μg/L 20 0 120 24.3 2.0 μg/L 20 0 120 24.39 10 μg/L 20 0 120 25.98 10 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120	Methylene chloride	25.37	5.0	µg/L	20	0	127	69	159	0			
ane 22.4 2.0 µg/L 20 0 112 23.9 2.0 µg/L 20 0 120 240.1 20 µg/L 200 0 120 24.1 2.0 µg/L 20 0 120 27.4 2.0 µg/L 20 0 120 ber 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.51 2.0 µg/L 20 0 120 24.3 2.0 µg/L 20 0 120 24.99 10 µg/L 20 0 120 25.29 2.0 µg/L 20 0 <	Methyl tert-butyl ether	24.93	2.0	µg∕L	20	0	125	67	1	٥			
23.9 2.0 µg/L 20 0 120 240.1 20 µg/L 200 0 120 36 10 µg/L 200 0 120 24.1 2.0 µg/L 20 0 120 27.4 2.0 µg/L 20 0 137 3 24.51 2.0 µg/L 20 0 123 her 23.1 2.0 µg/L 20 0 123 24.3 2.0 µg/L 20 0 122 23.98 10 µg/L 20 0 120 24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 35.59 2.0 µg/L 20 0 120 36.6 µg/L 20 0 120 37.6 µg/L 20 0 120 38.6 Recovery outside accepted recovery limits N+ Getected below quantitation limits R - RPD outside accepted recovery limits	trans-1,2-Dichloroethene	22.4	2.0	µg∕L	20	0	112	73	149	0			
240.1 20 µg/L 200 0 120 36 10 µg/L 200 0 120 24.1 2.0 µg/L 20 0 120 27.4 2.0 µg/L 20 0 123 her 23.1 2.0 µg/L 20 0 123 24.3 2.0 µg/L 20 0 116 24.09 2.0 µg/L 20 0 122 24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 126 25.29 2.0 µg/L 20 126 25.29 2.0 µg/L 20 126 25.29 2.0 µg/L 20 126 25.29 2.0 µg/L 20 126 25.29 2.0 µg/L 20 126 25.29 2.0 µg/L 20 126	1,1-Dichloroethane	23.9	2.0	µ9/L	20	0	120	74	147	0			
36 10 μg/L 40 0 90 24.1 2.0 μg/L 20 0 120 27.4 2.0 μg/L 20 0 137 her 24.51 2.0 μg/L 20 0 123 her 24.3 2.0 μg/L 20 0 120 23.98 10 μg/L 20 0 120 24.09 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 120 25.29 2.0 μg/L 20 0 126 As detected below quantitation limits R - RPD outside accepted recovery limits	Tertiary Butanol	240.1	20	μg⁄L	200	0	120	43	162	0			
24.1 2.0 µg/L 20 0 120 27.4 2.0 µg/L 20 0 137 3 24.51 2.0 µg/L 20 0 123 her 23.1 2.0 µg/L 20 0 123 her 24.3 2.0 µg/L 20 0 116 22.98 10 µg/L 20 0 122 24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 35.29 2.0 µg/L 20 0 126 35.29 2.0 µg/L 20 0 126 35.29 3.0 µg/L 20 0 126 35.29 3.0 µg/L 20 126 35.29 3.0 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126 36.50 µg/L 20 126	2-Butanone	36	10	µg/L	40	0	90	9	164	0			
27.4 2.0 µg/L 20 0 137 her 23.1 2.0 µg/L 20 0 123 her 23.1 2.0 µg/L 20 0 116 24.3 2.0 µg/L 20 0 116 23.98 10 µg/L 20 0 122 24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 3.5.29 2.0 µg/L 20 0 126 3.5.29 2.0 µg/L 20 0 126 3.5.29 2.0 µg/L 20 120 3.5.29 2.0 µg/L 20 120 3.5.29 2.0 µg/L 20 120 3.5.29 2.0 µg/L 20 120 3.5.29 µg/L 20 120 3.5.29 2.0 µg/L 20 120	Diisopropyl ether	24.1	2.0	µg/L	20	0	120	8	149	0			
her 24.51 2.0 µg/L 20 0 123 her 23.1 2.0 µg/L 20 0 116 24.3 2.0 µg/L 20 0 116 23.98 10 µg/L 20 0 122 24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 35.29 2.0 µg/L 20 0 126 35.29 3.0 µg/L 30 120 35.29 3.0 µg/L 30 120 35.29 3.0 µg/L 30 120 35.29 3.0 µg/L 30 120 35.29 3.0 µg/L 30 120	2,2-Dichloropropane	27.4	2.0	µg/L	20	0	137	8	5	0			
her 23.1 2.0 µg/L 20 0 116 24.3 2.0 µg/L 20 0 122 23.98 10 µg/L 20 0 122 24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 120 35.29 2.0 µg/L 20 0 120 35.29 2.0 µg/L 20 0 126 35.29 2.0 µg/L 20 126 35.59 ke detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	cis-1,2-Dichloroethene	24.51	2.0	µg/L	20	0	123	74	141	0			
24.3 2.0 µg/L 20 0 122 23.98 10 µg/L 20 0 120 24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 126 or Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	Ethyl Tertiary Butyl Ether	23.1	2.0	µg/L	50	0	116	02	148	0			
23.98 10 µg/L 20 0 120 24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 126 ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits yte detected below quantitation limits R - RPD outside accepted recovery limits	Chloroform	24.3	2.0	μg/L	8	0	122	72	137	0			
24.09 2.0 µg/L 20 0 120 25.29 2.0 µg/L 20 0 126 ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	Tetrahydrofuran	23.98	10	µg/L	20	0	120	53	149	0			
25.29 2.0 µg/L 20 0 126 for Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits Note detected below quantitation limits R - RPD outside accepted recovery limits	Bromochloromethane	24.09	2.0	µg∕L	8	0	120	9/	145	0			
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	1,1,1-Trichloroethane	25.29	2.0	hg/L	20	0	126	92	138	0			
R - RPD outside accepted recovery limits		ted at the Reporting Limit		Spike Recover	y outside accepted	recovery 1	mits	B - Analyte	detected in th	he associated Methy	od Blank		ľ
	J - Analyte dete	cted below quantitation limits		RPD outside a	ccepted recovery l	imits		NA - Mot e	nationals who	. Civilization of Management	•		

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

Date: 25-Sep-17

10 Final Design 2.61 2.0 3.09 2.0 3.09 2.0 0.04 1.0 0.04 1.0 3.371 2.0 3.71 2.0 3.71 2.0 4.61 10 4.16 2.0 2.55 2.0 4.43 10 4.16 2.0 2.55 2.0 2.0 2.10 2.20 2.20 2.20 2.20 2.20 2.	CLIENT:	GEI Consultants, Inc.							'	
1700396 MPA Berth 10 Final Design 1700396 MPA Berth 10 Final Design 1700396 MPA Berth 10 Final Design 2261 2.0 1901. 20 115 74 138 138 138 2.0 1901. 2.0 116 70 138 13	Work Order:	1708044								2C SUMMARY REPORT
Particle 22.61 2.0 Hg/L 20 0 113	Project:	1700396 MPA Berth 10 Final	Design							Laboratory Control Spike
ride 55.19 2.0 μg/L 20 126 126 200.0 126 200.4 1.0 μg/L 20 0 0 115 20.0 140 20 140 20 0 0 115 20.0 140 20 140 20 0 0 116 20.0 140 20 140 20 0 140 20 20 140 20 20 20 20 20 20 20 20 20 20 20 20	1,1-Dichloropropene	22.61	2.0	рgЛ	20	0	113	74	138	
145 23.09 2.0 19/L 20 0 115 23.85 2.0 19/L 20 0 110 23.87 2.0 19/L 20 0 110 23.87 2.0 19/L 20 0 110 23.71 2.0 19/L 20 0 110 25.78 2.0 19/L 20 0 115 athyl Ether 21.27 2.0 19/L 20 0 116 athyl Ether 21.27 2.0 19/L 20 0 116 athyl Ether 23.25 1.0 19/L 20 0 116 annone 23.37 2.0 19/L 20 0 116 annone 23.45 2.0 19/L 20 0 116 annone 22.55 2.0 19/L 20 0 117 anno 18.41 2.0 19/L 20 0 92.7 anno 18.42 2.0 19/L 20 0 93.5 anno 18.43 2.0 19/L 20 0 94.5 anno 18.71 2.0 19/L 20 0 94.5 anno 14.39 2.0 19/L 20 0 94.5 anno 14.39 2.0 19/L 20 0 94.5 anno 14.39 2.0 19/L 20 0 94.5 anno 14.39 2.0 19/L 20 0 94.5 anno 14.39 2.0 19/L 20 0 94.5 anno 14.39 2.0 19/L 20 0 94.5 anno 14.39 2.0 19/L 20 0 94.5 anno 14.39 2.0 19/L 20 0 94.5 anno 14.30 2.0 19/L 20 20 94.	Carbon tetrachloride	25.19	2.0	µ9/L	20	0	126	2	138	· c
20.04 1.0 μg/L 20 0 100 23.85 2.0 μg/L 20 0 119 ethane 23.71 2.0 μg/L 20 0 119 23.71 2.0 μg/L 20 0 119 13.17 2.0 μg/L 20 0 119 mone 44.61 10 μg/L 20 0 116 athyl Ether 21.27 2.0 μg/L 20 0 116 opropene 23.75 1.0 μg/L 20 0 116 opropene 23.75 2.0 μg/L 20 0 116 opropene 23.75 2.0 μg/L 20 0 116 ane 24.16 2.0 μg/L 20 0 117 ane 18.41 2.0 μg/L 20 0 117 ane 18.41 2.0 μg/L 20 0 94.1 roethane 18.71 2.0 μg/L 20 0 99.3 14.39 2.0 μg/L 20 0 99.1 roethane 18.31 2.0 μg/L 20 0 99.5 14.39 2.0 μg/L 20 0 99.6 14.39 2.0 μg/L 20 0 99.6 banchane 18.32 2.0 μg/L 20 0 99.7 14.39 2.0 μg/L 20 0 99.7 14.39 2.0 μg/L 20 0 99.7 15.83 2.0 μg/L 20 0 99.7 16.83 2.0 μg/L 20 0 99.7 16.99 11.3 20 μg/L 20 0 99.7 16.99 11.3 20 μg/L 20 0 99.7 16.99 11.3 20 μg/L 20 0 99.7 16.99 11.3 20 μg/L 20 0 99.7 16.99 11.3 20 μg/L 20 0 99.7 16.99 11.3 20 μg/L 20 0 99.7 17.56 2.0 μg/L 20 0 99.7 18.33 2.0 μg/L 20 0 99.7 18.33 2.0 μg/L 20 0 99.7 18.33 2.0 μg/L 20 0 99.7 18.33 2.0 μg/L 20 0 99.7 18.34 2.0 μg/L 20 0 99.7 18.33 2.0 μg/L 20 0 99.7 18.34 2.0 μg/L 20 0 99.7 18.35 2.0 μg/L 20 0 99.7 18.37 2.0 μg/L 20 0 99.7 18.38 2.0 μg/L 20 0 99.7 18.39 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.32 2.0 μg/L 20 0 99.7 18.33 2.0 μg/L 20 0 99.7 18.34 2.0 μg/L 20 0 99.7 18.35 2.0 μg/L 20 0 99.7 18.37 2.0 μg/L 20 0 99.7 18.39 2.0 μg/L 20 0 99.7 18.39 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.32 2.0 μg/L 20 0 99.7 18.33 2.0 μg/L 20 0 99.7 18.34 2.0 μg/L 20 0 99.7 18.34 20 μg/L 20 0 99.7 18.39 2.0 μg/L 20 0 99.7 18.39 2.0 μg/L 20 0 99.7 18.39 2.0 μg/L 20 0 99.7 18.30 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7 18.31 2.0 μg/L 20 0 99.7	1,2-Dichloroethane	23.09	2.0	µ9/L	20	0	115	7.	134	
23.85 2.0 µg/L 2.0 0 119	Benzene	20.04	1.0	µ9/L	20	0	9	69	148	
enhe 23.71 2.0 µg/L 20 0 119 ethane 25.78 2.0 µg/L 20 0 129 athyl Ether 23.17 2.0 µg/L 20 0 116 nrone 23.127 2.0 µg/L 20 0 116 ropropene 23.25 1.0 µg/L 20 0 116 pane 24.16 2.0 µg/L 20 0 116 pane 22.55 2.0 µg/L 20 0 113 ane 22.55 2.0 µg/L 20 0 113 ne 19.44 2.0 µg/L 20 0 113 e 19.51 2.0 µg/L 20 0 113 e 19.43 2.0 µg/L 20 0 113 e 19.44 2.0 µg/L 20 0 20 e <	Trichloroethene	23.85	2.0	рgЛ	20	0	119	74	136	
ethane 25.78 2.0 μg/L 20 129 athyl Ether 23.17 2.0 μg/L 20 0 116 stryl Ether 21.27 2.0 μg/L 20 0 116 nrone 44.61 10 μg/L 20 0 116 opropene 23.25 1.0 μg/L 20 0 116 opropene 23.76 2.0 μg/L 20 0 116 opropene 23.74 1.0 μg/L 20 0 118 ane 22.0 μg/L 20 0 118 ane 18.41 2.0 μg/L 20 0 93 e 18.42 2.0 μg/L 20 0 93 e 18.43 2.0 μg/L 20 0 93 e 18.25 2.0 μg/L 20 0 93 f ane 18.33	1,2-Dichloropropane		2.0	μg/L	20	0	119	72	137	, c
sithy Ether 23.17 2.0 μg/L 20 116 sithy Ether 21.27 2.0 μg/L 20 0 116 none 4.61 10 μg/L 20 0 116 ropene 23.25 1.0 μg/L 20 0 116 sorropene 23.01 1.0 μg/L 20 0 116 nane 24.16 2.0 μg/L 20 0 113 ne 22.55 2.0 μg/L 20 0 113 ne 22.55 2.0 μg/L 20 0 113 ne 18.43 2.0 μg/L 20 0 113 ane 18.44 2.0 μg/L 20 0 113 ane 18.43 2.0 μg/L 20 0 20 sthane 18.24 2.0 μg/L 20 0 20 sthane 18	Bromodichlorometha		2.0	µg/L	20	0	129	74	137	
thyle Ether 21.27 2.0 μg/L 20 0 106 none 44.61 10 μg/L 20 0 1112 none 23.25 1.0 μg/L 20 0 1115 1116 none 23.25 1.0 μg/L 20 0 1116 none 23.76 2.0 μg/L 20 0 1116 none 23.01 1.0 μg/L 20 0 1116 nane 23.01 1.0 μg/L 20 0 1116 nane 23.01 1.0 μg/L 20 0 1113 nane 23.43 10 μg/L 20 0 93.1 113 nane 18.61 2.0 μg/L 20 0 93.1 113 nane 18.61 2.0 μg/L 20 0 94.1 113 noethane 19.26 2.0 μg/L 20 0 94.1 113 noethane 19.26 2.0 μg/L 20 0 94.1 113 nonethane 19.12 2.0	Dibromomethane	23.17	2.0	μg/L	20	0	116	75	129	
ropene 44.61 10 µg/L 40 0 112 ropene 23.25 1.0 µg/L 20 0 116 porropene 23.76 2.0 µg/L 20 0 119 prane 24.16 2.0 µg/L 20 0 111 ne 22.55 2.0 µg/L 20 0 121 ne 22.55 2.0 µg/L 20 0 121 ne 22.55 2.0 µg/L 20 0 131 ane 18.43 10 µg/L 20 0 93.1 e 19.44 2.0 µg/L 20 0 94.1 noethane 18.71 2.0 µg/L 20 0 93.6 pane 19.26 2.0 µg/L 20 0 94.6 noethane 19.12 2.0 µg/L 20 0 94.6 spane <td>Tertiary Amyl Methyl</td> <td>ther</td> <td>2.0</td> <td>μg/L</td> <td>20</td> <td>0</td> <td>106</td> <td>72</td> <td>146</td> <td></td>	Tertiary Amyl Methyl	ther	2.0	μg/L	20	0	106	72	146	
ropene 23.25 1.0 μg/L 20 116 23.76 2.0 μg/L 20 0 119 opropene 23.01 1.0 μg/L 20 0 115 hane 24.16 2.0 μg/L 20 0 121 ne 22.55 2.0 μg/L 40 0 121 ane 18.61 2.0 μg/L 40 0 86.1 ane 18.61 2.0 μg/L 20 0 93.2 ethane 18.61 2.0 μg/L 20 0 94.1 roethane 18.71 2.0 μg/L 20 0 93.6 s 19.26 2.0 μg/L 20 0 94.6 roethane 19.36 2.0 μg/L 20 0 96.6 s 17.82 2.0 μg/L 20 0 96.6 spane 19.16	4-Methyl-2-pentanon		9	µg/L	40	0	112	49	138	
23.76 2.0 μg/L 20 0 119 hane 23.01 1.0 μg/L 20 0 115 hane 24.16 2.0 μg/L 20 0 121 ne 22.55 2.0 μg/L 20 0 131 ane 18.61 2.0 μg/L 20 0 93.1 elhane 18.41 2.0 μg/L 20 0 97.2 ethane 18.71 2.0 μg/L 20 0 93.6 roethane 18.71 2.0 μg/L 20 0 94.6 19.26 2.0 μg/L 20 0 94.6 19.26 2.0 μg/L 20 0 94.6 19.36 2.0 μg/L 20 0 94.6 19.39 2.0 μg/L 20 0 94.6 19.39 2.0 μg/L 20 0 95.6	cis-1,3-Dichloroprope		1.0	rg/L	20	0	116	72	134	
optropene 23.01 1.0 μg/L 20 0 115 hane 24.16 2.0 μg/L 20 0 121 ne 22.55 2.0 μg/L 20 0 131 ane 18.61 2.0 μg/L 20 0 93.2 ethane 18.44 2.0 μg/L 20 0 97.2 ethane 18.41 2.0 μg/L 20 9.2 thane 18.71 2.0 μg/L 20 9.3 thane 18.71 2.0 μg/L 20 9.3 19.26 2.0 μg/L 20 9.3 19.83 2.0 μg/L 20 9.3 19.93 2.0 μg/L 20 9.3 19.94 2.0 μg/L 20 9.3 19.13 2.0 μg/L 20 9.3 19.14 39 20 μg/L 20 <t< td=""><td>Toluene</td><td></td><td>2.0</td><td>ng/L</td><td>70</td><td>0</td><td>119</td><td>75</td><td>139</td><td></td></t<>	Toluene		2.0	ng/L	70	0	119	75	139	
hane 24.16 2.0 μg/L 20 121 ne 22.55 2.0 μg/L 20 0 131 ane 18.61 2.0 μg/L 40 0 86.1 ane 18.61 2.0 μg/L 20 0 93.1 ethane 18.41 2.0 μg/L 20 0 94.1 roethane 18.71 2.0 μg/L 20 0 94.6 19.26 2.0 μg/L 20 0 94.6 19.26 2.0 μg/L 20 0 94.6 19.26 2.0 μg/L 20 0 94.6 19.30 2.0 μg/L 20 0 95.6 ppane 17.82 2.0 μg/L 20 0 95.6 ppane 17.56 2.0 μg/L 20 0 95.6 ppane 17.56 2.0 μg/L 20 0<	trans-1,3-Dichloropro		1.0	µg/L	20	0	115	2	132	, 0
ne 22.55 2.0 μg/L 20 0 113 ane 34.43 10 μg/L 40 0 86.1 ane 18.61 2.0 μg/L 20 0 93.2 ethane 18.44 2.0 μg/L 20 0 97.2 ethane 18.41 2.0 μg/L 20 0 97.2 ethane 18.41 2.0 μg/L 20 0 97.2 roethane 19.26 2.0 μg/L 20 0 94.6 19.26 2.0 μg/L 20 0 95.7 s 17.82 2.0 μg/L 20 0 95.6 spane 17.82 2.0 μg/L 20 0 95.6 spane 17.56 2.0 μg/L 20 0 95.6 spane 17.55 2.0 μg/L 20 0 97.6 spane 1	1,1,2-Trichloroethane		2.0	µg/L	20	0	121	52	138	
34.43 10 µg/L 40 0 86.1 ane 18.61 2.0 µg/L 20 0 93 e 19.44 2.0 µg/L 20 0 97.2 ethane 18.41 2.0 µg/L 20 0 97.2 ethane 18.82 2.0 µg/L 20 0 94.1 noethane 19.26 2.0 µg/L 20 0 96.3 37.07 2.0 µg/L 20 0 96.3 37.07 2.0 µg/L 20 0 98.3 14.39 2.0 µg/L 20 0 98.1 roethane 19.12 2.0 µg/L 20 0 98.1 17.82 2.0 µg/L 20 0 98.1 17.82 2.0 µg/L 20 0 98.1 17.82 2.0 µg/L 20 0 98.1 17.56 2.0 µg/L 20 0 98.1 17.56 2.0 µg/L 20 0 99.6 17.56 2.0 µg/L 20 0 99.6 18.32 2.0 µg/L 20 0 99.6 18.32 2.0 µg/L 20 0 99.6	1,2-Dibromoethane	22.55	2.0	µg/L	70	0	113	72	136	• •
ane 18.61 2.0 μg/L 20 0 93 e 19.44 2.0 μg/L 20 0 97.2 ethane 18.41 2.0 μg/L 20 0 97.2 thoethane 18.71 2.0 μg/L 20 0 94.1 19.26 2.0 μg/L 20 0 96.3 37.07 2.0 μg/L 20 0 96.3 37.07 2.0 μg/L 20 0 98.1 18.93 2.0 μg/L 20 0 98.1 roethane 19.12 2.0 μg/L 20 0 98.1 17.82 2.0 μg/L 20 0 98.1 17.82 2.0 μg/L 20 0 98.1 17.82 2.0 μg/L 20 0 98.1 17.82 2.0 μg/L 20 0 98.1 17.82 2.0 μg/L 20 0 98.1 18.33 2.0 μg/L 20 0 95.6 18.34 20 99.1 18.35 2.0 μg/L 20 0 97.8 18.35 2.0 μg/L 20 0 97.8 18.35 2.0 μg/L 20 0 97.8	2-Hexanone	34.43	6	µg/L	40	0	86.1	32	138	. 0
tethane 19.44 2.0 μg/L 20 0 97.2 ethane 18.41 2.0 μg/L 20 0 94.1 noethane 18.71 2.0 μg/L 20 0 94.1 20 19.26 2.0 μg/L 20 0 94.1 37.07 2.0 μg/L 20 0 96.3 37.07 2.0 μg/L 20 0 92.7 18.93 2.0 μg/L 20 0 94.6 19.6 2.0 μg/L 20 0 94.6 19.6 2.0 μg/L 20 0 98.1 roethane 19.12 2.0 μg/L 20 0 95.6 ppane 21.73 2.0 μg/L 20 0 95.6 ppane 17.56 2.0 μg/L 20 0 95.6 ppane 17.56 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.6 19.9 19.9 19.9 19.9 19.9 19.9 19.9 19	1,3-Dichloropropane	18.61	2.0	µg∕L	20	0	93	75	120	· a
ethane 18.41 2.0 µg/L 20 0 92 18.82 2.0 µg/L 20 0 94.1 roethane 18.71 2.0 µg/L 20 0 94.1 19.26 2.0 µg/L 20 0 96.3 37.07 2.0 µg/L 20 0 92.7 18.93 2.0 µg/L 20 0 94.6 19.6 2.0 µg/L 20 0 94.6 14.39 2.0 µg/L 20 0 98.1 roethane 19.12 2.0 µg/L 20 0 95.6 ppane 21.73 2.0 µg/L 20 0 95.6 17.56 2.0 µg/L 20 0 95.6 18.32 2.0 µg/L 20 0 95.6 18.32 2.0 µg/L 20 0 95.6 18.32 2.0 µg/L 20 0 97.8 18.32 2.0 µg/L 20 0 97.8 18.32 2.0 µg/L 20 0 97.8	Tetrachloroethene		2.0	hg/L	70	0	97.2	11	125	0
18.82 2.0 μg/L 20 0 94.1 roethane 18.71 2.0 μg/L 20 0 93.6 19.26 2.0 μg/L 20 0 96.3 37.07 2.0 μg/L 20 0 94.6 18.93 2.0 μg/L 20 0 72 18.93 2.0 μg/L 20 0 72 14.39 2.0 μg/L 20 0 72 spane 19.12 2.0 μg/L 20 0 95.6 opane 21.73 2.0 μg/L 20 0 95.6 popane 21.73 2.0 μg/L 20 0 97.6 18.32 2.0 μg/L 20 0 91.6 D - Not Detected at the Reporting Limit S - Snike Recovery outside accounts imits	Dibromochloromethar		2.0	µg/L	20	0	92	89	113	• 0
roethane 18.71 2.0 μg/L 20 0 93.6 19.26 2.0 μg/L 20 0 96.3 37.07 2.0 μg/L 20 0 94.6 18.93 2.0 μg/L 20 0 94.6 14.39 2.0 μg/L 20 0 72 spane 19.12 2.0 μg/L 20 0 95.6 spane 21.73 2.0 μg/L 20 0 109 17.56 2.0 μg/L 20 0 87.8 18.32 2.0 μg/L 20 0 91.6 D-Not Detected at the Reporting Limit S- Snike Recovery outside accounts limits	Chlorobenzene		2.0	µg/L	20	0	94.1	62	120	
19.26 2.0 μg/L 20 0 96.3 37.07 2.0 μg/L 40 0 92.7 18.93 2.0 μg/L 20 0 94.6 19.6 2.0 μg/L 20 0 94.6 14.39 2.0 μg/L 20 0 72 ppane 19.12 2.0 μg/L 20 0 89.1 17.82 2.0 μg/L 20 0 89.1 17.56 2.0 μg/L 20 0 95.6 18.32 2.0 μg/L 20 0 95.6 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.6	1,1,1,2-Tetrachloroeti		2.0	μg/L	20	0	93.6	2	118	
37.07 2.0 μg/L 40 0 92.7 18.93 2.0 μg/L 20 0 94.6 19.6 2.0 μg/L 20 0 98.1 14.39 2.0 μg/L 20 0 72 ppane 19.12 2.0 μg/L 20 0 89.1 17.82 2.0 μg/L 20 0 89.1 17.56 2.0 μg/L 20 0 95.6 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.8 18.32 2.0 μg/L 20 0 97.8	Ethylbenzene	19.26	2.0	μg/L	20	0	96.3	75	127	. 0
18.93 2.0 µg/L 20 0 94.6 19.6 2.0 µg/L 20 0 98 14.39 2.0 µg/L 20 0 72 17.82 2.0 µg/L 20 0 72 17.82 2.0 µg/L 20 0 89.1 17.56 2.0 µg/L 20 0 95.6 17.56 2.0 µg/L 20 0 97.8 18.32 2.0 µg/L 20 0 97.8 18.32 2.0 µg/L 20 0 97.8	m.p-Xylene	37.07	2.0	µg/L	40	0	92.7	73	131	
19.6 2.0 µg/L 20 0 98 14.39 2.0 µg/L 20 0 72 roethane 19.12 2.0 µg/L 20 0 89.1 spane 21.73 2.0 µg/L 20 0 95.6 17.56 2.0 µg/L 20 0 109 17.56 2.0 µg/L 20 0 87.8 18.32 2.0 µg/L 20 0 97.6	o-Xylene	18.93	2.0	μg/L	20	0	94.6	73	133	0
14.39 2.0 μg/L 20 0 72 roethane 19.12 2.0 μg/L 20 0 89.1 ppane 21.73 2.0 μg/L 20 0 95.6 17.56 2.0 μg/L 20 0 109 18.32 2.0 μg/L 20 0 87.8 18.32 2.0 μg/L 20 0 91.6 O - Not Detected at the Reporting Limit	Styrene	19.6	2.0	μg⁄L	20	0	86	69	45	
## 17.82	Вготобот	14.39	2.0	µg/L	20	0	72	51	112	•
roethane 19.12 2.0 μg/L 20 0 95.6 ppane 21.73 2.0 μg/L 20 0 109 17.56 2.0 μg/L 20 0 87.8 18.32 2.0 μg/L 20 0 91.6 D-Not Detected at the Reporting Limit S - Snike Recovery outside account limits S - Snike Recovery outside account limits	Isopropylbenzene		2.0	μg⁄L	20	0	89.1	68	128	
opane 21.73 2.0 μg/L 20 0 109 17.56 2.0 μg/L 20 0 87.8 18.32 2.0 μg/L 20 0 91.6 D-Not Detected at the Reporting Limit S - Snike Recovery outside accounted procusery limits S - Snike Recovery outside accounted procusery limits	1,1,2,2-Tetrachloroett		2.0	µ9∕L	20	0	95.6	65	121	•
17.56 2.0 µg/L 20 0 87.8 18.32 2.0 µg/L 20 0 91.6 D-Not Detected at the Reporting Limit	1,2,3-Trichloropropan		2.0	µ9/L	20	0	109	29	125	0
18.32 2.0 µg/L 20 0 91.6 D-Not Detected at the Reporting Limit	Bromobenzene	17.56	2.0	μg/L	20	0	87.8	75	120	0
ND • Not Detected at the Reporting Limit S • Snike Recovery outside account limits	-Propylbenzene	18.32	2.0	√Drl	20	0	91.6	99	131	0
	Ì	ot Detected at the Reporting Limit		S - Snike Recove	v onteide accepted	il recovered	l inite	D Ameliate de		

NA - Not applicable where J values or ND results occur

R - RPD outside accepted recovery limits

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

J - Analyte detected below quantitation limits

CLIENT: GEI Con Work Order: 1708044	GEI Consultants, Inc. 1708044								QC SUMMARY REPORT
Project: 170039	1700396 MPA Berth 10 Final Design	Design		i					Laboratory Control Spike
2-Chiorotoluene	18.49	2.0	J/grl	8	0	92.5	89	123	0
4-Chlorotoluene	18.34	2.0	µg/L	20	0	91.7	69	124	. 0
1,3,5-Trimethylbenzene	18.58	2.0	µg/L	20	0	92.9	89	130	• •
tert-Butylbenzene	18.25	2.0	µg/L	20	0	91.2	29	129	• 0
1,2,4-Trimethylbenzene	18.41	2.0	µg/L	20	0	95	69	132	0
sec-Butylbenzene	17.76	2.0	µg/L	20	0	88.8	62	136	0
4-isopropyltoluene	18.06	2.0	µ9/L	20	0	90.3	65	137	0
1,3-Dichlorobenzene	19	2.0	µg/L	20	0	92	71	126	0
1,4-Dichlorobenzene	18.02	2.0	µg/L	20	0	90.1	22	123	• •
n-Butylbenzene	18.38	2.0	µ9⁄L	20	0	91.9	8	138	. 0
1,2-Dichlorobenzene	19.51	2.0	µ9/L	20	0	97.6	75	124	. 0
1,2-Dibromo-3-chloropropane	22.54	5.0	µg/L	20	0	113	84	130	
1,2,4-Trichlorobenzene	22.62	2.0	μg/L	20	0	113	61	141	0
Hexachlorobutadiene	20.76	2.0	µ9∕L	20	0	104	45	154	
Naphthalene	21.37	5.0	ng/L	20	0	107	41	143	0
1,2,3-Trichlorobenzene	20.95	2.0	µg∕L	20	0	105	9	152	•
1,3,5-Trichlorobenzene	17.95	2.0	пgЛ	20	0	83.8	47	155	0
Surr. Dibromofluoromethane	e 26.49	2.0	иg/L	25	0	901	74	138	0
Surr. 1,2-Dichloroethane-d4	1 26.78	2.0	µg∕L	25	0	107	\$	138	0
Surr. Toluene-d8	27.73	2.0	иgЛ	25	0	=======================================	11	128	0
Surr. 4-Bromofluorobenzene	e 24.82	2.0	hgvL	25	0	99.3	8	113	0

S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank	very limits NA - Not annitrable where I values or ND escutes account	
it S - Spike Recovery outside acc	R - RPD outside accepted recovery limits	lowest concentration the laboratory can accurately quantitate
Qualifiers: ND - Not Detected at the Reporting Limit	J - Analyte detected below quantitation limits	RL - Reporting Limit; defined as the lowest concer
Qualifiers:		

GEI Consultants, Inc. CLIENT:

1708044 Work Order:

Project:

1700396 MPA Berth 10 Final Design

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Date: 25-Sep-17

Laboratory Control Spike Duplicate

Sample ID: Icso-09/05/17	Batch ID: R59921	Test Cod	de: SW8260C	Units: µg/L	g/L		Analysis D	ate: 9/5/201	Analysis Date: 9/5/2017 11:53:00 AM	Prep Date	Prep Date: 9/5/2017	
Client ID:		Run 10:	V-3_170905A	05A			SeqNo:	1005279		,		
	QC Sample			QC Spike Original Sample	ginal Sample			J	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
1,4-Dioxane	135.8	20	ц9/L	92	0	136	99	172	136	0.184	2	Ī
Dichlorodifluoromethane	29.66	5.0	J6d	8	0	148	6	158	27.36	8.07	2 8	
Chloromethane	23.28	2.0	μg/L	20	0	116	.	4	22.22	4.66	3 8	
Vinyi chloride	22.78	2.0	μg/L	20	0	114	45	140	24.23	6.17	3 8	
Chloroethane	25.83	5.0	µ9/L	20	0	129	4	140	22.54	13.6	3 8	
Bromomethane	29.08	2.0	µ9∕l.	70	0	145	8	149	27.66	5.01	20	
Trichlorofluoromethane	32.64	2.0	µg/L	20	0	163	7	154	31.65	3.08	3 8	U,
Diethyl ether	25.8	5.0	иg/L	20	0	129	99	142	24.83	3.83	2 2)
Acetone	49.99	5	μg/L	40	0	125	2	179	45.62	9.14	20	
1,1-Dichloroethene	25.03	0.	µg/L	20	0	125	69	152	24.66	1.49	2 2	
Carbon disulfide	16.21	2.0	µg/L	20	0	20	42	149	16.59	232	3 1	
Methylene chloride	29.15	5.0	J/Grl	29	0	146	69	159	25.37	13.9	2 2	
Methyl tert-butyl ether	24.9	2.0	µg∕L	50	0	125	29	1	24.93	0.12	: 2	
trans-1,2-Dichloroethene	23.11	2.0	µg/L	50	0	116	73	149	22.4	3.12	2	
1,1-Dichloroethane	24.54	2.0	µg/L	20	0	123	74	147	23.9	2.64	2	
Tertiary Butanol	276.6	70	µg/L	200	0	138	43	162	240.1	14.2	20	
2-Butanone	46.38	10	µg∕L	40	0	116	16	16	98	25.2	20	œ
Diisopropyl ether	25.61	2.0	μg/L	8	0	128	63	149	24.1	90.9	70	:
2,2-Dichloropropane	24.37	2.0	µg/L	20	0	122	89	166	27.4	11.7	20	
cis-1,2-Dichloroethene	24.69	2.0	₽9⁄L	20	0	123	74	141	24.51	0.732	2	
Ethyl Tertiary Butyl Ether	24.04	2.0	µ9∕L	20	0	120	2	148	23.1	3.99	8	
Chloroform	24.18	2.0	μg/L	20	0	121	72	137	24.3	0.495	2 2	
Tetrahydrofuran	25.22	9	µg/L	20	0	126	53	149	23.98	5.04	2	
Bromochloromethane	24.1	2.0	µ9/L	20	0	120	92	145	24.09	0.0415	2	
1,1,1-Trichloroethane	25.53	2.0	pg/L	20	0	128	92	138	25.29	0.945	20	
Qualifiers: ND - Not Detected	ND - Not Detected at the Reporting Limit	S		- Spike Recovery outside accepted recovery limits	pted recovery	limits	B - Analyte	detected in t	B - Analyte detected in the associated Method Blank	od Blank		
J - Analyte detecte	J - Analyte detected below quantitation limits	~		- RPD outside accepted recovery limits	ery limits		MA - Mot a	national language	NA - Not confinely unknown I make a MIN - AN	•		
							551151	PUISAUIC WIR		CSUITS OCCUR		

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AMRO Environmental Laboratories Corp.

Work Order: 1708044 Project: 1700396 1,1-Dichloropropene Carbon tetrachloride 1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Amyl Methyl Ether	1708044 1700396 MPA Berth 10 Final Design 24.15 2.0 24.84 2.0 24.95 2.0 20.59 1.0 24.75 2.0	Design						<u> </u>	OC SUMMARY REPORT	MARY I	REPOF	L
ide ide	396 MPA Berth 10 Final I 24.15 24.95 20.59 24.75	Design						101	i]
1,1-Dichloropropene Carbon tetrachloride 1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Amyl Methyl Ether	24.15 24.84 24.95 20.59 24.75							Ē	Laboratory Control Spike Duplicate	ntrol Spik	e Duplic	ate
Carbon tetrachloride 1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Amyl Methyl Ether	24.84 24.95 20.59 24.75	2.0	рgЛ	20	°	121	74	138	22.61	6.59	20	
1,2-Dichloroethane Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Arnyl Methyl Ether	24.95 20.59 24.75	2.0	µ9/L	20	0	124	2	138	25.19	4.1	20	
Benzene Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Amyl Methyl Ether	20.59 24.75 24.84	2.0	µ9⁄L	20	0	125	74	2	23.09	7.74	2	
Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Tertiary Arnyl Methyl Ether	24.75	1.0	μg/L	20	0	103	69	148	20.04	2.71	20	
1,2-Dichtoropropane Bromodichtoromethane Dibromomethane Tertiary Amyl Methyl Ether	24 B1	2.0	μg/L	20	0	124	74	136	23.85	3.7	20	
Bromodichloromethane Dibromomethane Tertiary Amvi Methyl Ether	10:17	2.0	µ9∕L	20	0	124	72	137	23.71	4.53	20	
Dibromomethane Tertiary Amvi Methyl Ether	27.66	2.0	μg/L	8	0	138	74	137	25.78	7.04	50	S
Tertiary Amyi Methyl Ether	25.12	2.0	иgЛ	20	0	126	75	129	23.17	8.08	50 70)
	21.37	2.0	иgЛ	23	0	107	72	146	21.27	0.469	8	
4-Methyl-2-pentanone	50.5	5	µ9/L	40	0	126	49	138	44.61	12.4	50	
cis-1,3-Dichloropropene	24.67	1.0	μg/L	20	0	123	72	134	23.25	5.93	50	
Toluene	25.78	2.0	μg/L	20	0	129	75	139	23.76	8.16	8	
trans-1,3-Dichloropropene	24.9	1.0	иgЛ	20	0	125	2	132	23.01	7.89	50	
1,1,2-Trichloroethane	25.8	2.0	µg/L	20	0	129	23	138	24.16	6.57	70	
1,2-Dibromoethane	25.38	2.0	µg∕L	20	0	127	72	136	22.55	11.8	70	
2-Hexanone	37.52	6	hg∕L	40	0	93.8	35	138	34.43	8.59	20	
1.3-Dichloropropane	18.28	2.0	μg/L	20	0	91.4	75	120	18.61	1.79	20	
Tetrachloroethene	19.1	2.0	μg/L	20	0	95.5	11	125	19.44	1.76	20	
Dibromochloromethane	17.94	2.0	µ9/L	20	0	89.7	89	113	18.41	2.59	20	
Chlorobenzene	18.3	2.0	μg/L	20	0	91.5	79	120	18.82	2.8	20	
1,1,1,2-Tetrachloroethane	18.4	2.0	hg/L	20	0	95	73	118	18.71	1.67	20	
Ethylbenzene	18.73	2.0	µg/L	20	0	93.6	75	127	19.26	2.79	29	
m,p-Xylene	35.97	2.0	µ9⁄L	40	0	89.9	73	131	37.07	3.01	20	
o-Xylene	18.26	2.0	µ9/L	20	0	91.3	73	133	18.93	3.6	20	
Styrene	19.31	2.0	µg/L	20	0	96.6	69	134	19.6	1.49	2	
Bromoform	14.67	2.0	µg/L	20	0	73.4	51	112	14.39	1.93	70	
Isopropylbenzene	17.01	2.0	µg/L	20	0	89	89	128	17.82	4.65	20	
1.1,2,2-Tetrachloroethane	19.27	2.0	µ9∕L	20	0	96.4	85	121	19.12	0.781	20	
1,2,3-Trichloropropane	14.35	2.0	μg/L	20	0	71.8	29	125	21.73	40.9	20	œ
Bromobenzene	17.1	2.0	µg/L	20	0	85.5	75	120	17.56	2.65	8	
n-Propylbenzene	16.88	2.0	µg∕l.	20	0	84.4	99	131	18.32	8.18	20	
Qualifiers: ND - Not Dete	ND - Not Detected at the Reporting Limit		S - Spike Recove	S - Spike Recovery outside accepted recovery limits	d recovery lim		3 - Analyte de	etected in the a	B - Analyte detected in the associated Method Blank	Blank		i
J - Analyte det	J - Analyte detected below quantitation limits		R - RPD outside	R - RPD outside accented recovery limits	limits			:	!	,		
DÎ . Description	DI . Donneting & imit. Angland on the land	1					AA - Not app	Icable where J	NA - Not applicable where J values or ND results occur	ults occur		

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT: Work Order:	GEI Consultants, Inc. 1708044									QC SUMMARY REPORT	MARY F	REPORT
Project:	1700396 MPA Berth 10 Final Design	h 10 Final D	esign	Ī					Lab	aboratory Control Spike Duplicate	ntrol Spike	Duplicate
2-Chlorotoluene		17.82	2.0	hg/L	20	0	89.1	88	123	18.49	3.69	28
4-Chlorotoluene		18.27	2.0	µ9/L	50	0	91.4	69	124	18.34	0.382	20 20
1,3,5-Trimethylbenzene	ene	18.24	2.0	µg/L	20	0	91.2	89	130	18.58	1.85	30 30
tert-Butylbenzene		18.08	2.0	µg/L	20	0	90.4	29	129	18.25	0.936	50
1,2,4-Trimethylbenzene	ene	18.36	2.0	μg/L	20	0	91.8	69	132	18.41	0.272	20
sec-Butylbenzene		17.5	2.0	μg/L	20	0	87.5	62	136	17.76	1.47	20
4-Isopropyltoluene		18.06	2.0	иgЛ	20	0	90.3	65	137	18.06	0	20
1,3-Dichlorobenzene	a	18.48	2.0	₽g∕L	20	0	92.4	7	126	19	2.77	20
1,4-Dichlorobenzene	o	17.94	2.0	иgЛ	20	0	89.7	72	123	18.02	0.445	20
n-Butylbenzene		18.14	2.0	иg/L	20	0	20.7	2	138	18.38	1.31	70
1,2-Dichlorobenzene	œ	18.84	2.0	μg/L	20	0	94.2	75	124	19.51	3.49	20
1,2-Dibromo-3-chloropropane	оргорапе	24	5.0	рgЛ	20	0	120	48	130	22.54	6.27	20
1,2,4-Trichlorobenzene	ene	22.35	2.0	μg/L	20	0	112	5	141	22.62	1.2	20
Hexachlorobutadiene	c	20.36	2.0	μg/L	20	0	102	45	154	20.76	1.95	20
Naphthalene		21.09	5.0	µg/L	20	0	105	41	143	21.37	1.32	20
1,2,3-Trichlorobenzene	ane	21.06	2.0	µg/L	20	0	105	9	152	20.95	0.524	20
1,3,5-Trichlorobenzene	ene.	18.11	2.0	μg/L	20	0	90.6	47	155	17.95	0.887	20
Surr. Dibromofluoromethane	nomethane	28.47	2.0	μg/L	25	0	114	74	138	0	0	0
Surr. 1,2-Dichloroethane-d4	ethane-d4	28.47	2.0	ндуг	25	0	114	8	138	0	0	0
Surr. Toluene-d8		30.05	2.0	иgЛ	25	0	120	11	128	0	0	0
Surr. 4-Bromofluorobenzene	mbenzene	25.17	5.0	µg/L	25	0	1 0	8	113	0	0	0
		:	ì	r p	3	>	-	5	2		>	> >

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

B - Analyte detected in the associated Method Blank

NA - Not applicable where J values or ND results occur

Date: 25-Sep-17

Ö Sample Matrix Spike **QC SUMMARY REPORT** Prep Date: 8/30/2017 %RPD RPDLimit B - Analyte detected in the associated Method Blank Original Sample or MS Result Analysis Date: 9/5/2017 8:20:00 PM 1005276 HighLimit 55 147 99 161 56 5 4 158 58 49 \$ 56 55 49 157 161 147 55 157 152 LowLimit 55 73 8 2 2 4 2 5 8 8 2 8 4 67 Result %REC 128 48 126 152 126 122 121 123 82.4 ₹ 123 124 123 127 110 8 29 8 S - Spike Recovery outside accepted recovery limits QC Spike Original Sample R - RPD outside accepted recovery limits Units: pg/L 2000 Amount 28 28 200 200 28 200 200 200 8 200 888 V-3_170905A Test Code: SW8260C Units hg/L 19/L µg/L Б μğγ лgу 절 μg/L иgЛ рg µg∕L rg/L Hg/L J/grl Jg/ рg μgΓ μg 평 ъgЛ рgЛ 절 Run ID: 222222 8 5 22222 굗 <u>8</u> 8 8 8 8 8 8 8 8 8 8 1700396 MPA Berth 10 Final Design J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Batch ID: R59921 Result 252.8 252.5 303.5 241.2 246.8 288.9 246.5 247.6 QC Sample 243.9 502.3 246.2 164.7 2532 258.6 295.7 439.1 243.2 218.5 218.8 250.5 282.7 272 GEI Consultants, Inc. 1708044 Sample ID: 1708044-01AMS Client ID: 1700396-WE-2 trans-1,2-Dichloroethene Dichlorodifluoromethane Ethyl Tertiary Butyl Ether richlorofluoromethane cis-1,2-Dichloroethene Methyl tert-butyl ether Bromochioromethane 1,1,1-Trichloroethane 2,2-Dichloropropane 1-Dichloroethene Methylene chloride 1,1-Dichloroethane Disopropyl ether Work Order: Carbon disulfide **Fertiary Butanol** Bromomethane **Tetrahydrofuran** Chloromethane Chloroethane Vinyl chloride **Diethyl ether CLIENT:** 1,4-Dioxane Qualifiers: 2-Butanone Chloroform Project: \cetone Analyte

NA - Not applicable where J values or ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

GEI Consultants, Inc. CLIENT:

Date: 25-Sep-17

CLIENT:	GEI Consultants, Inc.							0	OC SUMMARY REPORT	ORT
Work Order:	1/08044							,		:
Project:	1700396 MPA Berth 10 Final Design	inal Design							Sample Matrix	Spike
1,1-Dichlompropene	me 252.8	20	hgy	200	٥	126	72	150	0	İ
Carbon tetrachloride	ide 259.9	20	μg/L	200	0	130	89	152	0	
1,2-Dichloroethane	e 242	20	µg/L	200	0	121	62	140	0	
Вепzепе	249.1	10	μg/L	200	0	125	99	153	0	
Trichloroethene	254.1	20	µg/L	200	0	127	83	152	0	
1,2-Dichloropropane	243.5	20	μg/L	200	0	122	88	145	0	
Bromodichloromethane	thane 274.7	20	µ9/L	200	0	137	7	142	0	
Dibromomethane	250.7	20	рgЛ	200	0	125	89	136	0	
Tertiary Amyl Methyl Ether	hyl Ether 226.4	20	pg/L	200	0	113	29	143	0	
4-Methyl-2-pentanone	tone 473.6	100	μg/L	400	0	118	31	4	0	
cis-1,3-Dichloropropene	opene 239.6	10	μg/L	200	0	120	29	140	0	
Toluene	259.9	20	рФL	200	0	130	92	155	0	
trans-1,3-Dichloropropene	propene 231.1	10	µg/L	200	0	116	25	133	0	
1,1,2-Trichloroethane	ane 256.4	20	рgЛ	200	0	128	69	142	0	
1,2-Dibromoethane	e 252.6	20	µg/L	200	0	126	89	138	0	
2-Hexanone	346	100	нgЛ	400	0	86.5	20	136	0	
1,3-Dichloropropane	179.9	20	μg/L	200	0	06	2	126	0	
Tetrachiomethene	215.2	20	μg/L	200	0	108	62	141	0	
Dibromochloromethane		20	μg/L	200	0	97.8	2	118	0	
Chlorobenzene	192.5	20	μg/L	200	0	96.2	75	128	0	
1,1,1,2-Tetrachloroethane	oethane 191.4	20	hg/L	200	0	95.7	89	124	0	
Ethylbenzene	200.7	20	µg/L	200	0	100	89	138	0	
m.p-Xylene	396.3	20	μg/L	400	0	99.1	65	141	0	
o-Xylene	195.4	20	µg/L	200	0	7.76	89	140	0	
Styrene	205.3	20	µg/L	200	0	103	62	1	0	
Вготобот	151	20	µg∕l.	200	0	75.5	4	112	0	
Isopropylbenzene	175.1	20	µg/L	200	0	87.6	83	139	0	
1,1,2,2-Tetrachloroethane	oethane 183.6	20	rig/L	200	0	91.8	20	130	0	
1,2,3-Trichloropropane	pane 175.3	20	μg/L	200	0	97.6	45	130	0	
Bromobenzene	168	20	μg/L	200	0	84	72	124	0	
n-Propylbenzene	182.4	2	hg/L	200	0	91.2	29	138	0	
Qualifiers: ND	ND - Not Detected at the Reporting Limit	=	S - Spike Recov	S - Spike Recovery outside accepted recovery limits	ecovery lin		- Analyte de	lected in the ass	B - Analyte detected in the associated Method Blank	
)-í	J - Analyte detected below quantitation limits	imits	R - RPD outside	R - RPD outside accepted recovery limits	nits	7	A - Not soul	nahla mhara I w	NA . Not amiliarly subsection I makes as ND manda	
ī	R1 Reporting 1 imit: defined as the lowest	i turi como turi	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			1	14 - 1101 app	CADIC WILLIC J V	alucs of Ive results occur	

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

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CLIENT: GEI Consultants, Inc. Work Order: 1708044 Project: 1700396 MPA Berth	GEI Consultants, Inc. 1708044 1700396 MPA Berth 10 Final Design	Design		{ -					QC SUMMARY REPORT Sample Matrix Spike
2-Chlorotoluene	180.7	82	µ9/L	200	•	90.4	69	125	
4-Chlorotoluene	183.3	20	µg/L	200	0	91.7	2	125	. 0
1,3,5-Trimethylbenzene	191.2	20	µg/L	200	0	95.6	99	2	0
tert-Butylbenzene	167.9	8	µg/L	200	0	8	65	136	0
1,2,4-Trimethylbenzene	188	8	иg/L	200	0	94	83	139	0
sec-Butylbenzene	186.3	20	µg/L	200	0	93.2	29	4	0
4-Isopropyltoluene	191.2	20	µg/L	200	0	95.6	83	142	0
1,3-Dichlorobenzene	181.1	20	µg/L	200	0	90.6	99	129	0
1,4-Dichlorobenzene	175.6	20	идуг	200	0	87.8	69	127	0
n-Butylbenzene	203.6	8	иg/L	200	0	102	8	142	0
1,2-Dichlorobenzene	193	8	µg/L	200	0	96.5	73	127	0
1,2-Dibromo-3-chloropropane	208.8	20	μg/L	200	0	40	ਲ	131	0
1,2,4-Trichlorobenzene	227	23	µg/L	200	0	114	51	135	0
Hexachlorobutadiene	204.1	20	µ9/L	200	0	102	38	151	0
Naphthalene	213	20	μg/L	200	0	106	23	140	0
1,2,3-Trichlorobenzene	207.2	20	µg/L	200	0	5	23	142	0
1,3,5-Trichlorobenzene	181.1	70	µg/L	200	0	90.6	48	147	0
Surt. Dibromofluoromethane	297.2	20	µ9/L	250	0	119	74	138	0
Surr: 1,2-Dichloroethane-d4	265.4	20	µg/L	250	0	106	2	138	0
Surr: Toluene-d8	286.8	20	µg/L	250	0	115	11	128	0
Surr. 4-Bromofluorobenzene	251.8	20	µ9/L	250	0	101	8	113	0

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

Project: 1700396 MPA Berth 10 Final Design

Date: 25-Sep-17

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Client ID: 1700396 WE2 Clos Sample Clo	Sample ID: 1708044-01AMSD	Batch ID: R59921	Test Code	Test Code: SW8260C	Units: µg/L			Analysis D	ate: 9/5/201	Analysis Date: 9/5/2017 8:55:00 PM	Prep Date	Prep Date: 8/30/2017	ı
OC Sample R. Units Amount Result %REC LowInnit Inpl. Inst. Inst. Inc. Inc. Inc. Inc. Inc. Inc. Inc. Inc			Run ID:	V-3_170905	4			SeqNo:	1005277				
Processed Result Relation Result Relation Result Relation Rel		QC Sample		ø	C Spike Origina	al Sample			J	Original Sample			
1284 500 μg/L 1000 128 22 171 1331 514 20 206.5 50 μg/L 200 103 10 175 252.8 20.0 20 244.3 20 μg/L 200 0 122 31 160 255 17.9 20 244.3 20 μg/L 200 0 122 44 156 252.5 3.0 20 244.3 20 μg/L 200 0 122 44 156 252.5 3.26 20 20 244.3 20 μg/L 200 0 122 44 157 252.5 3.26 20 20 246.1 20 μg/L 200 0 122 44 157 252.5 3.26 20 20 14 20 16 20 16 20 20 14 20 16 20 20 20 20 <th>Analyte</th> <th>Result</th> <th>起</th> <th>Units</th> <th>Amount</th> <th>Result</th> <th>%REC</th> <th>LowLimit</th> <th>- 12</th> <th>or MS Result</th> <th>%RPD</th> <th>RPDLimit</th> <th>Ö</th>	Analyte	Result	起	Units	Amount	Result	%REC	LowLimit	- 12	or MS Result	%RPD	RPDLimit	Ö
te 206.5 50 μg/L 200 103 10 175 252.8 202 20 244.3 20 μg/L 200 0 112 31 160 255 12.9 20 244.3 20 μg/L 200 0 122 34 160 255 12.9 20 244.3 20 μg/L 200 0 122 44 157 252.5 3.26 20 244.4 20 μg/L 200 0 122 44 157 252.5 3.26 20 244.4 20 μg/L 200 0 122 44 157 252.5 3.26 20 20 566.9 100 μg/L 200 0 122 44 157 252.5 3.26 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 <td>1,4-Dioxane</td> <td>1264</td> <td>200</td> <td>иg/L</td> <td>1000</td> <td>٥</td> <td>126</td> <td>22</td> <td>171</td> <td>1331</td> <td>5.14</td> <td>20</td> <td></td>	1,4-Dioxane	1264	200	иg/L	1000	٥	126	22	171	1331	5.14	20	
224 20 μg/L 200 112 31 160 256 123 244.3 20 μg/L 200 0 122 36 159 2439 0.164 244.4 20 μg/L 200 0 122 44 157 225.3 126 244.4 20 μg/L 200 0 122 44 157 225.3 126 244.4 20 μg/L 200 0 123 59 147 241.2 221.3 244.1 50 μg/L 200 0 123 59 147 241.2 221.3 244.2 10 μg/L 200 0 123 59 147 241.2 20.0 254.5 10 μg/L 200 0 127 16 156 156 161 246.8 130. 245.5 20 μg/L 200 0 127 17 158 156 161 246.8 130. 255.2 20 μg/L 200 0 123 17 158 156 164.2 130. 255.2 20 μg/L 200 0 125 17 158 156 164.2 130. 255.2 20 μg/L 200 0 126 17 158 161 246.8 130. 255.2 20 μg/L 200 0 126 17 158 161 246.8 130. 255.3 20 μg/L 200 0 126 17 158 161 246.8 130. 255.3 20 μg/L 200 0 126 17 158 161 246.8 130. 255.3 20 μg/L 200 0 126 17 158 164 281 147 255.4 20 μg/L 200 0 126 17 16 164 149 156 156 156. 255.3 20 μg/L 200 0 126 17 16 16 164 149 156 156. 255.3 20 μg/L 200 0 126 149 161 17 158 156 156. 255.3 20 μg/L 200 0 126 149 161 17 156 156 156. 255.3 20 μg/L 200 0 126 149 161 17 156 156 156. 255.3 20 μg/L 200 0 126 149 161 17 161 164 161 161 161 161 161 161 161 161	Dichlorodifluoromethane	206.5	20	µg/L	200	0	103	9	175	252.8	20.2	50	œ
244.3 20 µg/L 200 0 122 36 159 243.9 0.164 243.3 50 µg/L 200 0 122 44 155 255.5 19.4 243.3 20 µg/L 200 0 142 44 155 255.5 19.4 291.3 20 µg/L 200 0 142 150 259. 147 252.5 3.26 266.9 100 µg/L 200 0 170 170 303.5 4.1 2545. 10 µg/L 200 0 170 170 303.5 4.1 2545. 10 µg/L 200 0 170 170 166 200. 303.5 294.5 50 µg/L 200 0 170 170 166 200. 303.6 294.5 50 µg/L 200 0 170 170 189 189 1.92 245.5 10 µg/L 200 0 170 170 189 189 1.92 245.5 20 µg/L 200 0 170 170 189 189 1.92 255.0 1 µg/L 200 0 1 126 171 189 189 1.92 255.0 1 µg/L 200 0 1 126 171 189 189 1.92 255.0 1 µg/L 200 0 1 126 171 189 189 1.92 255.1 20 µg/L 200 0 1 126 171 189 189 1.92 255.3 20 µg/L 200 0 1 126 171 189 189 1.92 255.3 20 µg/L 200 0 1 126 171 171 189 189 1.92 255.3 20 µg/L 200 0 1 171 171 172 189 189 1.92 255.3 20 µg/L 200 0 1 171 172 189 189 1.92 255.3 20 µg/L 200 0 1 171 172 189 189 1.92 255.3 20 µg/L 200 0 1 171 172 189 189 1.92 256.1 20 µg/L 200 0 1 171 172 189 189 1.92 257.3 20 µg/L 200 0 1 171 172 189 189 1.92 258.1 20 µg/L 200 0 1 171 172 189 189 1.92 258.1 20 µg/L 200 0 1 172 64 155 188 3.28 251.1 20 µg/L 200 0 1 172 64 155 188 3.28 251.2 20 µg/L 200 0 1 172 64 155 188 3.28 251.3 20 µg/L 200 0 1 172 64 155 189 3.28 251.3 20 µg/L 200 0 1 172 64 155 189 3.28 251.3 20 µg/L 200 0 1 172 64 155 189 3.28 251.3 20 µg/L 200 0 1 172 64 155 189 3.29 251.3 20 µg/L 200 0 1 172 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L 200 0 1 173 64 155 189 3.29 251.3 20 µg/L	Chloromethane	224	20	µ9∕L	200	0	112	ਲ	160	255	12.9	29	
243.3 56 lgl, 200 0 122 44 155 295.7 194 194 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Vinyl chloride	244.3	20	μg/L	200	0	122	98	159	243.9	0.164	2	
244.4 20 μg/L 200 122 44 157 252.5 3.26 249.13 20 μg/L 200 0 146 60 170 303.5 4.1 246.1 50 μg/L 200 0 123 59 147 241.2 2.01 506.9 100 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 127 71 166 3.03 3.03 164.2 20 μg/L 200 0 126 44 46 166.8 24.1	Chloroethane	243.3	20	µg/L	200	0	122	4	155	295.7	19.4	20	
291.3 20 μg/L 200 146 60 170 303.5 4.1 246.1 50 μg/L 200 0 123 59 147 241.2 2.01 266.9 10 μg/L 200 0 127 70 166 502.3 0.912 254.5 10 μg/L 200 0 127 70 166 260.3 0.912 254.5 20 μg/L 200 0 127 70 166 260.3 0.912 264.5 50 μg/L 200 0 127 70 166 246.5 2.01 264.6 50 μg/L 200 0 127 71 168 246.5 2.3 265.2 20 μg/L 200 0 126 41 246.5 2.3 265.2 20 μg/L 200 0 126 41 41 48 46.5 2.4 </td <td>Bromomethane</td> <td>244.4</td> <td>20</td> <td>hg∕L</td> <td>200</td> <td>0</td> <td>122</td> <td>4</td> <td>157</td> <td>252.5</td> <td>3.26</td> <td>70</td> <td></td>	Bromomethane	244.4	20	hg∕L	200	0	122	4	157	252.5	3.26	70	
246.1 50 μg/L 200 0 123 59 147 241.2 201 256.9 100 μg/L 200 0 127 10 166 502.3 0.912 254.5 10 μg/L 200 0 127 73 161 246.8 3.07 294.5 50 μg/L 200 0 120 69 170 288.9 3.07 294.5 50 μg/L 200 0 120 69 144 246.5 1.92 240.9 20 μg/L 200 0 120 69 144 246.5 1.92 252.2 20 μg/L 200 0 126 44 149 246.5 2.3 253.0 μg/L 200 0 126 44 149 246.5 2.3 253.0 μg/L 200 0 126 44 149 253.2 0.0632 254.5 20 μg/L 200 0 126 44 149 253.2 0.0632 255.3 20 μg/L 200 0 126 44 149 253.2 0.0632 255.3 20 μg/L 200 0 126 66 155 243 243.2 4.66 252.3 20 μg/L 200 0 126 66 155 243.2 4.66 252.3 20 μg/L 200 0 126 66 155 248 3.28 255.3 20 μg/L 200 0 126 66 155 248 3.28 255.3 20 μg/L 200 0 126 66 155 248 3.28 255.3 20 μg/L 200 0 126 69 147 250.5 0.359 255.3 20 μg/L 200 0 126 69 147 250.5 0.359 255.3 20 μg/L 200 0 126 69 140 67 157 260.5 0.359 252.3 20 μg/L 200 0 126 69 140 67 157 260.5 0.359 252.3 20 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 67 157 260.5 0.359 252.3 20 μg/L 200 μg/L 200 0 140 64 149 272 4.03 278.3 20 μg/L 200 μg/L 200 0 140 60 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 200 0 140 μg/L 20	Trichlorofluoromethane	291.3	20	µg∕L	200	0	146	9	170	303.5	4.1	20	
566.9 100 μg/L 400 0 127 10 166 502.3 0.912 254.5 10 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 147 69 170 246.8 3.07 294.5 20 μg/L 200 0 123 71 188 246.5 2.3 294.5 20 μg/L 200 0 123 71 188 246.5 2.3 255.2 20 μg/L 200 0 126 71 158 246.5 2.3 45.6 100 μg/L 200 0 126 71 158 246.5 2.3 252.3 20 μg/L 200 0 126 44 149 258.2 0.6632 265.3 20 μg/L 200 0 126 44 149 248.5 </td <td>Diethyl ether</td> <td>246.1</td> <td>20</td> <td>µg/L</td> <td>200</td> <td>0</td> <td>123</td> <td>59</td> <td>147</td> <td>241.2</td> <td>2.01</td> <td>20</td> <td></td>	Diethyl ether	246.1	20	µg/L	200	0	123	59	147	241.2	2.01	20	
254.5 10 μg/L 200 0 127 73 161 246.8 3.07 164.2 20 μg/L 200 0 62.1 45 156 164.7 0.304 294.5 50 μg/L 200 0 147 69 170 288.9 1.92 240.9 20 μg/L 200 0 120 170 288.9 1.92 245.5 20 μg/L 200 0 126 77 158 247.6 0.304 252.2 20 μg/L 200 0 126 74 198 245.2 241 253.0 200 μg/L 200 0 170 164 39.1 1.47 254.8 20 μg/L 200 0 177 70 156 243.2 4.66 206.6 20 μg/L 200 0 127 70 156 243.2 4.66 252.3 20 μg/L 200 0 127 70 156 258.8 2.41 252.1 20 μg/L 200 0 127 70 156 258.6 2.47 253.3 20 μg/L 200 0 127 70 156 258.8 2.47 253.3 20 μg/L 200 0 126 66 155 258.8 2.47 253.3 20 μg/L 200 0 126 66 155 258.8 2.47 253.3 20 μg/L 200 0 126 66 155 258.8 2.47 253.3 20 μg/L 200 0 126 69 147 250.5 0.359 253.1 20 μg/L 200 0 142 64 159 272 4.03 262.1 20 μg/L 200 0 142 64 159 272 4.03 262.1 20 μg/L 200 0 142 64 159 272 4.03 262.1 20 μg/L 200 0 142 64 159 272 4.03 262.1 278.3 20 μg/L 200 0 141 67 156 26.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 156 26.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 150 26.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 278.3 20 μg/L 200 0 141 67 157 260.5 0.359 262.1 200 μg/L 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 141 67 157 260.5 0.359 262.1 200 0 14	Acetone	506.9	6	μg/L	400	0	127	9	166	502.3	0.912	20	
164.2 20 µg/L 200 0 82.1 45 156 164.7 0.304 203 4 204.5 50 µg/L 200 0 147 69 170 288.9 1.92 204.5 50 µg/L 200 0 147 69 170 288.9 1.92 204.5 20 µg/L 200 0 120 120 171 158 246.5 2.3 2.41 252.2 20 µg/L 200 0 120 171 158 246.5 0.0632 244.5 252.3 20 µg/L 200 0 120 171 158 246.5 0.0632 244.5 252.3 20 µg/L 200 0 171 172 164 439.1 14.7 254.8 20 µg/L 200 0 171 172 164 149 248.5 5.6 243.2 4.66 20 µg/L 200 0 171 172 164 149 248.5 5.6 243.2 4.66 20 µg/L 200 0 170 140 161 218.5 5.6 252.3 20 µg/L 200 0 170 170 166 155 258.6 2.47 252.3 20 µg/L 200 0 170 170 166 252.3 20 µg/L 200 0 170 170 170 170 170 170 170 170 170	1,1-Dichloroethene	254.5	5	µg∕L	200	0	127	73	161	246.8	3.07	20	
294.5 50 µg/L 200 0 147 69 170 288.9 1.92 240.9 20 µg/L 200 0 120 60 144 246.5 2.3 240.9 20 µg/L 200 0 123 71 158 247.6 0.852 252.2 20 µg/L 200 0 126 71 158 246.5 2.41 253.0 200 µg/L 200 0 126 71 158 246.2 2.41 254.8 20 µg/L 200 0 126 71 158 248.2 2.41 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 255.3 20 µg/L 200 0 127 70 156 243.2 4.66 255.3 20 µg/L 200 0 127 70 156 243.2 4.66 255.3 20 µg/L 200 0 126 66 155 258.6 2.47 256.1 20 µg/L 200 0 126 66 155 258.6 2.47 256.1 20 µg/L 200 0 126 69 147 250.5 0.359 257.4 20 µg/L 200 0 140 67 156 250.5 0.359 258.2 26.1 20 µg/L 200 0 140 67 156 250.5 0.359 258.2 26.1 20 µg/L 200 0 140 67 156 250.5 0.359 268.3 20 µg/L 200 0 140 67 150 250.5 0.359 269.3 280.1 20 µg/L 200 0 140 67 157 250.5 0.359 260.2 278.3 20 µg/L 200 0 140 67 150 250.5 0.359 278.3 20 µg/L 200 0 140 67 150 250.5 0.359 278.3 20 µg/L 200 0 140 67 150 250.5 0.359 278.3 20 µg/L 200 0 140 67 150 250.5 0.359 278.3 20 µg/L 200 0 140 67 150 250.5 0.359 278.3 20 µg/L 200 0 140 67 150 250.5 0.359 278.3 20 µg/L 200 0 140 67 150 250.5 0.359 278.3 20 µg/L 200 0 140 67 150 250.5 0.359	Carbon disulfide	164.2	20	hg/L	200	0	82.1	45	156	164.7	0.304	8	
240.9 20 µg/L 200 0 120 60 144 246.5 2.3 2.3 241 252.2 20 µg/L 200 0 126 77 158 245.5 2.41 252.2 20 µg/L 200 0 126 77 158 245.2 2.41 253.2 2.41 2.41 2.41 2.41 2.41 2.41 2.41 2.	Methylene chloride	294.5	20	иgЛ	200	0	147	69	170	288.9	1.92	20	
1e 245.5 20 µg/L 200 0 123 71 158 247.6 0.852 252.2 20 µg/L 200 0 126 71 158 246.2 2.41 253.0 200 µg/L 200 0 126 44 149 2532 0.0632 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 256.8 20 µg/L 200 0 127 70 156 243.2 4.66 256.1 20 µg/L 200 0 126 66 155 258.6 2.47 er 256.1 20 µg/L 200 0 126 66 155 258.6 2.47 er 256.1 20 µg/L 200 0 126 66 155 218.8 3.28 256.1 2 µg/L 20 µg/L 20 <td>Methyl tert-butyl ether</td> <td>240.9</td> <td>20</td> <td>μg/L</td> <td>200</td> <td>0</td> <td>120</td> <td>9</td> <td><u>4</u></td> <td>246.5</td> <td>2.3</td> <td>20</td> <td></td>	Methyl tert-butyl ether	240.9	20	μg/L	200	0	120	9	<u>4</u>	246.5	2.3	20	
252.2 20 µg/L 200 126 71 158 246.2 2.41 2530 200 µg/L 2000 0 126 44 149 253.2 0.0632 445.6 100 µg/L 400 0 171 12 164 439.1 1.47 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 255.3 20 µg/L 200 0 127 70 156 243.2 4.66 er 256.3 20 µg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 µg/L 200 0 126 69 147 259.6 2.47 er 251.4 20 µg/L 200 0 126 44 149 272 4.03 283.2 100 µg/L 200 0 126 44 <td>trans-1,2-Dichloroethene</td> <td>245.5</td> <td>20</td> <td>µg∕L</td> <td>200</td> <td>0</td> <td>123</td> <td>7</td> <td>158</td> <td>247.6</td> <td>0.852</td> <td>20</td> <td></td>	trans-1,2-Dichloroethene	245.5	20	µg∕L	200	0	123	7	158	247.6	0.852	20	
2530 200 µg/L 2000 0 126 44 149 2532 0.0632 445.6 100 µg/L 400 0 111 12 164 439.1 1.47 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 206.6 20 µg/L 200 0 127 70 156 243.2 4.66 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 er 256.1 20 µg/L 200 0 126 69 147 250.5 0.359 283.2 100 µg/L 200 0 142 44 149 272 4.03 282.1 20 µg/L 200 0 141 67 157 267.9 3.81 278.3 2 µg/L 20 µg/L 20 141 67 <td>1,1-Dichloroethane</td> <td>252.2</td> <td>20</td> <td>ng/L</td> <td>200</td> <td>0</td> <td>126</td> <td>71</td> <td>158</td> <td>246.2</td> <td>2.41</td> <td>8</td> <td></td>	1,1-Dichloroethane	252.2	20	ng/L	200	0	126	71	158	246.2	2.41	8	
445.6 100 µg/L 400 0 111 12 164 439.1 1.47 254.8 20 µg/L 200 0 127 70 156 243.2 4.66 206.6 20 µg/L 200 0 126 66 155 258.6 2.47 er 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 µg/L 200 0 126 69 147 250.5 0.359 283.2 100 µg/L 200 0 142 44 149 272 4.03 282.1 20 µg/L 200 0 141 67 157 267.9 3.81 1 Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank	Tertiary Butanol	2530	200	µg∕L	2000	0	126	4	149	2532	0.0632	20	
254.8 20 µg/L 200 0 127 70 156 243.2 4.66 206.6 20 µg/L 200 0 126 48 161 218.5 5.6 252.3 20 µg/L 200 0 126 66 155 258.6 2.47 er 226.1 20 µg/L 200 0 126 69 147 250.5 0.359 283.2 100 µg/L 200 0 142 44 149 272 4.03 282.1 20 µg/L 200 0 141 67 157 282.7 0.212 278.3 20 µg/L 200 0 141 67 157 282.7 0.212 278.3 20 µg/L 200 0 139 70 152 267.9 3.81 A detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits													

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

AMRO Environmental Laboratories Corp.

Work Order:	1708044								COMMENT NELONI	INT	TEL ON
Project:	1700396 MPA Berth 10 Final Design	esign							Sample M	atrix Spik	Sample Matrix Spike Duplicate
1,1-Dichloropropene	e 256.9	20	µ9∕L	200	0	128	72	150	252.8	1.61	8
Carbon tetrachloride	le 278.6	20	₽g∕L	200	0	139	89	152	259.9	6.95	70
1,2-Dichloroethane	237.3	20	hg∕L	200	0	119	62	140	242	1.96	20
Benzene	251.1	9	hg∕L	200	0	126	98	153	249.1	0.8	70
Trichloroethene	255.7	20	µg/L	200	0	128	63	152	254.1	0.628	70
1,2-Dichloropropane	ie 248.2	20	µ9/L	200	0	124	89	145	243.5	1.91	20
Bromodichloromethane	nane 270.2	8	µg/L	200	0	135	71	142	274.7	1.65	50
Dibromomethane	254.3	20	µg/L	200	0	127	89	136	250.7	1.43	20
Fertiary Amyl Methyl Ether	yl Ether 231.9	20	µg/L	200	0	116	29	143	226.4	2.4	20
4-Methyl-2-pentanone	sine 484.7	2	µg/L	400	0	121	က	1 4	473.6	2.32	92
cis-1,3-Dichloropropene	pene 243.8	9	µg/L	200	0	122	29	140	239.6	1.74	70
Toluene	272.7	20	µg/L	200	0	136	65	155	259.9	4.81	20
trans-1,3-Dichloropropene	гореле 238.5	9	µg/L	200	0	119	25	133	231.1	3.15	20
1,1,2-Trichloroethane	пе 256.1	20	µ9/L	200	0	128	69	142	256.4	0.117	20
1,2-Dibromoethane	253.9	20	иg/L	200	0	127	88	138	252.6	0.513	20
2-Hexanone		100	μg/L	400	0	92.7	8	136	346	6.92	20
1,3-Dichloropropane		8	µg/L	200	0	92.9	\$	126	179.9	3.23	20
Tetrachloroethene		20	µ9/L	200	0	105	62	141	215.2	2.21	20
Dibromochloromethane	nane 199.2	20	μg/L	200	0	9.66	2	118	195.7	1.77	20
Chlorobenzene	198.6	8	µ9/L	200	0	99.3	75	128	192.5	3.12	20
1,1,1,2-Tetrachioroethane	ethane 194.1	20	µg/L	200	0	26	89	124	191.4	1.4	20
Ethylbenzene	208	20	µ9⁄L	200	0	104	89	138	200.7	3.57	20
m,p-Xylene	399.5	20	µ9∕L	400	0	99.9	92	141	396.3	0.804	20
o-Xylene	199.7	20	µ9/L	200	0	9.66	89	140	195.4	2.18	20
Styrene	212.6	20	µ9/L	200	0	106	62	144	205.3	3.49	20
Вготобот	152.3	20	μg/L	200	0	76.2	4	112	151	0.857	20
Isopropylbenzene	182.9	20	μg/L	200	0	91.5	83	139	175.1	4.36	20
1,1,2,2-Tetrachloroethane	ethane 180.1	20	μg/L	200	0	90	S	130	183.6	1.92	20
1,2,3-Trichloropropane	ane 182.7	20	μg/L	200	0	91.4	45	130	175.3	4.13	20
Bromobenzene	174.5	20	µg/L	200	0	87.2	22	124	168	3.8	20
n-Propylbenzene	191.2	20	пgЛ	200	0	92.6	29	138	182.4	4.71	20
Qualifiers: ND	ND - Not Detected at the Reporting Limit	1	S - Spike Recove	- Spike Recovery outside accepted recovery limits	recovery	imits	B - Analyte d	etected in the a	B - Analyte detected in the associated Method Blank	d Blank	
A-t	J - Analyte detected below quantitation limits		R - RPD outside	R - RPD outside accepted recovery limits	imits					•	

AMRO Environmental Laboratories Corp.

CLIENT: Work Order: Project:	GEI Consultants, Inc. 1708044 1700396 MPA Berth 10 Final Design	Inc. eth 10 Final De	esign							OC SUMMARY REPORT Sample Matrix Spike Duplicate	TARY R trix Spike	EPORT Duplicate
2-Chlorotoluene		185.7	20	идуг	200	0	92.8	8	125	180.7	2.73	82
4-Chlorototuene		189.8	8	µ9/L	200	0	94.9	20	125	183.3	3.48	50 20
1,3,5-Trimethylbenzene	ane ane	198	20	µg/L	200	0	66	99	\$	191.2	3.49	70
tert-Butylbenzene		173.8	29	нgЛ	200	0	86.9	89	136	167.9	3.45	20
1,2,4-Trimethylbenzene	ane.	198.1	20	μg/L	200	0	66	83	139	188	5.23	20
sec-Butylbenzene		193.4	20	иgЛ	200	0	96.7	62	1	186.3	3.74	20
4-Isopropyltoluene		201.7	20	µg∕L	200	0	101	8	142	191.2	5.34	20
1,3-Dichlorobenzene		188	20	иgЛ	200	0	94	89	129	181.1	3.74	20
1,4-Dichlorobenzene		184.1	20	µg/L	200	0	92	69	127	175.6	4.73	20
n-Butylbenzene		209.5	70	µg/L	200	0	105	8	142	203.6	2.86	20
1,2-Dichlombenzene		199.2	20	μg/L	200	0	9.66	73	127	193	3.16	70
1,2-Dibromo-3-chloropropane	propane	223.1	20	μg/L	200	0	112	ষ্	131	208.8	6.62	20
1,2,4-Trichlorobenzene	10	240.6	8	μg/L	200	0	120	5	135	227	5.82	20
Hexachlorobutadiene		231.3	8	μg/L	200	0	116	88	151	204.1	12.5	20
Naphthalene		225.7	20	µg/L	200	0	113	22	140	213	5.79	20
1,2,3-Trichlorobenzene	Je	220.7	20	μg/L	200	0	110	27	142	207.2	6.31	20
1,3,5-Trichlorobenzene	Je	188.7	8	µg∕L	200	0	94.4	48	147	181.1	4.11	20
Surr: Dibromofluoromethane	omethane	297.5	20	µg/L	250	0	119	74	138	0	0	0
Surr. 1,2-Dichloroethane-d4	thane-d4	256	70	μg/L	250	0	102	8	138	0	0	0
Surr: Toluene-d8		278.3	20	µg/L	250	0	11	11	128	0	0	0
Surr. 4-Bromofluorobenzene	openzene	255	20	μg/L	250	0	102	81	113	0	0	0

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-WE-2

Lab Order:

1708044

Collection Date: 8/30/2017 10:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-01B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 8270D SEMIVOLATILE ORGANICS		SW8270D				Analyst: NS
Phenoi	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/5/2017 7:10:00 PM
2-Chlorophenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
1,3-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Benzyl alcohol	ND	21		µg/L	1	9/5/2017 7:10:00 PM
2-Methylphenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
1,2-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/5/2017 7:10:00 PM
4-Methylphenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Hexachloroethane	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Nitrobenzene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Isophorone	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2,4-Dimethylphenol	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Benzoic acid	ND	21		μg/L	1	9/5/2017 7:10:00 PM
2-Nitrophenol	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/5/2017 7:10:00 PM
2,4-Dichlorophenol	ND	10		µg/L	1	9/5/2017 7:10:00 PM
1,2,4-Trichlorobenzene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Naphthalene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
4-Chloroanlline	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Hexachlorobutadiene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
4-Chloro-3-methylphenol	ND	21		µg/L	1	9/5/2017 7:10:00 PM
2-Methylnaphthalene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Hexachlorocyclopentadiene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2,4,6-Trichlorophenol	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2,4,5-Trichlorophenol	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2-Chloronaphthalene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2-Nitroaniline	ND	21		μg/L	1	9/5/2017 7:10:00 PM
Dimethyl phthalate	ND	10		μg/L	1	9/5/2017 7:10:00 PM
2,6-Dinitrotoluene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
Acenaphthylene	ND	10		μg/L	1	9/5/2017 7:10:00 PM
3-Nitroaniline	ND	21		μg/L	1	9/5/2017 7:10:00 PM
4-Nitrophenol	ND	21		μg/L	1	9/5/2017 7:10:00 PM
2,4-Dinitrophenol	ND	21		μg/L	1	9/5/2017 7:10:00 PM
Acenaphthene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	9/5/2017 7:10:00 PM
Dibenzofuran	ND	10		µg/L	1	9/5/2017 7:10:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-WE-2

Lab Order:

1708044

Collection Date: 8/30/2017 10:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-01B

Analyses	Result	RL	Qual U	inits	DF	Date Analyzed
Diethyl phthalate	ND	10	μ	g/L	1	9/5/2017 7:10:00 PM
4-Chlorophenyl phenyl ether	ND	10	μį	g/L	1	9/5/2017 7:10:00 PM
Fluorene	ND	10	μί	g/L	1	9/5/2017 7:10:00 PM
4-Nitroaniline	ND	21	μg	g/L	1	9/5/2017 7:10:00 PM
4,6-Dinitro-2-methylphenol	ND	21	μģ	g/L .	1	9/5/2017 7:10:00 PM
N-Nitrosodiphenylamine	ND	10	μ	g/L	1	9/5/2017 7:10:00 PM
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
4-Bromophenyl phenyl ether	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Hexachlorobenzene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Pentachlorophenol	ND	21	μς	- g/L	1	9/5/2017 7:10:00 PM
Phenanthrene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Anthracene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Carbazole	ND	10	μg	J/L	1	9/5/2017 7:10:00 PM
DI-n-butyl phthalate	ND	10	hõ	g/L	1	9/5/2017 7:10:00 PM
Fluoranthene	ND	10	μς	g/L	1	9/5/2017 7:10:00 PM
Pyrene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Butyl benzyl phthalate	ND	10]/L	1	9/5/2017 7:10:00 PM
Bis(2-ethylhexyl)phthalate	ND	10	hā]/L	1	9/5/2017 7:10:00 PM
3,3'-Dichlorobenzidine	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Benz(a)anthracene	ND	10	μg	3/L	1	9/5/2017 7:10:00 PM
Chrysene	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Di-n-octyl phthalate	ND	10	μg	g/L	1	9/5/2017 7:10:00 PM
Benzo(b)fluoranthene	ND	10	μg	J/L	1	9/5/2017 7:10:00 PM
Benzo(k)fluoranthene	ND	10	μg)/L	1	9/5/2017 7:10:00 PM
Benzo(a)pyrene	ND	10	μg	J/L	1	9/5/2017 7:10:00 PM
Dibenz(a,h)anthracene	ND	10	μg	_J /L	1	9/5/2017 7:10:00 PM
Indeno(1,2,3-cd)pyrene	ND	10	μg	ı/L	1	9/5/2017 7:10:00 PM
Benzo(g,h,i)perylene	ND	10	þд	ı/L	1	9/5/2017 7:10:00 PM
Surr: 2-Fluorophenol	41.2	25-62	%	REC	1	9/5/2017 7:10:00 PM
Surr: Phenol-d5	35.2	13-43	%I	REC	1	9/5/2017 7:10:00 PM
Surr: Nitrobenzene-d5	58.0	36-108	% l	REC	1	9/5/2017 7:10:00 PM
Surr: 2-Fluorobiphenyl	67.0	44-117	%	REC	1	9/5/2017 7:10:00 PM
Surr: 2,4,6-Tribromophenol	89.2	39-131		REC	1	9/5/2017 7:10:00 PM
Surr: 4-Terphenyl-d14	105	44-122	%I	REC	1	9/5/2017 7:10:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

1708044

Client Sample ID: 1700396-SW-1

Lab Order:

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-02B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 8270D SEMIVOLATILE ORGANICS	-	SW8270D				Analyst: NS
Phenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2-Chlorophenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
1,3-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
1,4-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Benzyl alcohol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
2-Methylphenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
1,2-Dichlorobenzene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/5/2017 7:34:00 PM
4-Methylphenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
N-Nitrosodi-n-propylamine	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Hexachloroethane	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Nitrobenzene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Isophorone	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2,4-Dimethylphenol	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzoic acid	ND	21		µg/L	1	9/5/2017 7:34:00 PM
2-Nitrophenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2,4-Dichlorophenot	ND	10		µg/L	1	9/5/2017 7:34:00 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Naphthalene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
4-Chloroaniline	NĐ	10		µg/L	1	9/5/2017 7:34:00 PM
Hexachlorobutadiene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
4-Chloro-3-methylphenol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
2-Methylnaphthalene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2,4,6-Trichlorophenoi	ND	10		μg/L	1	9/5/2017 7:34:00 PM
2,4,5-Trichlorophenol	ND	10		μg/L	1	9/5/2017 7:34:00 PM
2-Chloronaphthalene	ND	10		μg/L	t	9/5/2017 7:34:00 PM
2-Nitroaniline	ND	21		μg/L	1	9/5/2017 7:34:00 PM
Dimethyl phthalate	ND	10		μg/L	1	9/5/2017 7:34:00 PM
2,6-Dinitrotoluene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Acenaphthylene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
3-Nitroaniline	ND	21		µg/L	1	9/5/2017 7:34:00 PM
1-Nitrophenol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
2,4-Dinitrophenol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
Acenaphthene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Dibenzofuran	ND	10		µg/L	1	9/5/2017 7:34:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-SW-1

Lab Order:

1708044

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID: 1708044-02B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diethyl phthalate	ND	10	_	µg/L	1	9/5/2017 7:34:00 PM
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Fluorene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
4-Nitroaniline	ND	21		µg/L	1	9/5/2017 7:34:00 PM
4,6-Dinitro-2-methylphenol	ND	21		μg/L	1	9/5/2017 7:34:00 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/5/2017 7:34:00 PM
1,2-Diphenylhydrazine (as Azobenzene)	ND	10		µg/L	1	9/5/2017 7:34:00 PM
4-Bromophenyi phenyi ether	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Hexachlorobenzene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Pentachlorophenol	ND	21		µg/L	1	9/5/2017 7:34:00 PM
Phenanthrene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Anthracene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Carbazole	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Di-n-butyl phthalate	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Fluoranthene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Pyrene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Butyl benzyl phthalate	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/5/2017 7:34:00 PM
3,3'-Dichlorobenzidine	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Benz(a)anthracene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Chrysene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Di-n-octyl phthalate	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzo(k)fluoranthene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzo(a)pyrene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Dibenz(a,h)anthracene	ND	10		μg/L	1	9/5/2017 7:34:00 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/5/2017 7:34:00 PM
Surr: 2-Fluorophenol	51.4	25-62		%REC	1	9/5/2017 7:34:00 PM
Surr: Phenol-d5	44.3	13-43	S	%REC	1	9/5/2017 7:34:00 PM
Surr: Nitrobenzene-d5	73.8	36-108		%REC	1	9/5/2017 7:34:00 PM
Surr: 2-Fluorobiphenyl	79.6	44-117		%REC	1	9/5/2017 7:34:00 PM
Surr: 2,4,6-Tribromophenol	97.8	39-131		%REC	1	9/5/2017 7:34:00 PM
Surr: 4-Terphenyl-d14	119	44-122		%REC	1	9/5/2017 7:34:00 PM

Date: 25-Sep-17

CLIENT: G	GEI Consultants, Inc.					OC SUM	QC SUMMARY REPORT
	1700396 MPA Berth 10 Final Design	esign					Method Blank
Sample ID: MB-27476	Batch ID: 27476	Test Code: SW8270D	W8270D	Units: µg/L	Analysis D	Analysis Date: 9/5/2017 3:27:00 PM	Prep Date: 8/31/2017
Client ID:		Run ID: S	SV-4_170905A		SeqNo:	1005222	
	QC Sample		ö	QC Spike Original Sample		Original Sample	
Analyte	Result	R	Units An	Amount Result %REC	LowLimit HighLimit		%RPD RPDLimit Que
Phenol	QN	9	UG/L				
Bis(2-chloroethyl)ether	QN	10	rg/L				
2-Chlorophenol	QN		µg/L				
1,3-Dichlorobenzene	QN	9	ug/L				
1,4-Dichlorobenzene	2	10	µg∕L				
Benzyl alcohol	QN	20	µg∕L				
2-Methylphenol	QN	5	µg∕L				
1,2-Dichlorobenzene	QN	0	µg∕L				
Bis(2-chloroisopropyl)ether	ther ND	10	hg/L				
4-Methylphenol	2	10	µg∕L				
N-Nitrosodi-n-propylamine	line ND	10	µg/L				
Hexachloroethane	Q	5	µg/L				
Nitrobenzene	QN	5	µ9∕L				
isaphorane	QN	10	μg/L				
2,4-Dimethylphenol	QN	5	pg/L				
Benzoic acid	QN	20	µg/L				
2-Nitrophenoi	QN	0	µg∕L				
Bis(2-chloroethoxy)methane	thane	9	µg/L				
2,4-Dichlorophenol	QN	5	µg∕L				
1,2,4-Trichlorobenzene	QN	10	ug/L				
Naphthalene	QN	10	ug/L				
4-Chloroaniline	Q	9	µg/L				
Hexachlorobutadiene	QN	5	ug/L				
4-Chloro-3-methylphenol	ON TO	20	µg/L				
2-Methylnaphthalene	Q	0	µg∕L				
Qualifiers: ND - Not	ND - Not Detected at the Reporting Limit	S-Spi	ke Recovery o	S - Spike Recovery outside accepted recovery limits	B - Analyte	B - Analyte detected in the associated Method Blank	od Blank
J - Analy	J - Analyte detected below quantitation limits	R-RP	D outside acce	R - RPD outside accepted recovery limits	NA Mot	anliantle sufteen (molecules)	-
					2 1 N - L N C	NA - Not applicable where J values of ND results occur	results occur

NA - Not applicable where J values or ND results occur

RL - Reporting Limit; defined as the fowest concentration the laboratory can accurately quantitate.

CLIENT:	GEI Consultants, Inc.	ڹ			TOOGS AND STANKED TO STANKE TO STANK
Work Order:	1708044				QC SUMMARI KEFORI
Project:	1700396 MPA Berth 10 Final Design	th 10 Final Design	_		Method Blank
Hexachlorocyclopentadiene	pentadiene	ND 10	01	µg/L	
2,4,6-Trichlorophenol	enol	NO T	5	hg/L	
2,4,5-Trichlorophenol	enol	NO T	9	µ9/L	
2-Chloronaphthalene	lene	NO T	5	μg/L	
2-Nitroaniline		ND	20	µg/L	
Dimethyl phthalate	te .	12.61	5	µg/L	
2,6-Dinitrotoluene	ø.	ND A	5	ug/L	
Acenaphthylene		NO T	9	ng/L	
3-Nitroaniline		ND	23	hg/L	
4-Nitrophenol		ND 20	20	µg/L	
2,4-Dinitrophenol		ND 2(20	µg/L	
Acenaphthene		ND T	10	µg/L	
2,4-Dinitrotoluene	m	ND ON	10	µg/L	
Dibenzofuran		N T	5	μg/L	
Diethyl phthalate		ND T	10	µg/L	
4-Chlorophenyl phenyl ether	henyl ether	ND 10	9	µg/L	
Fluorene		ON D	유	µg/L	
4-Nitroaniline		ND 20	20	pg/L	
4,6-Dinitro-2-methylphenol	hylphenol	ND 20	20	hg/L	
N-Nitrosodiphenylamine	lamine	ND T	10	µg/L	
1,2-Diphenylhydrazine (as Azobe	azine (as Azobe	N T	10	µg/L	
4-Bromophenyl phenyl ether	henyi ether	ON 5	5	μg/L	
Hexachlorobenzene	ine	ND T	5	µg/L	
Pentachlorophenol		ND 2C	20	µ9/L	
Phenanthrene		ND ON	5	µg/L	
Anthracene		ND T	10	µg/L	
Carbazole		ND D	10	µg/L	
Di-n-butyl phthalate	ıte	ND to	10	μg/L	
Fluoranthene		ND D	10	µg/L	
Pyrene		ND 10	10	µ9/L	
Butyl benzyl phthalate	alate	ND 10	욘	µg/L	
Qualifiers: NE	ND - Not Detected at the Reporting Limit	ting Limit	S	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
-	J - Analyte detected below quantitation limits	titation limits	24	R - RPD outside accepted recovery limits	
2	RI - Reporting I imit defined as the fo	meters former and a	40.00		NA - NOT applicable where J values of NLJ results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT:	GEI Consultants, Inc.	Inc.								
Work Order:	1708044								~	QC SUMMARY REPORT
Project:	1700396 MPA Berth 10 Final Design	rth 10 Final D	esign							Method Blank
Bis(2-ethylhexyl)phthalate	thalate	S	9	γ ₀ γ						
3,3'-Dichlorobenzidine	ine	2	6	ng/L						
Benz(a)anthracene		2	10	µg/L						
Сһлузепе		2	10	µg/L						
Di-n-octyl phthalate		2	우	µg/L						
Benzo(b)fluoranthene	Пе	9	5	μgγ						
Benzo(k)fluoranthene	92	Ö	9	иgЛ						
Benzo(a)pyrene		9	9	µg/L						
Dibenz(a,h)anthracene	ene	N O	9	µg/L						
Indeno(1,2,3-cd)pyrene	ene	Q	5	μg⁄L						
Benzo(g,h,i)perylene	9	Q	5	μg/L						
Surr: 2-Fluorophenol	lons	30.38	1.0	μg/L	75	0	40.5	22	62	0
Surr. Phenol-d5		19.61	1.0	µg/L	75	0	26.1	5	43	0
Surr: Nitrobenzene-d5	ne-d5	35.57	1.0	µg/L	20	0	71.1	36	108	٥
Surr: 2-Fluorobiphenyl	henyl	38.03	1.0	µ9∕L	20	0	76.1	4	117	0
Surr: 2,4,6-Tribromophenol	mophenol	65.83	1.0	иg/L	75	0	87.8	33	131	0
Surr: 4-Terphenyl-d14	Fd14	40.97	1.0	µg/L	20	0	81.9	4	122	0

Qualifiers:

Date: 25-Sep-17

CLIENT:	GEI Con	GEI Consultants, Inc.											
Work Order:	1708044									OC SOM	QC SUMMARY REPORT	REPOR	
Project:	1700396	1700396 MPA Berth 10 Final Design	Jesign	ĺ						Lat	Laboratory Control Spike	ntrol Sp	ike
													l
Sample ID: LCS-27476	7476	Batch ID: 27476	Test Cod	Test Code: SW8270D	Units: µg/L			Analysis Da	Analysis Date: 9/5/2017 3:52:00 PM	3:52:00 PM	Prep Date: 8/31/2017	1/31/2017	
Client ID:			Run ID:	SV-4_170905A	105A			SeqNo:	1005223				
		QC Sample		•	QC Spike Original Sample	1 Sample			ŏ	Original Sample			
Analyte		Result	2	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD R	RPDLimit	Ö
Phenol		26.72	5	hg/L	75	0	35.6	13	47	0			1
Bis(2-chloroethyt)ether	ther	40.26	10	μg/L	20	0	80.5	42	102	0			
2-Chlorophenol		58.57	9	hg/L	75	0	78.1	99	110	0			
1,3-Dichlorobenzene	æ	38.91	우	µg/L	20	0	77.8	콩	66	0			
1,4-Dichlorobenzene	ē	40.82	10	μg/L	20	0	81.6	35	66	0			
Benzyl alcohol		29.27	20	μg/L	20	0	58.5	ਲ	96	0			
2-Methylphenol		52.5	10	µg/L	75	0	20	35	5	0			
1,2-Dichlorobenzene	je	39.54	9	μg/L	90	0	79.1	37	66	0			
Bis(2-chloroisopropyl)ether	yl)ether	64.56	9	ng/L	20	0	129	સ	<u>5</u>	0			Ø
4-Methylphenol		62.93	0	μg/L	150	0	42	23	61	0			,
N-Nitrosodi-n-propylamine	/lamine	45.89	6	µg/L	20	0	91.8	43	111	0			
Hexachloroethane		41.74	5	µg∕L	20	0	83.5	33	26	0			
Nitrobenzene		44.14	우	µ9/L	20	0	88.3	46	102	0			
Isophorone		36.08	5	μg/L	20	0	72.2	38	105	0			
2,4-Dimethylphenol	_	55.39	우	µg/L	75	0	73.9	38	110	0			
Benzoic acid		19.68	20	μg/L	75	0	26.2	9	55	0			7
2-Nitrophenol		59.27	5	µ9/L	75	0	79	4	118	0			
Bis(2-chloroethoxy)methane	methane	42.67	10	µ9∕L	20	0	85.3	8	106	0			
2,4-Dichlorophenol		64.52	우	µg∕L	75	0	98	20	117	0			
1,2,4-Trichlorobenzene	ene	44.21	1 0	µg/L	20	0	88.4	4	103	0			
Naphthalene		42.25	10	µg/L	20	0	84.5	45	100	0			
4-Chloroaniline		32.4	5	µ9/L	20	0	64.8	28	113	0			
Hexachlorobutadiene	ē	46.63	10	µg/L	20	0	93.3	4	101	0			
4-Chloro-3-methylphenol	henol	63.91	20	µg/L	75	0	85.2	47	119	0			
2-Methylnaphthalene	9	41.61	9	hg∕L	20	0	83.2	4	107	0			
Qualifiers: ND-	· Not Detected	ND - Not Detected at the Reporting Limit	S	- Spike Recove	- Spike Recovery outside accepted recovery limits	f recovery l	limits	B - Analyte	detected in the	B - Analyte detected in the associated Method Blank	od Blank	;	1
A-L	nalyte detecte	J - Analyte detected below quantitation limits	84	- RPD outside	- RPD outside accepted recovery limits	limits		114 117	•	;			
RI.	Renortino 1 is	RL - Reporting Limit defined as the lowest co	ncentration the	Johnston: con				NA - NOI 8	pplicable where	NA - NOI Applicable Where J Values of NLJ resulls occur	esults occur		

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

AMRO Environmental Laboratories Corp.

Work Order: 17080 Project: 17003 Hexachlorocyclopentadiene 2,4,6-Trichlorophenol										
	1708044							>	COSUMINIARI REFORI	EFORT
Hexachlorocyclopentad 2,4,6-Trichlorophenol	1700396 MPA Berth 10 Final Design	esign							Laboratory Control Spike	trol Spike
2,4,6-Trichlorophenol	iene 4.96	10	μg/L	20	٥	9.92	₽	91	0	St
•	76.21	9	μg/L	75	0	102	48	129	0	
2,4,5-Trichlorophenol	85.45	10	иgЛ	75	0	114	45	131	0	
2-Chloronaphthalene	50.52	9	hg/L	20	0	101	48	107	0	
2-Nitroaniline	58.75	20	µ9/L	20	0	118	4	122	0	
Dimethyl phthalate	67.71	2	µg/L	20	0	135	28	114	0	BS
2,6-Dinitrotoluene	50.91	5	hg/L	20	0	102	22	115	0	
Acenaphthylene	44.96	6	μg/L	20	0	89.9	25	110	•	
3-Nitroaniline	47.31	2	µg∕L	20	0	94.6	20	121	0	
4-Nitrophenol	51.98	20	µg/L	75	0	69.3	4	53	0	S
2,4-Dinitrophenol	73.39	20	µg/L	75	0	97.9	19	122	0	•
Acenaphthene	48.17	5	μg/L	20	0	96.3	25	110	0	
2,4-Dinitrotoluene	52.68	5	μg/L	22	0	105	20	116	0	
Dibenzofuran	48.81	9	µg/L	20	0	9.76	51	119	0	
Diethyl phthalate	51.81	9	µg∕L	20	0	104	24	115	0	
4-Chlorophenyl phenyl ether	ther 53.29	우	µg/L	20	0	107	26	114	0	
Fluorene	49.42	5	µg/L	20	0	98.8	\$	115	0	
4-Nitroaniline	49.69	70	µg/L	50	0	99.4	49	119	0	
4,6-Dinitro-2-methylphenol	noi 71.45	8	µg/L	75	0	95.3	6	127	0	
N-Nitrosodiphenylamine	41.82	우	µg/L	20	0	83.6	51	118	0	
1,2-Diphenylhydrazine (as Azobe	as Azobe 42.15	9	µg/L	20	0	84.3	43	118	0	
4-Bromophenyl phenyl ether	ther 47.71	9	µ9/L	20	0	95.4	99	115	0	
Hexachiorobenzene	50.17	10	µ9/L	20	0	100	26	114	0	
Pentachiorophenol	97.53	20	µ9/L	75	0	130	39	128	0	Ø
Phenanthrene	46.33	9	µg/L	20	0	92.7	8	112	0	
Anthracene	45.34	0	µg/L	20	0	90.7	2	113	0	
Carbazole	45.51	10	μg/L	20	0	9	52	120	0	
Di-n-butyl phthalate	47.86	5	µg/L	20	0	95.7	28	114	0	
Fluoranthene	51.3	6	µ9/L	90	0	103	58	115	0	
Pyrene	46.7	10	µg∕L	20	0	93.4	53	119	0	
Butyl benzyl phthalate	45.8	9	µg/L	20	0	91.6	53	120	0	
Qualifiers: ND-Not	ND - Not Detected at the Reporting Limit		S - Spike Recover	S - Spike Recovery outside accepted recovery limits	recovery lim		- Analyte de	tected in the asso	B - Analyte detected in the associated Method Blank	
J - Analyt	J - Analyte detected below quantitation limits		R - RPD outside	R - RPD outside accented recovery limits	imits	;		•		
RI - Perc	RI - Renording Limit: defined as the former as		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1]	Ž	A - Not appi	icable where J va	NA - Not applicable where J values or ND results occur	

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

Project: 170804d Project: 170804d Project: 1700396 MPA Berth 10 Final Design Laboratory C Bist2-ethylhexylphthalate 46.84 10 µg/L 50 0 33.7 55 122 0 3.3-Oichlorobenzidine 58.26 10 µg/L 50 0 117 31 126 0 Chrysene 49.14 10 µg/L 50 0 98.3 53 118 0 Chrysene 49.14 10 µg/L 50 0 99.8 56 116 0 Chrysene 48.2 10 µg/L 50 0 99.8 56 116 0 Chrysene 48.2 10 µg/L 50 0 99.8 56 116 0 Chrysene 48.2 10 µg/L 50 0 91.8 50 113 0 114 0 114 50 114 0 114 0 114	CLIENT:	GEI Consultants, Inc.	10.								
1700396 MPA Berth 10 Final Design alate 46.84 10 µg/L 50 0 93.7 55 122 e 58.26 10 µg/L 50 0 117 31 126 49.14 10 µg/L 50 0 99.3 53 118 48.5 10 µg/L 50 0 91.8 50 114 48.2 10 µg/L 50 0 91.8 50 114 48.1 10 µg/L 50 0 91.8 50 114 e 54.11 10 µg/L 50 0 98.4 55 113 e 54.11 10 µg/L 50 0 108 59 115 e 51.69 10 µg/L 50 0 102 51 113 e 51.69 10 µg/L 50 0 103 51 113 e 51.69 10 µg/L 50 0 103 51 113 e 51.69 10 µg/L 50 0 103 51 113 e 51.69 10 µg/L 50 0 103 51 113 e 51.69 10 µg/L 50 0 103 114 f 65 10 µg/L 50 0 103 114 f 75 10 µg/L 50 0 113 e 51.51 10 µg/L 50 0 113 e 62.25 10 µg/L 50 0 103 114 f 75 10 µg/L 50 0 117 f 75 10 117 f 75 117 f	Work Order:	1708044									AC SUMMARY REPORT
alate 46.84 10 µg/L 50 0 93.7 55 8	Project:	1700396 MPA Berl	th 10 Final D	esign							Laboratory Control Spike
e 58.26 10 µg/L 50 0 117 31 49.14 10 µg/L 50 0 98.3 53 49.5 10 µg/L 50 0 98.3 53 45.92 10 µg/L 50 0 91.8 50 48.2 10 µg/L 50 0 98.4 55 e 51.1 10 µg/L 50 0 98.4 56 e 51.1 10 µg/L 50 0 98.4 56 e 51.1 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 47.6 56 ol 35.68 1.0 µg/L 75 0 47.6 25 d5 44.04 1.0 µg/L 50 0 47.6 25 nyl 46.07 1.0 µg/L	Bis(2-ethylhexyl)pht	halate	46.84	5	ug/L	20	0	93.7	. 22	122	C
49.14 10 µg/L 50 0 98.3 53 49.5 10 µg/L 50 0 99.5 56 45.92 10 µg/L 50 0 91.8 50 48.2 10 µg/L 50 0 91.8 50 54.11 10 µg/L 50 0 98.4 55 e 51.13 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 102 51 ol 35.68 10 µg/L 50 0 97.7 50 ol 35.68 1.0 µg/L 50 0 31.4 13 d5 44.04 1.0 µg/L 50 0 88.1 36 nyl 46.07 1.0 µg/L 50 0 31.4 36 nyl 46.07 1.0 µg/L 50 0 31.4 35 nyl 46.07 1.0 µg/L 50 0 100 32.1 44 nyl 46.07 1.0 µg/L 50 0 100 32.1 44 nyl 46.07 1.0 µg/L 50 0 100 32.1 44 nyl 46.07 1.0 µg/L 50 0 100 32.1 44	3,3'-Dichlorobenzidi	ne	58.26	10	иgЛ	20	0	117	3	126	. 0
49.5 10 µg/L 50 0 99 56 45.92 10 µg/L 50 0 91.8 50 48.2 10 µg/L 50 0 91.8 50 54.11 10 µg/L 50 0 108 59 e 51.1 10 µg/L 50 0 108 59 e 51.6 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 103 51 d 35.68 1.0 µg/L 50 0 37.7 50 d 35.68 1.0 µg/L 50 0 37.4 13 d 44.04 1.0 µg/L 50 0 31.4 13 d 51.7 1.0 µg/L 50 0 32.1 44 d 51.7 1.0 µg/L 50 0 100 32.1 44 d 51.7 1.0 µg/L 50 0 100 32.1 44 d 51.7 1.0 µg/L 50 0 100 100 100 d 50.1 100 µg/L 50 0 100 100 100 d 50.1 100 µg/L 50 0 100 100 100 d 144 51.7 1.0 µg/L 50 0 100 100 100	Benz(a)anthracene		49.14	0	иg/L	20	0	98.3	53	118	0
45.92 10 µg/L 50 0 91.8 50 48.2 10 µg/L 50 0 96.4 55 54.11 10 µg/L 50 0 96.4 56 e 51.1 10 µg/L 50 0 98.4 56 e 51.69 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 103 51 ol 35.68 1.0 µg/L 75 0 47.6 25 d5 44.04 1.0 µg/L 75 0 31.4 13 nyl 46.07 1.0 µg/L 50 0 88.1 36 nyl 46.07 1.0 µg/L 75 0 82.1 44 nyl 46.07 1.0 µg/L 75 0 110 39 14 51.7 10 µg/L 75 0 110 31 14 51.7 10 <td>Chrysene</td> <td></td> <td>49.5</td> <td>10</td> <td>µg/L</td> <td>20</td> <td>0</td> <td>66</td> <td>99</td> <td>116</td> <td>0</td>	Chrysene		49.5	10	µg/L	20	0	66	99	116	0
48.2 10 µg/L 50 0 96.4 55 54.11 10 µg/L 50 0 108 59 e 51.1 10 µg/L 50 0 98.4 56 e 51.1 10 µg/L 50 0 102 51 e 51.69 10 µg/L 50 0 97.7 50 ol 35.68 1.0 µg/L 75 0 47.6 25 d5 44.04 1.0 µg/L 75 0 31.4 13 nyl 46.07 1.0 µg/L 50 92.1 44 ophenol 82.25 1.0 µg/L 75 0 110 39 14 51.7 1.0 µg/L 75 0 110 39	Di-n-octyl phthalate		45.92	10	µg/L	20	0	91.8	20	124	. 0
54.11 10 µg/L 50 0 108 59 e 51.1 10 µg/L 50 0 98.4 56 e 51.69 10 µg/L 50 0 103 51 e 51.69 10 µg/L 50 0 97.7 50 ol 35.68 1.0 µg/L 75 0 47.6 25 d5 44.04 1.0 µg/L 50 0 31.4 13 nyl 46.07 1.0 µg/L 50 0 88.1 36 nyl 46.07 1.0 µg/L 50 0 92.1 44 nyl 10 µg/L 50 0 110 39 14 51.7 10 µg/L 50 0 103 44	Benzo(b)fluoranthen	•	48.2	9	µg/L	20	0	96.4	55	113	•
49.19 10 µg/L 50 0 98.4 56 ne 51.69 10 µg/L 50 0 102 51 ne 51.69 10 µg/L 50 0 103 51 48.84 10 µg/L 75 0 97.7 50 nol 35.68 1.0 µg/L 75 0 47.6 25 23.53 1.0 µg/L 75 0 31.4 13 anyl 46.07 1.0 µg/L 50 0 92.1 44 nophenol 82.25 1.0 µg/L 75 0 110 39 414 51.7 1.0 µg/L 75 0 103 44	Benzo(k)fluoranthen	Q	54.11	10	µg/L	20	0	108	29	115	. 0
10 51.1 10 µg/L 50 0 102 51 11 µg/L 50 0 103 51 <t< td=""><td>Benzo(a)pyrene</td><td></td><td>49.19</td><td>5</td><td>µg/L</td><td>20</td><td>0</td><td>98.4</td><td>26</td><td>112</td><td>0</td></t<>	Benzo(a)pyrene		49.19	5	µg/L	20	0	98.4	26	112	0
ne 51.69 10 µg/L 50 0 103 51 48.84 10 µg/L 50 0 97.7 50 ol 35.68 1.0 µg/L 75 0 47.6 25 23.53 1.0 µg/L 75 0 31.4 13 ed5 44.04 1.0 µg/L 50 0 88.1 36 snyl 46.07 1.0 µg/L 50 0 92.1 44 ophenol 82.25 1.0 µg/L 75 0 110 39 d14 51.7 1.0 µg/L 50 0 103 44	Dibenz(a,h)anthrace	ine	51.1	t	μg/L	20	0	102	51	113	0
48.84 10 µg/L 50 0 97.7 50 10 35.68 1.0 µg/L 75 0 47.6 25 23.53 1.0 µg/L 50 0 31.4 13 13 44.04 1.0 µg/L 50 0 88.1 36 14 51.7 1.0 µg/L 50 0 103 44	Indeno(1,2,3-cd)pyn	ane	51.69	9	иg/L	20	0	103	51	113	, 0
35.68 1.0 µg/L 75 0 47.6 25 23.53 1.0 µg/L 75 0 31.4 13 5 44.04 1.0 µg/L 50 0 88.1 36 yl 46.07 1.0 µg/L 50 0 92.1 44 phenol 82.25 1.0 µg/L 75 0 110 39 4 51.7 1.0 µg/L 50 0 103 44	Benzo(g,h,i)perylene	0	48.84	5	rg/L	20	0	7.76	8	113	a
23.53 1.0 µg/L 75 0 31.4 13 44.04 1.0 µg/L 50 0 88.1 36 46.07 1.0 µg/L 50 0 92.1 44 82.25 1.0 µg/L 75 0 110 39 51.7 1.0 µg/L 50 0 103 44	Surr: 2-Fluorophe	not	35.68	1.0	ng/L	75	0	47.6	22	29	
44.04 1.0 μg/L 50 0 88.1 36 46.07 1.0 μg/L 50 0 92.1 44 82.25 1.0 μg/L 75 0 110 39 51.7 1.0 μg/L 50 0 103 44	Surr. Phenol-d5		23.53	1.0	pg/L	75	0	31.4	13	43	. 0
46.07 1.0 μg/L 50 0 92.1 44 82.25 1.0 μg/L 75 0 110 39 51.7 1.0 μg/L 50 0 103 44	Surr. Nitrobenzen	e-d5	44.04	1.0	µ9/L	20	0	88.1	36	108	. 0
82.25 1.0 µg/L 75 0 110 39 51.7 1.0 µg/L 50 0 103 44	Surr: 2-Fluorobipt	enyl	46.07	1.0	µg/L	20	0	92.1	4	117	• •
51.7 1.0 µg/L 50 0 103 44	Surr. 2,4,6-Tribro	nophenol	82.25	1.0	µg/L	75	0	110	33	131	0
	Surr: 4-Terphenyl	d14	51.7	1.0	µg/L	20	0	103	4	122	0

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit: defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation fimits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

GEI Consultants, Inc. CLIENT:

1708044 Work Order:

Date: 25-Sep-17

QC SUMMARY REPORT

Sample ID: LCSD-27476	Batch ID: 27476	Test Code:	e: SW8270D	Units: µg/L			Analysis D	ate: 9/5/2017	Analysis Date: 9/5/2017 4:16:00 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	SV-4_170905A	15A			SeqNo:	1005224		•		
	QC Sample		a	QC Spike Original Sample	al Sample			U	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ŏ
Phenol	25.46	5	hg/L	75	0	33.9	13	47	26.72	4.83	25	
Bis(2-chloroethyl)ether	38.27	10	rg/L	20	0	76.5	42	102	40.26	5.07	3 2	
2-Chlorophenol	54.66	0	µg∕L	75	0	72.9	88	1	58.57	6.9	32	
1,3-Dichlorobenzene	36.95	9	hg/L	20	0	73.9	ਲ	6	38.91	5.17	22 12	
1,4-Dichlorobenzene	38.66	9	µg/L	20	0	77.3	35	66	40.82	5.44	72	
Benzyl alcohol	26.15	70	hg/L	20	0	52.3	3	96	29.27	11.3	25	
2-Methylphenol	49.15	5	µg/L	75	0	65.5	35	100	52.5	6.59	52	
1,2-Dichlorobenzene	38.41	5	μg/L	50	0	76.8	37	66	39.54	2.9	52	
Bis(2-chloroisopropyl)ether	61.06	9	hg/L	22	0	122	31	\$	64.56	5.57	52	
4-Methylphenol	54.07	9	пg/L	150	0	36	23	61	62.93	15.1	25	
N-Nitrosodi-n-propylamine	41.99	9	µg/L	20	0	84	43	=======================================	45.89	8.88	25	
Hexachloroethane	43.46	5	hg∕L	20	0	86.9	33	97	41.74	4.04	25	
Nitrobenzene	42.58	9	hg∕L	20	0	85.2	46	102	44.14	3.6	52	
sophorone	32.65	우	hg∕L	20	0	65.3	38	105	36.08	96.6	25	
2,4-Dimethylphenol	52.49	6	hg∕L	75	0	20	38	110	55.39	5.38	52	
Benzoic acid	15.65	2	µ9∕L	75	0	20.9	10	55	19.68	22.8	22	
2-Nitrophenoi	55.22	5	µg∕L	75	0	73.6	4	118	59.27	7.07	25	
Bis(2-chloroethoxy)methane	38.91	9	hg/L	90	0	8.77	20	901	42.67	9.22	52	
2,4-Dichlorophenol	60.21	5	µg∕L	75	0	80.3	20	117	64.52	6.91	52	
1,2,4-Trichlorobenzene	41.86	6	µg/L	20	0	83.7	4	103	44.21	5.46	25	
Naphthalene	39.39	9	µg/L	20	0	78.8	45	9	42.25	7.01	25	
4-Chloroaniline	30.05	9	µg∕L	20	0	60.1	28	113	32.4	7.53	52	
Hexachlorobutadiene	43.87	5	μg/L	20	0	87.7	4	101	46.63	6.1	25	
4-Chloro-3-methylphenol	61.37	20	рg/L	75	0	81.8	47	119	63.91	4.05	25	
2-Methylnaphthalene	38.03	5	µg∕L	20	0	76.1	4	107	41.61	8.99	52	
Qualifiers: ND - Not Detected	ND - Not Detected at the Reporting Limit	S-S	pike Recovery	- Spike Recovery outside accepted recovery limits	i recovery	limits	B - Analyte	detected in the	B - Analyte detected in the associated Method Blank	od Blank	i	i
I - Analyte detecte	I - Amalista dadament Lalam manatania - I - I - I - I - I - I - I - I - I -	•	;				•					

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CLIENT:	GEI Consultants, Inc.	lic.		1									
Work Order:	1708044									QC SUMMARY REPORT	MARY	ŒPO!	Z
Project:	1700396 MPA Berth 10 Final Design	rth 10 Final D	esign						Lal	Laboratory Control Spike Duplicate	ntrol Spik	Duplic	ate
Hexachlorocyclopentadiene	entadiene	4.45	₽	hg/L	99	٥	8.9	₽	91	4.96	10.8	25	l _s
2,4,6-Trichloropheno	Jou	74.42	0	µg/L	75	0	99.2	48	129	76.21	2.38	52	,
2,4,5-Trichlorophenol	Jou	80.22	9	μg/L	75	0	107	45	131	85.45	6.31	52	
2-Chloronaphthalene	ine	46.31	5	μg/L	20	0	97.6	48	107	50.52	8.7	52	
2-Nitroaniline		59.22	20	μg⁄L	20	0	118	4	122	58.75	0.797	52	
Dimethyl phthalate		64.4	5	hg∕L	20	0	129	28	114	67.71	5.01	52	SS
2,6-Dinitrotoluene		48.34	5	µg/L	20	0	96.7	22	115	50.91	5.18	25	}
Acenaphthylene		43.22	10	µg/L	20	0	86.4	25	110	44.96	3.95	52	
3-Nitroaniline		46.13	20	µg/L	20	0	92.3	29	121	47.31	2.53	52	
4-Nitrophenol		47.13	20	иg/L	75	0	62.8	4	53	51.98	9.79	25	U:
2,4-Dinitrophenol		70.93	20	µg/L	75	0	94.6	19	122	73.39	3.41	52)
Acenaphthene		45.04	10	µ9/L	20	0	90.1	25	110	48.17	6.72	52	
2,4-Dinitrotoluene		51.76	9	µg/L	20	0	104	29	116	52.68	1.76	52	
Dibenzofuran		46.83	0	µg/L	20	0	93.7	51	119	48.81	4.14	52	
Diethyl phthalate		50.55	6	µg/L	20	0	101	25	115	51.81	2.46	22	
4-Chlorophenyl phenyl ether	enyl ether	51.92	우	µg/L	20	0	104	99	114	53.29	2.6	52	
Fluorene		48.2	9	µg/L	20	0	96.4	\$	115	49.42	2.5	25	
4-Nitroaniline		48.77	70	μg/L	20	0	97.5	49	119	49.69	1.87	52	
4,6-Dinitro-2-methylphenol	ylphenol	8.79	20	µg/L	75	0	90.4	40	127	71.45	5.24	25	
N-Nitrosodiphenylamine	tmine	39.67	9	µg/L	20	0	79.3	51	118	41.82	5.28	25	
1,2-Diphenylhydrazine (as Azobe	zine (as Azobe	40.84	5	µg∕L	20	0	81.7	43	118	42.15	3.16	25	
4-Bromophenyl phenyl ether	enyl ether	44.85	10	μ9/L	20	0	89.7	26	115	47.71	6.18	25	
Hexachlorobenzene	a p	41.1	9	hg/L	20	0	82.2	26	114	50.17	19.9	25	
Pentachlorophenol		88.78	20	μg⁄L	75	0	118	33	128	97.53	9.39	22	
Phenanthrene		42.98	우	µg/L	90	0	98	2	112	46.33	7.5	25	
Anthracene		42.27	5	µg∕L	20	0	84.5	\$	113	45.34	7.01	25	
Carbazole		40.56	5	µg/L	20	0	1.18	25	120	45.51	11.5	52	
Di-n-butyl phthalate	m	41.82	우	µg/L	20	0	83.6	28	114	47.86	13.5	52	
Fluoranthene		44.74	6	µg∕L	20	0	89.5	28	115	51.3	13.7	22	
Pyrene		41.36	5	µg/L	20	0	82.7	53	119	46.7	12.1	52	
Butyl benzyl phthalate	ate	40.09	5	hgv	20	0	80.2	23	120	45.8	13.3	22	
Qualifiers: ND	ND - Not Detected at the Reporting Limit	orting Limit		S - Spike Recover	- Spike Recovery outside accepted recovery limits	recovery		B - Analyte de	stected in the a	B - Analyte detected in the associated Method Blank	Blank		1
A-L	J - Analyte detected below quantitation limits	antitation limits		R - RPD outside a	- RPD outside accepted recovery fimits	imits	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# - # # - # # - # # - # # # # # # # # #				
. IS	RL - Reporting Limit defined as the lowest con	as the formest con-	le montener				_	NA - NOI app	ilcabie where J	NA - NOT applicable where J values or NLJ results occur	ults occur		

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT:	GEI Consultants, Inc.	
Work Order:	1708044 QC SUMMARY REPORT	PORT
Project:	1700396 MPA Berth 10 Final Design	nplicate

110Ject. 1700370 IME	1/00370 INITA DEIUI IU FIIIAI DESIGN	Design						ran	ravoratory common opine Duplicate	nide ioni	, Duplicate	
Bis(2-ethylhexyl)phthalate	41.97	5	μ9/L	90	0	83.9	55	122	46.84	=	25	_
3,3'-Dichlorobenzidine	50.29	9	pgy	S	0	5	3	126	58.26	14.7	3 5	
Benz(a)anthracene	42.36	9	right.	90	0	7.48	23	118	49.14	14.8	32 1	
Chrysene	42.08	10	иgЛ	50	0	84.2	26	116	49.5	16.2	25	
Di-n-octyl phthalate	40.12	9	µ9∕L	20	0	80.2	20	124	45.92	13.5	S2 52	
Benzo(b)fluoranthene	46.73	9	μg/L	20	0	93.5	55	113	48.2	3.1	25	
Benzo(k)fluoranthene	39.8	5	рgЛ	20	0	79.6	29	115	54.11	30.5	25 R	-
Benzo(a)pyrene	42.21	10	ug/L	20	0	84.4	99	112	49.19	15.3		
Dibenz(a,h)anthracene	46.93	6	µg/L	90	0	93.9	51	113	51.1	8.51	25	
Indeno(1,2,3-cd)pyrene	47.28	9	µg/L	20	0	94.6	51	113	51.69	8.91	25	
Benzo(g,h,i)perylene	45.9	5	µg/L	20	0	91.8	20	113	48.84	6.21	25	
Surr: 2-Fluorophenol	31.97	1.0	µg∕L	75	0	42.6	22	62	0	0	0	
Surr. Phenol-d5	20.38	1.0	µg/L	75	0	27.2	13	43	0	0	· c	
Surr: Nitrobenzene-d5	39.86	1.0	μg/L	50	0	7.67	36	108	0	0	0	
Surr: 2-Fluorobiphenyl	42.55	1.0	µg/L	20	0	85.1	4	117	0	0	0	
Surr: 2,4,6-Tribromophenol	73.14	1.0	ug/L	75	0	97.5	39	131	0	0	0	
Surr. 4-Terphenyl-d14	44.11	1.0	μg/L	20	0	88.2	4	122	0	0	0	

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated I	B - Analyte detected in the associated
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	NA - Mot annihinate a section of the National Na
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.	tration the laboratory can accurately quantitate.	or - was approprie where y values of

Qualifiers:

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

1708044

Client Sample ID: 1700396-WE-2

Lab Order:

Collection Date: 8/30/2017 10:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-01B

Analyses	Result	RL	Qual Units	DF	Date Analyzed
PAH BY EPA 8270D SIM	s	W8270D	<u>.</u>	··· 00 <u>-</u>	Analyst: NS
Naphthalene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
2-Methylnaphthalene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Acenaphthylene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Acenaphthene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Fluorene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Phenanthrene	ND	0.072	μg/L	1	9/6/2017 5:38:00 PM
Anthracene	ND	0.10	µg/L	1	9/6/2017 5:38:00 PM
Fluoranthene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Pyrene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Benz(a)anthracene	ND	0.062	µg/∟	1	9/6/2017 5:38:00 PM
Chrysene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Benzo(b)fluoranthene	ND	0.082	μg/L	1	9/6/2017 5:38:00 PM
Benzo(k)fluoranthene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Benzo(a)pyrene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Dibenz(a,h)anthracene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.10	μg/L	1	9/6/2017 5:38:00 PM
Benzo(g,h,i)perylene	ND	0.10	µg/L	1	9/6/2017 5:38:00 PM
Surr: Nitrobenzene-d5	61.4	33-107	%REC	1	9/6/2017 5:38:00 PM
Surr: 2-Fluorobiphenyl	54.8	39-107	%REC	1	9/6/2017 5:38:00 PM
Surr: 4-Terphenyl-d14	98.0	31-133	%REC	1	9/6/2017 5:38:00 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-SW-1

Lab Order:

1708044

Collection Date: 8/30/2017 12:00:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1708044-02B

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
PAH BY EPA 8270D SIM	S	W8270D			Analyst: NS
Naphthalene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
2-Methylnaphthalene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Acenaphthylene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Acenaphthene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Fluorene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Phenanthrene	ND	0.073	µg/L	1	9/6/2017 6:13:00 PM
Anthracene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Fluoranthene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Pyrene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Benz(a)anthracene	ND	0.062	µg/L	1	9/6/2017 6:13:00 PM
Chrysene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Benzo(b)fluoranthene	ND	0.083	µg/L	1	9/6/2017 6:13:00 PM
Benzo(k)fluoranthene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Benzo(a)pyrene	ND	0.10	µg/L	1	9/6/2017 6:13:00 PM
Dibenz(a,h)anthracene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Benzo(g,h,l)perylene	ND	0.10	μg/L	1	9/6/2017 6:13:00 PM
Surr: Nitrobenzene-d5	71.6	33-107	%REC	1	9/6/2017 6:13:00 PM
Surr: 2-Fluorobiphenyl	63.6	39-107	%REC	1	9/6/2017 6:13:00 PM
Surr: 4-Terphenyl-d14	106	31-133	%REC	1	9/6/2017 6:13:00 PM

QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1708044 Work Order: CLIENT: Project:

Method Blank

Date: 25-Sep-17

Sample ID: MB-27476	Batch ID: 27476	Test Code	Test Code: SW8270D	Units: µg/L		Analysis (Jate: 9/6/201	Analysis Date: 9/6/2017 12:17:00 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	SV-4_170906A	06A		SeqNo:	1005251				
	QC Sample		J	QC Spike Original Sample	ē		J	Original Sample			
Analyte	Result	궚	Units	Amount Resu	Result %REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Naphthalene	Q	0.10	µg/L								
2-Methylnaphthalene	Q	0.10	µg/L								
Acenaphthylene	QN	0.10	µg/L								
Acenaphthene	QN	0.10	µg/L								
Fluorene	Q	0.10	µg/L								
Phenanthrene	Q	0.070	µg/L								
Anthracene	QN	0.10	иgЛ								
Fluoranthene	Q	0.10	µg/L								
Pyrene	S	0.10	иgЛ								
Benz(a)anthracene	Q	0.060	рgЛ								
Chrysene	Q	0.10	л6л								
Benzo(b)fluoranthene	Q	0.080	рду								
Benzo(k)fluoranthene	S	0.10	рgЛ								
Benzo(a)pyrene	Q	0.10	hg/L								
Dibenz(a,h)anthracene	Q	0.10	рдуг								
indeno(1,2,3-cd)pyrene	Q	0.10	рg/L								
Benzo(g,h,i)perylene	Q	0.10	иg/L								
Surr. Nitrobenzene-d5	7.345	1.0	рgЛ	10	0 73.5	33	107	0			
Surr. 2-Fluorobiphenyi	6.5	1.0	рg/L	10	0 65		107	•			
Surr: 4-Terphenyl-d14	8.55	1.0	пg/L	10	0 85.5	3	133	0			

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

Date: 25-Sep-17

GEI Consultants, Inc. CLIENT:

Work Order:

Laboratory Control Spike **QC SUMMARY REPORT** 1700396 MPA Berth 10 Final Design 1708044 Project:

Sample ID: LCS-27476	Batch ID: 27476	Test Code	Test Code: SW8270D	Units: µg/L			Analysis D.	ate: 9/6/2017	Analysis Date: 9/6/2017 12:53:00 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run iD:	SV-4_170906A	6A			SeqNo:	1005252				
	QC Sample		ŏ	QC Spike Original Sample	al Sample			O	Original Sample			
Analyte	Result	귑	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ö
Naphthalene	4.125	0.10	µg/L	6	0	82.5	32	113	0			
2-Methylnaphthalene	3.84	0.10	µg/L	2	0	76.8	35	121	0			
Acenaphthylene	4.31	0.10	µg/L	2	0	86.2	38	126	0			
Acenaphthene	4.045	0.10	μg/L	S	0	80.9	38	123	0			
Fluorene	4.515	0.10	µg∕L	9	0	90.3	47	127	0			
Phenanthrene	5.12	0.070	µ9∕L	9	0	102	51	117	0			
Anthracene	4.17	0.10	µg∕L	ĸ	0	83.4	52	123	0			
Fluoranthene	5.24	0.10	μg/L	က	0	105	25	125	0			
Pyrene	5.765	0.10	µg∕L	ស	0	115	48	1 3	0			
Benz(a)anthracene	5.275	0.060	μg/L	ß	0	106	51	125	0			
Chrysene	5.255	0.10	µg∕L	ស	0	105	25	130	0			
Benzo(b)fluoranthene	5.455	0.080	µ9∕L	ည	0	109	29	129	0			
Benzo(k)fluoranthene	6.035	0.10	µ9∕L	ß	0	121	51	134	0			
Benzo(a)pyrene	5.305	0.10	µg∕L	5	0	106	53	129	0			
Dibenz(a,h)anthracene	5.115	0.10	μg/L	S	0	102	25	127	0			
Indeno(1,2,3-cd)pyrene	5.16	0.10	μg/L	S	0	103	53	124	0			
Benzo(g,h,i)perylene	5.17	0.10	μg/L	S	0	103	53	126	0			
Surr: Nitrobenzene-d5	96.0	0.50	µg∕L	-	0	96	33	107	0			
Surr: 2-Fluorobiphenyl	96.0	0.50	μg/L	-	0	96	33	107	0			
Surr. 4-Terphenyl-d14	1.325	1.0	hg/L	-	0	132	3	133	0			

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

Project: 1700396 MPA Berth 10 Final Design

QC SUMMARY REPORT

Date: 25-Sep-17

Laboratory Control Spike Duplicate

Sample ID: LCSD-27476	Batch ID: 27476	Test Code	Test Code: SW8270D	Units: µg/L			Analysis D	ate: 9/6/2017	Analysis Date: 9/6/2017 1:29:00 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	SV-4_170906A	P 90			SeqNo:	1005253				
	QC Sample		a	QC Spike Original Sample	al Sample			U	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Naphthalene	3.785	0.10	µ9/L	ស	0	75.7	32	113	4.125	8.6	25	
2-Methylnaphthalene	3.835	0.10	μg/L	9	0	7.97	32	121	3.84	0.13	52	
Acenaphthylene	4.085	0.10	идуг	5	0	81.7	38	126	4.31	5.36	52	
Acenaphthene	3.84	0.10	рg/L	5	0	76.8	38	123	4.045	5.2	25	
Fluorene	4.3	0.10	μg/L	9	0	98	47	127	4.515	4.88	25	
Phenanthrene	4.64	0.070	ዞያሌ	9	0	92.8	51	117	5.12	9.84	52	
Anthracene	3.715	0.10	µg∕t.	S	0	74.3	25	123	4.17	11.5	25	
Fluoranthene	4.495	0.10	µg∕L	9	٥	89.9	25	125	5.24	15.3	25	
Pyrene	4.885	0.10	иgЛ	9	0	7.76	48	134 34	5.765	16.5	25	
Benz(a)anthracene	4.55	0.060	µg∕L	5	0	91	51	125	5.275	14.8	22	
Chrysene	4.465	0.10	иgЛ	ß	0	89.3	25	130	5.255	16.3	25	
Benzo(b)fluoranthene	4.97	0.080	µg∕L	ιΩ	0	99.4	99	129	5.455	9.3	52	
Benzo(k)fluoranthene	4.885	0.10	иg/L	S	0	7.76	51	134	6.035	21.1	52	
Benzo(a)pyrene	4.645	0.10	µg∕t.	មា	0	92.9	53	129	5.305	13.3	52	
Dibenz(a,h)anthracene	4.475	0.10	μg/L	ស	0	89.5	25	127	5.115	13.3	22	
Indeno(1,2,3-cd)pyrene	4.485	0.10	µ9∕L	ဌ	0	89.7	53	124	5.16	4	22	
Benzo(g,h,i)perylene	4.495	0.10	µg∕L	9	0	89.9	53	126	5.17	7	52	
Surr: Nitrobenzene-d5	0.915	0.50	рgЛ.		0	91.5	33	107	0	0	0	
Sur: 2-Fluorobiphenyl	98.0	0.50	рgЛ	-	0	98	39	107	0	0	0	
Surr. 4-Terphenyl-d14	1.085	0.1	µg/L	-	0	108	31	133	0	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits R- RPD outside accepted recovery limit RL - Reporting Limit; defined as the lowest concentration the faboratory can accurately quantitate.

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-01

Collection Date: 8/30/2017 10:30:00 AM

Collection Time:

Client Sample ID: 1700396-WE-2

Matrix: GROUNDWATER

Analyses	Result	RL Qu	ual Units	DF	Date Analyzed
PCBS BY EPA8082	s	W8082A			Analyst: NS
Aroclor 1016	ND	0.21	μg/L	1	9/7/2017 2:49:00 PM
Aroclor 1221	ND	0.21	µg/L	1	9/7/2017 2:49:00 PM
Aroclor 1232	ND	0.21	µg/L	1	9/7/2017 2:49:00 PM
Arocior 1242	ND	0.21	μg/L	1	9/7/2017 2:49:00 PM
Aroclor 1248	ND	0.21	μg/L	1	9/7/2017 2:49:00 PM
Araclor 1254	ND	0.21	µg/L	1	9/7/2017 2:49:00 PM
Aroclor 1260	ND	0.21	μg/L	1	9/7/2017 2:49:00 PM
Surr: Decachlorobiphenyl	76.1	27-131	%REC	1	9/7/2017 2:49:00 PM
Surr: Tetrachloro-m-xylene	75.0	37-130	%REC	1	9/7/2017 2:49:00 PM

Lab ID:

1708044-02

Collection Date: 8/30/2017 12:00:00 PM

Collection Time:

Client Sample ID: 1700396-SW-1

Matrix: GROUNDWATER

Analyses	Result	RL Qual	Units	DF	Date Analyzed
PCBS BY EPA8082	S	W8082A			Analyst: NS
Aroclor 1016	ND	0.24	µg/L	1	9/7/2017 3:16:00 PM
Aroclor 1221	ND	0.24	µg/L	1	9/7/2017 3:16:00 PM
Aroclor 1232	ND	0.24	µg/L	1	9/7/2017 3:16:00 PM
Aroclor 1242	ND	0.24	µg/L	1	9/7/2017 3:16:00 PM
Aroclor 1248	ND	0.24	μg/L	1	9/7/2017 3:16:00 PM
Aroclor 1254	ND	0.24	μg/L	1	9/7/2017 3:16:00 PM
Aroclor 1260	ND	0.24	μ g/L	1	9/7/2017 3:16:00 PM
Surr: Decachloroblphenyl	87.4	27-131	%REC	1	9/7/2017 3:16:00 PM
Surr: Tetrachloro-m-xylene	85.9	37-130	%REC	1	9/7/2017 3:16:00 PM

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

Project: 1700396 MPA Berth 10 Final Design

QC SUMMARY REPORT

Date: 25-Sep-17

Method Blank

Sample ID: MB-27482	Batch ID: 27482	Test Code	Test Code: SW8082A	Units: µg/L			Analysis D	ate: 9/7/201	Analysis Date: 9/7/2017 1:27:00 PM	Prep Date	Prep Date: 9/5/2017	ı
Client ID:		Run ID:	GC-ELVIS_170907A	_170907A			SeqNo:	1005541				
Analyte	QC Sample Result	굺	Units	QC Spike Original Sample Amount Resuft	I Sample Result	%REC	LowLimit	C HighLimit	Original Sample LowLimit HighLimit or MS Result	%RPD	RPDLimit	Q
Aroclor 1016	QN	0.20	μg/L							-		
Aroclor 1221	9	0.20	µg/L									
Arocior 1232	9	0.20	ьgЛ									
Aroclor 1242	Q	0.20	µg/L									
Aroclor 1248	Q	0.20	µ9∕L									
Aroclor 1254	9	0.20	rgr									
Aroclor 1260	Q	0.20	μgγ									
Surr: Decachlorobiphenyl	0.04913	0	rg/L	0.064	0	76.8	27	131	0			
Surr, Tetrachloro-m-xylene	0.0571	0	μg/L	0.064	0	89.2	37	130	0			

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

B - Analyte detected in the associated Method Blank NA - Not applicable where J values or ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

1700396 MPA Berth 10 Final Design

Project:

QC SUMMARY REPORT

Date: 25-Sep-17

Laboratory Control Spike

Sample ID: LCS-27482	Batch ID: 27482	Test Code:	Test Code: SW8082A	Units: pg/L			Analysis D.	ate: 9/7/2017	Analysis Date: 9/7/2017 1:54:00 PM	Prep Date	Prep Date: 9/5/2017	
Client ID:		Run ID:	GC-ELVIS_170907A	170907A			SeqNo:	1005542				
	QC Sample		J	QC Spike Original Sample	I Sample			O	Original Sample			
Analyte	Result	귛	Units	Amount	Result	Result %REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Aroclar 1016	3.052	0.20	µ9/L	4	0	76.3	4	119	0			
Aroclor 1260	3.32	0.20	рg/	4	0	83	48	123	0			
Surr: Decachlorobiphenyl	0.05112	0	hg/L	0.064	0	79.9	27	131				
Surr: Tetrachloro-m-xylene	0.05072	0	ng∕L	0.064	0	79.2	37	130	0			
Sample ID: LCSD-27482	Batch ID: 27482	Test Code:	Test Code: SW8082A	Units: µg/L			Analysis Da	ate: 9/7/2017	Analysis Date: 9/7/2017 2:21:00 PM	Prep Date	Prep Date: 9/5/2017	
Client ID:		Run ID:	GC-ELVIS_170907A	170907A			SeqNo:	1005543				
	QC Sample		G	QC Spike Original Sample	l Sample			0	Original Sample			
Analyte	Result	4	Units	Amount	Result %REC	%REC	LowLimit HighLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Aroclor 1016	3.327	0.20	μg/L	4	0	83.2	4	119	3.052	8.65	20	
Aroclor 1260	3.581	0.20	hg/L	4	0	89.5	48	123	3.32	7.56	23	
Surr. Decachlorobiphenyl	0.05273	0	hg/L	0.064	0	82.4	27	131	0	0	0	
Surr: Tetrachloro-m-xylene	0.05814	0	µg∕L	0.064	0	90.8	37	130	0	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-01

Collection Date: 8/30/2017 10:30:00 AM

Collection Time:

Client Sample ID: 1700396-WE-2					Matrix:	GROL	NDWATER
Analyses	Result	RL	Qual	Units		DF	Date Analyzed
ICP-TOTAL METALS BY 200.7		E200.7					Analyst: AL
Cadmium	ND	8.0		µg/L		2	9/1/2017
Chromium	ND	20		µg/L		2	9/1/2017
Copper	ND	50		µg/L		2	9/1/2017
Iron	27,000	200		µg/L		2	9/1/2017
Nickel	ND	80		μg/L		2	9/1/2017
Silver	ND	14		µg/L		2	9/1/2017
Zinc	470	40		µg/L		2	9/1/2017
RSENIC, TOTAL		E200.9_AS					Analyst: AL
Arsenic	5.4	2.0	PS	µg/L		1	9/6/2017 1:08:00 PM
EAD, TOTAL		E200.9_PB					Analyst: AL
Lead	ND	5.0	PS	µg/L		1	9/6/2017 6:04:52 PM
NTIMONY, TOTAL		E200.9_SB					Analyst: AL
Antimony	ND	5.0		µg/L		1	9/5/2017 3:20:14 PM
ELENIUM, TOTAL		E200.9_SE					Analyst: AL
Selenium	ND	5.0		μ g/L		1	9/5/2017 6:54:25 PM
IERCURY, TOTAL		E245.1					Analyst: AL
Mercury	ND	0.20		µg/L		1	9/6/2017 3:15:20 PM

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-02

Collection Date: 8/30/2017 12:00:00 PM

Collection Time:

Client Sample ID: 1700396-SW-1

Matrix: GROUNDWATER

Chem oumple ID: 1700570-047-1				14154	IIIX: GROU	NDWATER
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP- TOTAL METALS BY 200.7	ı	E200.7				Analyst: AL
Cadmium	ND	12		μg/L	3	9/1/2017
Chromium	ND	30		µg/L	3	9/1/2017
Copper	ND	75		µg/L	3	9/1/2017
Iron	ND	300		µg/L	3	9/1/2017
Nickel	ND	120		µg/L	3	9/1/2017
Silver	ND	21		µg/L	3	9/1/2017
Zinc	ND	60		µg/L	3	9/1/2017
ARSENIC, TOTAL	E	E200.9_AS				Analyst: AL
Arsenic	ND	2.0	PS	µg/L	1	9/6/2017 1:35:18 PM
LEAD, TOTAL	E	E200.9_PB				Analyst: AL
Lead	ND	5.0	PS	µg/L	1	9/6/2017 6:32:00 PM
ANTIMONY, TOTAL	E	E200.9_SB				Analyst: AL
Antimony	ND	5.0		µg/L	1	9/5/2017 3:45:41 PM
SELENIUM, TOTAL		200.9_SE				Analyst: AL
Selenium	ND	5.0		µg/L	1	9/5/2017 7:22:04 PM
MERCURY, TOTAL	E	245.1				Analyst: AL
Mercury	ND	0.20		μg/L	1	9/6/2017 3:19:12 PM

Date: 25-Sep-17

CLIENT: GEI Consultants, Inc.

Work Order: 17	GEI Consultants, Inc. 1708044								QC SUMMARY REPORT	IMARY	REPO	RT
	1700396 MPA Berth 10 Final Design	Design								Z	Method Blank	ank
Sample ID: mb-27472 Client ID:	Balch ID: 27472	Test Code: E200.7 Run ID: ICP-OF	E200.7	E200.7 Units: µg/L			Analysis [SeqNo:	Date: 9/1/2017 1005140	Analysis Date: 9/1/2017 1:34:09 PM SeqNo: 1005140	Prep Date	Prep Date: 8/31/2017	il
Analyte	QC Sample Result	굾	Units	QC Spike Original Sample Amount Result	l Sample Result	%REC	LowLimit	CowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Cadmium	QN	4.0	µ9/L						The state of the s	1		
Chromium	QN	10	rg/L									
Copper	QN	25	rg/L									
Iron	QN	100	µg√L									
Nickel	QN	40	рgЛ									
Silver	QN	7.0	µg/L									
Zinc	QN	20	μg/L									
Sample ID: MB-27472	Batch ID: 27472	Test Code:	Test Code: E200.9_As	s Units: µg/L			Analysis I	Date: 9/6/201	Analysis Date: 9/6/2017 1:02:25 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:		Run ID:	AANALY	AANALYST 600_170906			SeqNo:	1005401				
	QC Sample			QC Spike Original Sample	Sample			J	Original Sample			
Analyte	Result	귍	Units	Amount	Result %REC		LowLimit	LowLimit HighLimit	or MS Result	%RPD	RPDLimit	Ö
Arsenic	QN	2.0	μg/L								ñ	
Sample ID: MB-27472	Batch ID: 27472	Test Code: E200.9_Pb	E200.9_F	b Units: pg/L			Analysis [)ate: 9/6/201	Analysis Date: 9/6/2017 5:58:51 PM	Prep Date	Prep Date: 8/31/2017	1
Client ID:		Run (D:	AANALY:	AANALYST 600_170906			SeqNo:	1005479				
Analyte	QC Sample Result	惄	Units	QC Spike Original Sample Amount Result	Sample	Sample Result %REC	LowLimit	CowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Lead	Q	5.0	rg/L									

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

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Date: 25-Sep-17

CLIENT: Work Order:	GEI Consultants, Inc. 1708044								QC SUMMARY REPORT	MARY	REPO]	RT
Project:	1700396 MPA Berth 10 Final Design	l Design									Method Blank	sr
Sample ID: MB-27472	772 Batch ID: 27472	Test Code	Test Code: E200.9_Sb	Units: µg/L			Analysis (Date: 9/5/201	Analysis Date: 9/5/2017 3:07:41 PM	Prep Date	Prep Date: 8/31/2017	1
Analyte	QC Sample Result	로 -	Units	Advactor over 170905 QC Spike Original Sample Units Amount Result	al Sample Result	Sample Result %REC		Sequo: 1005377 C LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Antimony	Q Q	5.0	рgЛ				! : !					
Sample ID: MB-27472	72 Batch ID: 27472	Test Code	Test Code: E200.9_Se	Units: pg/L			Analysis [Jate: 9/5/201	Analysis Date: 9/5/2017 6:41:45 PM	Prep Date	Prep Date: 8/31/2017	1
Analyte	QC Sample Resuft	로 5	Units	AANALTS 1 000_170303 QC Spike Original Sample Units Amount Result	al Sample Result	%REC	Sequo:	TOUSSS: HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Selenium	QN	5.0	hg/L									
Sample ID: mb-27477 Client ID:	.77 Batch ID: 27477	Test Code: E245.1 Run ID: HG-FIN	: E245.1 Unit	Units: µg/L 70906A			Analysis [SeqNo:	Jate: 9/6/2017 1005586	Analysis Date: 9/6/2017 2:18:11 PM SeqNo: 1005586	Prep Date	Prep Date: 9/5/2017	
Analyte	QC Sample Result	굲	Units	OC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	Sample Result %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ŏſĭ
Mercury	ON	0.20	µg/L									

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

Date: 25-Sep-17

CLIENT: Work Order: Project:	GEI Con 1708044 1700396	GEI Consultants, Inc. 1708044 1700396 MPA Berth 10 Final Design	Design							QC SUMMARY REPORT Laboratory Control Spike	(MARY	JMMARY REPORT Laboratory Control Spike	RT sike
Sample ID: Ics-27472 Client ID:	472	Batch ID: 27472	Test Code: E200.7 Run ID: ICP-OR	E E E E E E E E E E E E E E E E E E E	E200.7 Units: µg/L			Analysis D SeqNo:	hate: 9/1/2017 1005142	Analysis Date: 9/1/2017 2:03:23 PM SeqNo: 1005142	Prep Date	Prep Date: 8/31/2017	1
Analyte		QC Sample Result	굲	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	C HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ŏ
Cadmium		773.6	4.0	J/6rl	800	0	96.7	88	115	0			
Chromium		4074	10	J.Sr	3976	0	102	82	115	0			
Copper		1998	25	rg/L	2004	0	99.7	85	115	0			
Iron		4279	100	rg/L	4004	0	107	82	115	0			
Nickel		4134	40	Lg/L	3984	0	104	82	115	0			
Silver		394.7	7.0	pg/t	400	0	98.7	82	115	0			
Zinc		3856	20	hg/L	3984	0	96.8	82	115	0			
Sample ID: LCS-27472	:7472	Batch ID: 27472	Test Code	Test Code: E200.9_As	· Units: µg/L			Analysis D)ate: 9/6/2017	Analysis Date: 9/6/2017 1:05:12 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:			Run ID:	AANALYS	AANALYST 600_170906			SeqNo:	1005402				
		QC Sample		•	QC Spike Original Sample	l Sample			J	Original Sample			

Qualifiers:	Qualifiers: ND - Not Detected at the Reporting Limit	it S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	NA - Not applicable where J values or ND results occur
	RL - Reporting Limit; defined as the lowest concentration	lowest concentration the laboratory can accurately quantitate.	

ŏ

%RPD RPDLimit

or MS Result

LowLimit HighLimit

Result %REC

Amount

Units µ9∕L

딦

Result 19.63

QC Sample

QC Spike Original Sample

115

88

98.2

0

2

5.0

Original Sample

Ö

%RPD RPDLimit

or MS Result

Result %REC LowLimit HighLimit

Amount 20

Units Ę

പ

Result 20.4

Analyte Arsenic

2.0

0

115

82

102

0

Units: µg/L

Test Code: E200.9_Pb

Batch ID: 27472

Sample ID: LCS-27472

Client ID:

Analyte Lead

AANALYST 600_170906

Run 1D:

Prep Date: 8/31/2017

Analysis Date: 9/6/2017 6:01:38 PM 1005480

SeqNo:

Date: 25-Sep-17

CLIENT:	GEI Consultants, Inc.	ants, Inc.			i								1
Work Order:	1708044									QC SUMMARY REPORT	MARY	KEPO	7
Project:	1700396 MP	1700396 MPA Berth 10 Final Design	Jesign							Lat	Laboratory Control Spike	ontrol Sp	ike
													I
Sample ID: LCS-27472		Batch ID: 27472	Test Code: E200.9_Sb	E200.9_SI	b Units: µg/L			Analysis D	ate: 9/5/201	Analysis Date: 9/5/2017 3:17:05 PM	Prep Date:	Prep Date: 8/31/2017	
Client ID:			Run ID:	AANALYS	AANALYST 600_170905			SeqNo:	1005320	_			
Another		QC Sample	ā	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	QC Spike Original Sample	Sample	1	:	_	Original Sample			
Antimony		19.63	5.0	right.	Amount 20	Kesuit 0	%KEC 98.2	LowLimit 85	HighLimit	or MS Result	%RPD	RPDLimit	ð
Sample ID: LCS-27472		Batch ID: 27472	Test Code: E200.9_Se	E200.9_S	P Units: µg/L	l		Analysis D	ate: 9/5/201	Analysis Date: 9/5/2017 6:51:28 PM	Prep Date:	Prep Date: 8/31/2017	
Client ID:			Run ID:	AANALYS	AANALYST 600_170905			SeqNo:	1005362				
Analyte		QC Sample	ā	- India	QC Spike Original Sample	Sample	7 7 7 7 7	imi timi		Original Sample	9		ċ
Selenium		19.62	5.0	ng/L	20	0	98.1	1	115	DINS ON SO		APOCIAL PARTIES	ğ
						١							Ì
Sample ID: Ics-27477		Batch ID: 27477	Test Code: E245.1	E245.1	Units: pg/L			Analysis Da	ate: 9/6/201	Analysis Date: 9/6/2017 2:21:56 PM	Prep Date: 9/5/2017	9/5/2017	
Client ID:			Run ID:	HG-FIMS_170906A	170906A			SeqNo:	1005587				
Analyte		QC Sample Result	귊	Units	QC Spike Original Sample Amount Result	Sample Result	Sample Result %REC	LowLimit HighLimit		Original Sample or MS Result	%RPD	RPDLimit	ë
Mercury		3.787	0.20	пgЛ	4	0	94.7	8	120	0			
Sample ID: Icsd-27477		Batch ID: 27477	Test Code: E245.1	E245.1	Units: µg/L			Analysis Da	ate: 9/6/201	Analysis Date: 9/6/2017 2:25:42 PM	Prep Date: 9/5/2017	9/5/2017	1
Client ID:			Run ID:	HG-FIMS_170906A	170906A			SeqNo:	1005588				
Analyte		QC Sample Result	ā	linite	QC Spike Original Sample		JEC 79	imi pro) June Hall	Original Sample	9		ć
			! !					- 1		INCOLUCIA IO	0 1 1		Š,
Mercury		3.825	0.20	hg/L	પ	0	95.6	80	120	3.787	0.994	23	

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

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GEI Consultants, Inc. CLIENT:

1708044 Work Order: 1700396 MPA Berth 10 Final Design Project:

QC SUMMARY REPORT

Date: 25-Sep-17

Sample Matrix Spike

Sample ID.	Sample ID: 1708044-01HMS	Batch ID: 27472	Test Code: E200.7	E200.7	Units: pg/L	ے		Analysis [late: 9/1/201	Analysis Date: 9/1/2017 3:14:48 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:	1700396-WE-2		Run ID:	ICP-OPT	ICP-OPTIMA_170901A			SeqNo:	1005149				
		QC Sample			QC Spike Original Sample	nal Sample			J	Original Sample			
Analyte		Result	굺	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ö
Cadmium		728.2	4.0	µg/L	800	0	9	70	130	0			İ
Chromium		3784	0	µg/L	3976	0	95.2	20	130	0			
Copper		2394	25	ng/L	2004	19.61	119	20	130	Ö			
Iron		29690	100	hg/L	4004	24950	118	2	130	0			
Nickel		3916	4	µg/L	3984	7.658	98.1	70	130	0			
Silver		453.8	7.0	J∕grl	400	0	113	92	130	0			
Zinc		4168	20	μg/L	3984	454.3	93.2	70	130	0			
Sample ID:	Sample ID: 1708044-01HMSD	Batch ID: 27472	Test Code: E200.7	: E200.7	Units: µg/L			Analysis D	ate: 9/1/201	Analysis Date: 9/1/2017 3:21:31 PM	Prep Date	Prep Date: 8/31/2017	
Client ID:	Client ID: 1700396-WE-2		Run ID:	ICP-OPT	ICP-OPTIMA_170901A			SeqNo:	1005150				
		QC Sample			QC Spike Original Sample	al Sample			Ü	Original Sample			
Analyte		Result	귙	Units	Amount	Result	%REC	LowLimit	Hight_imit	or MS Result	%RPD	RPDLimit	Õ
Cadmium		741.7	4.0	μg/L	800	0	92.7	20	130	728.2	1.85	20	
Chromium		3899	5	rg/L	3976	0	98.1	20	130	3784	2.97	20	
Copper		2482	25	hg/L	2004	19.61	123	20	130	2394	3.59	20	
lron		29090	100	µg∕L	4004	24950	103	2	130	29690	2.06	20	
Nickel		4040	40	µg∕L	3984	7.658	101	20	130	3916	3.12	8	
Silver		475.4	7.0	µg∕L	400	0	119	2	130	453.8	4.65	20	
Zinc		4244	8	µ9∕L	3984	454.3	95.1	02	130	4168	1.82	20	

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

Date: 25-Sep-17

GEI Consultants, Inc.

QC SUMMARY REPORT 1708044 Work Order: CLIENT: Project:

Project: 1700396	1700396 MPA Berth 10 Final Design	Design								Sample	Sample Matrix Spike	pike
Sample ID: 1708044-01HMS Client ID: 1700396-WE-2	Batch ID: 27472	Test Code Run ID:	Test Code: E200.9_As Run ID: AANALYST	E200.9_As Units: pg/L AANALYST 600_170906			Analysis D SeqNo:	Jate: 9/6/2017 1005406	Analysis Date: 9/6/2017 1:24:03 PM SeqNo: 1005406	Prep Date	Prep Date: 8/31/2017	
Analyte	QC Sample Result	굲	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Arsenic	19.01	2.0	μg/L	20	5.415	89	202	130	0			ဟ
Sample ID: 1708044-01HMSD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code	Test Code: E200.9_As	E200.9_As Units: µg/L			Analysis D	late: 9/6/201	Analysis Date: 9/6/2017 1:26:50 PM	Prep Date	Prep Date: 8/31/2017	
	QC Sample Result	귬	Units	QC Spike Original Sample Amount Result	l Sample Result %REC		Seque: 100540 LowLimit HighLimit		/ Original Sample or MS Result	%RPD	%RPD RPDLimit	ð
Arsenic	19.49	2.0	hg/L	20	5.415	70.4	22	130	19.01	2.49	0	
Sample ID: 1708044-01HMS Client ID: 1700396-WE-2	Batch ID: 27472	Test Code Run ID:	Test Code: E200.9_Pb Run ID: AANALYST	E200.9_Pb Units: µg/L AANALYST 600_170906			Analysis D. SeqNo:	late: 9/6/2017 1005484	Analysis Date: 9/6/2017 6:25:59 PM SeqNo: 1005484	Prep Date	Prep Date: 8/31/2017	
Analyte	QC Sample Result	2	Units	QC Spike Original Sample Amount Result	Sample Result %REC	%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Öñ
Lead	10.08	5.0	hg/L	20	0	50.4	0/	130	0			S
Sample ID: 1708044-01HMSD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: Run ID:	Test Code: E200.9_Pb Run ID: AANALYST	E200.9_Pb Units: µg/L AANALYST 600_170906			Analysis Da SeqNo:	ate: 9/6/2017 1005485	Analysis Date: 9/6/2017 6:29:13 PM SeqNo: 1005485	Prep Date:	Prep Date: 8/31/2017	
Analyte	QC Sample Result	₽	Units	QC Spike Original Sample Amount Result	Sample Result %REC		LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Lead	8.27	5.0	μg⁄L	20	0	41.4	92	130	10.08	19.7	20	S

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

CLIENT: GEI Consultants, Inc.

CLIENT:		GEI Consultants, Inc.								QC SUMMARY REPORT	IMARY	REPO	RT
Project:		1700396 MPA Berth 10 Final Design	Design								Sample	Sample Matrix Spike	ike
Sample ID: Client ID:	Sample ID: 1708044-01HMS Client ID: 1700396-WE-2	Batch ID: 27472	Test Code	Test Code: E200.9_Sb	E200.9_Sb Units: µg/L			Analysis D.	ate: 9/5/2017	Analysis Date: 9/5/2017 3:40:07 PM	Prep Date	Prep Date: 8/31/2017	ıl
Analyte	man mana de	QC Sample Result	7	Units	OC Spike Original Sample Amount Result	Sample Result %REC		LowLimit HighLimit		Original Sample or MS Result	%RPD	RPDLimit	Ö
Antimony		18.45	5.0	µg/L	20	0	92.2	70	130	0			
Sample ID: Client ID:	Sample ID: 1708044-01HMSD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code Run ID:	Test Code: E200.9_Sb Run ID: AANALYST	E200.9_Sb Units: µg/L AANALYST 600_170905			Analysis Di SeqNo:	ate: 9/5/2017 1005325	Analysis Date: 9/5/2017 3:42:54 PM SeqNo: 1005325	Prep Date	Prep Date: 8/31/2017	
Analyte		QC Sample Result	굺	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit HighLimit	-	Original Sample or MS Result	%RPD	RPDLimit	Ö
Antimony	:	18.3	5.0	п9/1	20	0	91.5	2	130	18.45	0.816	20	
Sample ID: Client ID:	Sample ID: 1708044-01HMS Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: Run ID:	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se Units: µg/L AANALYST 600_170905			Analysis Di SeqNo:	ate: 9/5/2017 1005366	Analysis Date: 9/6/2017 7:15:26 PM SeqNo: 1005366	Prep Date	Prep Date: 8/31/2017	l
Analyte	14.	QC Sample Result	곱	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ŏ
Selenium		QN	5.0	рдЛ	50	0	0	02	130	0			ဟ
Sample 1D: Client ID:	Sample ID: 1708044-01HMSD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: Run ID:	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se Units: µg/L AANALYST 600_170905			Analysis Da SeqNo:	ate: 9/5/2017 1005367	Analysis Date: 9/5/2017 7:18:45 PM SeqNo: 1005367	Prep Date	Prep Date: 8/31/2017	
Analyte		QC Sample Result	ᄰ	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ő
Selenium		Q	5.0	µ9∕L	20	0	0	20	130	0	0	20	ဟ

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits R - RPD outside accepted recovery fimits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

GEI Consultants, Inc. 1708044 Work Order: CLIENT:

Work Order: 1708 Project: 1700	708044 700396 M	1708044 1700396 MPA Berth 10 Final Design	Design							QC SUMMARY REPORT Sample Matrix Spike	[MARY Sample]	MARY REPORT Sample Matrix Spike	RT oike
Sample ID: 1708040-02bms Client ID:	SES	Batch ID: 27477	Test Code: E245.1 Run ID: HG-FIN	: E245.1 HG-FIM	E245.1 Units: µg/L HG-FIMS_170906A	1.		Analysis D SeqNo:	Jate: 9/6/2017	Analysis Date: 9/6/2017 2:37:02 PM SeqNo: 1005591	Prep Date: 9/5/2017	9/5/2017	ıl
Analyte		QC Sample Result	궚	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	HighLimit	Sample Original Sample Result %REC LowLimit HighLimit or MS Result	%RPD	%RPD RPDLimit	Öñ
Mercury		3.249	0.20	μg/L	4	0	0 81.2	75	125	0		1	
Sample ID: 1708040-02bmsd Client ID:		Batch ID: 27477	Test Code: E245.1 Run ID: HG-FIN	: E245.1 HG-FIM	E245.1 Units: µg/L HG-FIMS_170906A			Analysis D SeqNo:	late: 9/6/2017 1005592	Analysis Date: 9/6/2017 2:40:51 PM SeqNo: 1005592	Prep Date: 9/5/2017	9/5/2017	
Analyte		QC Sample Result	귬	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	Sample O Result %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	%RPD RPDLimit Que	Ö
Mercury		3.645	0.20	hg/L	4	0	0 91.1	75	125	3.249	11.5	20	İ

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

CLIENT: GEI Consultants, Inc.

Work Order: 1708044

Project: 1700396 MPA Berth 10 Final Design

QC SUMMARY REPORT

Date: 25-Sep-17

Sample Duplicate

Sample ID: 1708044-01HD	Batch ID: 27472	Test Code: E200.7	: E200.7	Units: ua/L		l	Analysis	ate: 9/1/201	Analysis Date: 9/1/2017 2:43:37 Du	O con O	Deen Oute: 0/24/2014	
Client ID: 1700396-WE-2		Run ID:	ICP-OPTIM	ICP-OPTIMA_170901A			SeqNo:	1005148			. 6/3/1/2017	
	QC Sample		O	QC Spike Original Sample	Sample			J	Original Sample			
Analyte	Result	귛	Units	Amount	Result %REC	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Öű
Cadmium	QV	4.0	µg/L	0	0	0	0	0	0		5	
Chromium	QN	10	иg/L	0	0	0	0	0	0	• •	3 8	
Copper	13.22	25	иgу	0	0	0	0	0	19.61	38.9	2 2	Œ
fron	26130	100	рgЛ	0	0	0	0	0	24950	4.61	20	í
Nickel	5.975	40	иg/L	0	0	0	0	0	7.658	24.7	20	<u>~</u>
Silver	Q	7.0	ng/L	0	0	0	0	0	0	0	ج 1	;
Zinc	472.2	20	₽g∕L	0	0	0	0	0	454.3	3.87	S0 1	
Sample ID: 1708044-01HD	Batch ID: 27472	Test Code	Test Code: E200.9_As	Units: µg/L			Analysis D	ate: 9/6/2017	Analysis Date: 9/6/2017 1:20:54 PM	Prep Date	Prep Date: 8/31/2017	l
Client ID: 1700396-WE-2		Run ID:	AANALYST	AANALYST 600_170906			SeqNo:	1005405		•		
	QC Sample		a	QC Spike Original Sample	Sample			Û	Original Sample			
Analyte	Result	귙	Units	Amount	Result %REC	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Öű
Arsenic	1.736	2.0	hg/L	0	0	0	0	0	5.415	103	50	뜻
Sample ID: 1708044-01HD	Batch ID: 27472	Test Code:	Test Code: E200.9_Pb	Units: µg/L			Analysis D	ate: 9/6/2017	Analysis Date: 9/6/2017 6:23:12 PM	Prep Date	Prep Date: 8/31/2017	
Client ID: 1700396-WE-2		Run ID:	AANALYST	AANALYST 600_170906			SeqNo:	1005483				
	QC Sample		ø	QC Spike Original Sample	Sample			0	Original Sample			
Analyte	Result	교	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Lead	Q	5.0	µ9∕L	0	0	0	0	0	0	0	29	

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

GEI Consultants, Inc. CLIENT:

Date: 25-Sep-17

Work Order: 1708044									QC SUMMARY REPORT	IMARY	REPO	RT
Project: 1700396	1700396 MPA Berth 10 Final Design	Design								Samj	Sample Duplicate	ate
Sample ID: 1708044-01HD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: E200.9_Sb Run ID: AANALYST	E200.9_St	E200.9_Sb Units: µg/L AANALYST 600_170905			Analysis D SeqNo:	late: 9/5/2017 1005323	Analysis Date: 9/5/2017 3:37:19 PM SeqNo: 1005323	Prep Date	Prep Date: 8/31/2017	11
Analyte	QC Sample Result	교	Units	QC Spike Original Sample Amount Result	Sample	Sample Result %REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	%RPD RPDLimit	Ö
Antimony	QN .	5.0	µ9⁄L	0	0	0	0	0	0	0	50	
Sample ID: 1708044-01HD Client ID: 1700396-WE-2	Batch ID: 27472	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se AANALYS	E200.9_Se Units: µg/L AANALYST 600_170905			Analysis D SeqNo:	ate: 9/5/2017 1005365	Analysis Date: 9/5/2017 7:12:28 PM SeqNo: 1005365	Prep Date	Prep Date: 8/31/2017	
Analyte	QC Sample Result	చ	Units	QC Spike Original Sample Amount Result	Sample Result %REC	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Selenium	QN	5.0	hg/L	0	0	0	0	0	0	0	20	
Sample ID: 1708040-02bd Client ID:	Batch ID: 27477	Test Code: E245.1 Run ID: HG-FIN	E245.1 Unit HG-FIMS_170906A	Units: µg/L 170906A			Analysis D SeqNo:	ate: 9/6/2017 1005590	Analysis Date: 9/6/2017 2:33:16 PM SeqNo: 1005590	Prep Date: 9/5/2017	9/5/2017	
Analyte	QC Sample Result	굾	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	Sample Result %REC LowLimit HighLimit	C HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Mercury	QN	0.20	μg/L	0	0	0	0	0	0	0	20	

Page 63 of 73

ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

J - Analyte detected below quantitation limits

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-01

Collection Date: 8/30/2017 10:30:00 AM

Collection Time:

Client Sample ID: 1700396-WE-2			M	latrix: GROU	NDWATER
Analyses	Result	RL Q	ual Units	DF	Date Analyzed
HEXAVALENT CHROMIUM		SW7196A			Analyst: AL
Chromium, Hexavalent	ND	0.010	mg/L	1	8/31/2017 10:15:00 AM
HEXAVALENT CHROMIUM, DISSOLVED		SW7196A			Analyst: AL
Chromium, Hexavalent	ND	0.010	mg/L	1	8/31/2017 10:15:00 AM
OIL & GREASE, TPH (NON-POLAR MATE	RIAL)	E1664			Analyst: AL
SGT-Hexane Extractable Material	ND	5.0	mg/L	1	9/12/2017
TOTAL SUSPENDED SOLIDS		SM2540 D			Analyst: MB
Suspended Solids (Residue, Non- Filterable)	68	4.0	mg/L	1	8/31/2017
CHLORINE, TOTAL RESIDUAL (MODIFIEI)	M4500-CL G			Analyst: AL
Chlorine, Total Residual	ND	0.10	H mg/L	1	8/31/2017 9:15:00 AM
CYANIDE, TOTAL		SM4500-CN C,	E		Analyst: AL
Cyanide	ND	0.010	mg/L	1	9/11/2017
AMMONIA AS NITROGEN		SM4500-NH3,	C		Analyst: AL
Nitrogen, Ammonia (As N)	ND	1.0	mg/L	1	9/11/2017

Date: 25-Sep-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1708044

Lab ID:

1708044-02

Collection Date: 8/30/2017 12:00:00 PM

Collection Time:

Client Sample ID: 1700396-SW-1				ľ	Matrix: GROUN	IDWATER
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM		SW7196A				Analyst: AL
Chromium, Hexavalent	ND	0.010		mg/L	1	8/31/2017 10:15:00 AM
HEXAVALENT CHROMIUM, DISSOLVED		SW7196A				Analyst: AL
Chromium, Hexavalent	ND	0.010		mg/L	1	8/31/2017 10:15:00 AM
OIL & GREASE, TPH (NON-POLAR MATE	RIAL)	E1664				Analyst: AL
SGT-Hexane Extractable Material	ND	5.0		mg/L	1	9/12/2017
TOTAL SUSPENDED SOLIDS		SM2540 D				Analyst: MB
Suspended Solids (Residue, Non- Filterable)	4.0	4.0		mg/L	1	8/31/2017
CHLORINE, TOTAL RESIDUAL (MODIFIED) }	M4500-CL 6	•			Analyst: AL
Chlorine, Total Residual	ND	0.10	н	mg/L	1	8/31/2017 9:15:00 AM
CYANIDE, TOTAL		SM4500-CN	C,E			Analyst: AL
Cyanide	ND	0.010		mg/L	1	9/11/2017
AMMONIA AS NITROGEN		SM4500-NH	3, C			Analyst: AL
Nitrogen, Ammonia (As N)	ND	1.0		mg/L	1	9/11/2017

Date: 25-Sep-17

GEI Consultants, Inc.

Ö ő Ö ğ Method Blank **QC SUMMARY REPORT** %RPD RPDLimit %RPD RPDLimit **RPDLimit** %RPD RPDLimit Prep Date: Prep Date: Prep Date: Prep Date: %RPD Analysis Date: 8/31/2017 10:15:00 AM Analysis Date: 8/31/2017 10:15:00 AM or MS Result Analysis Date: 8/31/2017 10:15:00 AM Original Sample Analysis Date: 8/31/2017 10:15:00 AM Original Sample or MS Result or MS Result Original Sample Original Sample or MS Result 1005759 1005759 1005759 1005759 LowLimit HighLimit LowLimit HighLimit LowLimit HighLimit LowLimit HighLimit SeqNo: SeqNo: SeqNo: SeqNo: Result %REC Result %REC %REC Result %REC QC Spike Original Sample QC Spike Original Sample Result QC Spike Original Sample QC Spike Original Sample Units: mg/L Units: mg/L Units: mg/L Units: mg/L ING-WET_170831C ING-WET_170831C ING-WET_170831C Amount Amount ING-WET_170831C Amount Amount Test Code: SW7196A Test Code: SW7196A Test Code: SW7196A Test Code: SW7196A Units mg/L Units mg/L Units mg/L Units mg/L Run ID: Run ID: Run ID: Run ID: 0.010 0.010 딦 씸 0.010 1700396 MPA Berth 10 Final Design ద 0.010 쿈 Batch ID: R59951 Batch ID: R59951 Batch ID: R59951 Batch ID: R59951 Result 9 QC Sample Result Result QC Sample 9 9 Result QC Sample 9 QC Sample 1708044 Sample ID: MB-R59951 Sample ID: MB-R59951 Sample ID: MB-R59951 Chromium, Hexavalent Chromium, Hexavalent Sample ID: MB-R59951 Chromium, Hexavalent Chromium, Hexavalent Work Order: CLIENT: Project: Client ID: Client 10; Client ID: Analyte Client 1D: Analyte Analyte Analyte

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Page 66 of 73

GEI Consultants, Inc. CLIENT:

CLANAMA DO

Date: 25-Sep-17

Work Order: 170	1708044								QC SUMMARY REPORT	[MAR]	(REPO	RT
Project: 170	1700396 MPA Berth 10 Final Design	Design									Method Blank	lank
Sample ID: MB-R59950 Client ID:	Batch ID: R59950	Test Code: E1664 Run ID: ING-W	:: E1664 ING-WEI	E1664 Units: mg/L	mg/L		Analysis (Analysis Date: 9/12/2017	12	Prep Date:	i ii	11
Analyte	QC Sample Result	몹	Units	QC Spike Or Amount	QC Spike Original Sample Amount Result	Sample Result %REC	Sedition:		<u> </u>	6		•
SGT-Hexane Extractable Material	Material	5.0	mg/L						O MO RESUIT	WRPU	KFOLIMI	ð
Sample ID: MB-R59918 Client ID:	Batch ID: R59918	Test Code Run ID:	Test Code: SM2540 D Run ID: ING-WET_	SM2540 D Units: mg/L ING-WET_170831A	mg/L		Analysis [SeqNo:	Analysis Date: 8/31/2017 SeqNo: 1005238	17	Prep Date:	<u> </u>	
Analyte	QC Sample Result	젒	Chrits	QC Spike On Amount	QC Spike Original Sample Amount Result	%REC	LowLimit	Sample Result %REC LowLimit HighLimit	Original Sample or MS Resuit	%RPD	%RPD RPDLimit	ë
Suspended Solids (Residue, Non	ue, Non	4.0	mg/L									
Sample ID: MB-R59941 Client ID:	Batch ID: R59941	Test Code: Run ID:	ie: M4500-CI G ING-WET_17	M4500-CI G Units: mg/L ING-WET_170831B	mg/L		Analysis C SeqNo:	Jate: 8/31/201	Analysis Date: 8/31/2017 9:15:00 AM SeqNo: 1005647	Prep Date:	24.2	
Analyte	QC Sample Result	교	Units	QC Spike Ori Amount	QC Spike Original Sample Amount Result	%REC	Sample Result %REC LowLimit	O HighLimit	Original Sample or MS Result	%RPD		à
Chlorine, Total Residual	QN	0.10	mg/L									Š
Sample ID: MB-R59946 Client ID:	Batch ID: R59946	Test Code: Run ID:	SM4500-C	Test Code: SM4500-CN C Units: mg/L Run ID: ING-WET_170911C	ng/L		Analysis D SeqNo:	Analysis Date: 9/11/2017 SeqNo: 1005687	7	Prep Date:		1
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	iginal Sample Result	%REC	Sample Result %REC LowLimit HighLimit	-	Original Sample or MS Result	%RPD	%RPD RPD! imit	å
Cyanide	QN	0.010	mg/L									

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

GEI Consultants, Inc. CLIENT:

1708044 Work Order:

Project:

Method Blank **QC SUMMARY REPORT** 1700396 MPA Berth 10 Final Design

Date: 25-Sep-17

Sample ID: MB-R59945	Batch ID: R59945	Test Code	SM4500	Test Code: SM4500.NH3 Inite: mail			4					
!					1		Analysis D	Analysis Date: 9/11/2017	<u>~</u>	Prep Date:		
Cirent ID:		Run 10:	ING-WE	ING-WET_170911B			SeqNo:	1005680				
	QC Sample			QC Spike Original Sample	ial Sample				Original Sample			
Analyte	Result	2	Units	Amount	Result	%REC	LowLimit	HighLimit	Result %REC LowLimit HighLimit or MS Result	%RPD	%RPD RPDLimit Our	ä
Nitrogen, Ammonia (As N)	QN	1.0	mg/L									;

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualificrs:

Date: 25-Sep-17

	GEI Consultants, Inc.											
rder:	1708044								QC SUMMARY REPORT	MARY	REPO	RT.
Project: 170	1700396 MPA Berth 10 Final Design	l Design							Lab	Laboratory Control Spike	Control S	pike
												I
Sample ID: LCS-R59951	Batch ID: R59951	Test Code.	Test Code: SW7196A	Units: mg/L			Analysis D	late: 8/31/20	Analysis Date: 8/31/2017 10:15:00 AM	Prep Date:		İ
Client ID:		Run 10:	ING-WET_170831C	170831C			SeqNo:	1005760			•	
Analyte	QC Sample Resuft	R	Units	QC Spike Original Sample Amount Resutt	al Sample Result	%REC	LowLimit	High! imit	Original Sample	900		ć
Chromium, Hexavalent	0.101	0.010	mg/L	0.1	0				0	O'AN	RFOLIME THE PLANT OF THE PLANT	3
Sample ID: LCS-R59951	Batch ID: R59951	Test Code:	Test Code: SW7196A	Units: mg/L			Analysis D.	ate: 8/31/20	Analysis Date: 8/31/2017 10:15:00 AM	Pren Date:		1
Client ID:		Run ID:	ING-WET_170831C	170831C			SeqNo:	1005760	_			
Analyte	QC Sample Result	4	Units	QC Spike Original Sample Amount Result	l Sample Result %REC	%REC	LowLimit HighLimit	_	Original Sample or MS Result	%RPD		ě
Chromium, Hexavalent	0.101	0.010	mg/L	0.1	•	5	8	120	0			j
Sample ID: LCS-R59951	Batch ID: R59951	Test Code: SW7196A	SW7196A	Units: mg/L			Analysis Da	ate: 8/31/201	Analysis Date: 8/31/2017 10:15:00 AM	Dran Date:		1
Client ID:		Run ID:	ING-WET_170831C	170831C			SeqNo:	1005760		riep Date.		
Analyte	QC Sample Result	ፚ	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD		à
Chromium, Hexavalent	0.101	0.010	mg/L	0.1	0	101		120	0			Ž
Sample ID: LCS-R59961	Batch ID: R59951	Q	le: SW7196A	Units: mg/L			Analysis Da	ite: 8/31/201	Analysis Date: 8/31/2017 10:15:00 AM	Prep Date:		I
Client ID:		Run ID:	ING-WET_170831C	170831C			SeqNo:	1005760				
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.101	0.010	mg/L	0.1	0	101	8	120	0			ĺ

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

!!												
	GEI Consultants, Inc.											ij
Work Order: 17	1708044								QC SUMMARY REPORT	IMAR	REPO	RT
Project: 17	1700396 MPA Berth 10 Final Design	Design							Lat	Laboratory Control Spike	Control S	pike
	l											I
Sample ID: LCS-R59950	50 Batch ID: R59950	Test Code: E1664	: E1664	Units: mg/L	l.		Analysis [Analysis Date: 9/12/2017	1	Preo Date:		
Client ID:		Run ID:	ING-WET	ING-WET_170912C			SeqNo:	1005754			ť	
Analyte	QC Sample Result	굲	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	Low imit	High imit	Original Sample	9		(
SGT-Hexane Extractable Material	le Material 20.1	5.0	mg/L	50	0	9	42.4		O O	מולאא	RPDCIME.	Š
Sample ID: LCS-R59918	18 Batch ID: R59918	Test Code:	Test Code: SM2540 D	Units: mg/l.	_ ا		Analysis [Analysis Date: 8/31/2017		oten need		1
Client ID:		Run ID:	ING-WET_170831A	170831A			SeqNo:	1005239	•	rich Dale.	.,	
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	O LowLimit HighLimit	Original Sample	000%	:::: 	å
Suspended Solids (Residue, Non	due, Non 949	4.0	mg/L	951	0	99.8	97	103	0	2		Š
Sample ID: LCS-R59941	1 Batch ID: R59941	Test Code:	Test Code: M4500-CI G	G Units: mg/L			Analysis D	ate: 8/31/201	Analysis Date: 8/31/2017 9:15:00 AM	Pren Date:		1
Client ID:		Run ID:	ING-WET_170831B	170831B			SeqNo:	1005648				
Analyte	QC Sample Result	로 	Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	O HiahLimit	Original Sample or MS Result	MRDN		à
Chlorine, Total Residual	1.096	0.10	mg/L	-	0	110	06	110	0			Š
Sample ID: LCS-R59946	6 Batch ID: R59946	Test Code:	SM4500-C	SM4500-CN C Units: mg/L	١.		Analysis D	Analysis Date: 9/11/2017		Pren Date:		1
Client ID:		Run ID:	ING-WET_170911C	170911C			SeqNo:	1005688				
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD		à
Cyanide	0.206	0.010	mg/L	0.2	0	103	2	121	0			5 9

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

CLIENT: GEl Consultants, Inc.

Work Order: 1708044

1700396 MPA Berth 10 Final Design

Project:

Date: 25-Sep-17

QC SUMMARY REPORT

Laboratory Control Spike

			l			I						
Sample ID: LCS-R59945	Batch ID: R59945	Test Code	: SM4500	Test Code: SM4500-NH3, Units: mg/L			Analysis D	Analysis Date: 9/11/2017		Prep Date:		
Client ID:		Run ID:	ING-WE	ING-WET_170911B			SeqNo:	1005681		•		
	QC Sample			QC Spike Original Sample	ample			Ü	Original Samole			
Analyte	Result	귙	Units	Amount	Result 9	6REC	LowLimit	High Limit	Result %REC LowLimit HighLimit or MS Result	%RPD	%RPD RPDLimit	Ö
Nitrogen, Ammonia (As N)	9.38	1.0	mg/L	10	0	93.8	88	92	0			

Qualiffers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R

S - Spike Recovery outside accepted recovery limits
P - RPD outside accepted accepted facilities

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

GEI Consultants, Inc. CLIENT:

Sample Matrix Spike **QC SUMMARY REPORT** 1700396 MPA Berth 10 Final Design 1708044 Work Order: Project:

Date: 25-Sep-17

Sample ID: 1708044-02EMS	Batch ID: R59951	Test Code:	Test Code: SW7196A	Units: mg/L	mg/L		Analysis [Jate: 8/31/20	Analysis Date: 8/31/2017 10:15:00 AM	Prep Date:		
Client ID: 1700396-SW-1		Run ID:	ING-WET_170831C	170831C			SeqNo:	1005764				
Analyte	QC Sample Result	궚	Units	ac Spike Or Amount	QC Spike Original Sample Amount Result	Sample Result %REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Chromium, Hexavalent	0.1	0.010	mg/L	0.1	0.004	8	75	125	0			
Sample ID: 1708044-02EMS	Batch ID: R59951	Test Code:	Test Code: SW7196A	Units: mg/L	mg/L.		Analysis [)ate: 8/31/20	Analysis Date: 8/31/2017 10:15:00 AM	Prep Date:		
Client ID: 1700396-SW-1		Run 1D:	ING-WET_170831C	170831C			SedNo:	1005764				
Analyte	QC Sample Result	J.	Units	2C Spike Or Amount	QC Spike Original Sample Amount Result	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ŏ
Chromium, Hexavalent	0.1	0.010	mg/L	0.1	0.004	96	75	125	0		!	Ī
Sample ID: 1708044-02EMS	Batch ID: R59951	Test Code:	Test Code: SW7196A	Units: mg/L	mg/L		Analysis [)ate: 8/31/201	Analysis Date: 8/31/2017 10:15:00 AM	Prep Date:		
Client ID: 1700396-SW-1		Run IÖ:	ING-WET_170831C	170831C			SeqNo:	1005764				
Analyte	QC Sample Result	궚	Units	C Spike Or Amount	QC Spike Original Sample Amount Result	Sample Result %REC	LowLimit	HiahLimit	Original Sample or MS Result	%RPD	RPD! imit	Ö
Chromium, Hexavalent	0.1	0.010	mg/L	0.1	0.004	96	75		0			
Sample ID: 1708044-02EMS Client ID: 1700396-SW-1	Batch ID: R59951	Test Code: Run ID:	Test Code: SW7196A Unit	Units: mg/L 170831C	mg/L		Analysis E SeqNo:)ate: 8/31/201	Analysis Date: 8/31/2017 10:15:00 AM SeqNo: 1005764	Prep Date:		
Analyte	QC Sample Result	굲	Units	C Spike Or Amount	QC Spike Original Sample Amount Result	Sample Result %REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.1	0.010	ma/L	0.1	0.004	98	75	175			1	

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

S - Spike Recovery outside accepted recovery limits

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 25-Sep-17

TINE I

CLIENT: Work Order:	GEI Con 1708044	GEI Consultants, Inc. 1708044								OC SIIMMARV BEDODE	TMARV	/ Drd	Tot
Project:	1700396	1700396 MPA Berth 10 Final Design	Design								Sample	Sample Matrix Snike	nike
											•		
Sample ID: 1708044-01CMS	t-01CMS	Batch ID: R59950	Test Code: E1664	: E1664	Units: mg/L	Jg/L		Analysis [Analysis Date: 9/12/2017	124	Pren Date:		
Cilent IU: 1700396-WE-2	3-WE-2		Run 10:	ING-WEI	ING-WET_170912C			SeqNo:	1005757			i	
Analyte		QC Sample Result	굲	Units	QC Spike Original Sample Amount Result	jinal Sample Result	%REC	l owl imit	i i i	Original Sample	6 0 3		1
SGT-Hexane Extractable Material	able Materi	ial 20.2	5.0	mg/L	50	9.0	i	78		O Carlo	OLIVE STAN	A COLUMN	õ
Sample ID: 1708044-02DMS	-02DMS	Batch ID: R59941	Test Code	Test Code: M4500-CI G	G Units: mg/L	9/L		Analysis D.	ate: 8/34/20	Analysis Date: 8/34/2017 0-15-00 AM	of confidence		
Client ID: 1700396-SW-1	-SW-1		Run ID:	ING-WET	ING-WET_170831B	,		SeqNo:	1005652		riep cate.		
Analyte		QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	inal Sample Result	%REC	%REC LowLimit	Hiahl imit	Original Sample	000%		Ċ
Chlorine, Total Residual	nal .	1.073	0.10	mg/L	-	0	107		118	C			֓֞֟֓֓֓֓֓֟֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֟֓֓֓֓֓
Sample ID: 4708044 040165	040.000	D-4-1-0								,			C
Client ID: 1700396-WE-2	WE-2	Batch ID: R59946	Test Code: Run ID:	SM4500-CN C Unit ING-WET_170911C	SM4500-CN C Units: mg/L ING-WET_170911C	g/L		Analysis Da SeqNo:	Analysis Date: 9/11/2017 SeqNo: 1005692	11	Prep Date:		
Analyte	***	QC Sample Result	超	Units	QC Spike Original Sample Amount Result	inal Sample Result %REC		LowLimit HighLimit	_	Original Sample	000	.! 	ć
Cyanide		0.13	0.010	mg/L	0.2	0	65	89	119	0	2		ĕ α
Sample ID: 1708044-01IMS Client ID: 1700396-WE-2	01IMS WE-2	Batch ID: R59945	Test Code: Run ID:	SM4500-NH3, Unit	SM4500-NH3, Units: mg/L	-f		Analysis Da	Analysis Date: 9/11/2017	7	Prep Date:		1
Analyte	į	QC Sample Result	ă	Units	QC Spike Original Sample		9 L		-	<u>`</u>			
Nitrogen, Ammonia (As N)	(N S)	9.1	1.0	mg/L	10		ì	LOWLIMIT 1	HighLimit 107	or MS Result	%RPD	%RPD RPDLimit	ð
								?	2				

ND - Not Detected at the Reporting Limit Qualifiers:

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

Page 73 of 73



317 Elm Street Milford, NH 03055 (603) 673-5440

Fax (603) 673-0366 Sales@chemservelab.com

Thursday, September 21, 2017 Nancy Stewart **AMRO** 111 Herrick Street Merrimack NH 03054

Project Name: MPA Berth 10 Final Design Lab ID: 17090159

Project #: 1700396 Date Received: 9/15/2017

Project Location: MA Control #: 17090159

Dear Nancy Stewart

Enclosed please find the laboratory results for the above referenced samples that were received by the Chem Serve sample custodian on the above referenced date. Any abnormalities to the samples upon receipt would be noted on the enclosed chain of custody document. This report is not valid without a completed chain of custody with the corresponding control number, attached.

All samples analyzed by ChemServe are subject to quality standards. These standards are as stringent or more stringent than those established under NELAC, 40 CFR Part 136, state certification programs, and corresponding methodologies. ChemServe has a written QA/QC Procedures Manual that outlines these standards, and is available for your reference, upon request. Unless otherwise stated on the Chain of Custody or within the report, all holding times, preservation techniques, container types, and analytical methods are analogous with those outlined by NELAC. All units are based on "as received" weight unless denoted "dry".

Residual chlorine, sulfite and pH are intended to be performed as an immediate field analysis. Should any of these analyses be performed in the lab instead of in the field it will result in those analyses being performed out of holding time.

I certify that I have reviewed the above referenced analytical data and state forms, and I have found this report within compliance with the procedures outlined within NELAC. ChemServe's certified parameter list can be found at http://www.chemservelab.com/Laboratory-Informationand-Documentation.aspx

Jay Chrystal - President/Laboratory Director





317 Elm Street Milford, NH 03055 (603) 673-5440

Sales@chemservelab.com

AMRO **Lab ID**: 17090159

Nancy Stewart Control #: 17090159 **Date:** 9/21/2017

111 Herrick Street Project Number: 1700396

Merrimack NH 03054 Project Name: MPA Berth 10 Final Design

Project Location: MA

Lab ID: 17090159

Sample Receiving and Comment Summary

Were samples submitted with a chain of custody?	Yes
Do all samples received match the chain of custody?	Yes
Were all samples received within applicable holding times?	Yes
Were all containers intact when received?	Yes
Were samples for volatile organic analysis free of headspace (per method)?	N/A
Was there evidence of cooling or were samples received on the same day as collection?	Yes
If the sample pH was not correct was it adjusted where applicable?	Yes
Were samples for dissolved metals already filtered by the client or field sampling?	N/A
Were Samples for O-phos filtered in the field?	N/A
Were samples received in the appropriate containers?	Yes
Were samples submitted with a chain of custody?	Yes

Sample	Method	Client Identity	Matrix	Analyst
17090159-001	SW 9056	1700396-WE-2	Groundwater	PaulF

Comment: no comment

^{*} Blank comment sections denote "No Comment"



317 Elm Street
Milford, NH 03055
(603) 673-5440
Sales@chemservelab.com

AMRO

Analytical Results

Nancy Stewart

Control #: 17090159

Lab ID: 17090159

111 Herrick Street

Project Number: 1700396

9/21/2017

Merrimack

NH 03054

Project Name: MPA Berth 10 Final Design

Project Location: MA

Sample Client Sample Identity

Start Date/Time Sampled:

Date:

Matrix

17090159-001

1700396-WE-2

8/30/2017 10:30:00 AM

Groundwater

Composite Start Date and Time

8/30/2017 10:30:00 AM

Composite End Date and Time

Qualifier

Date/Time Dilution

Parameter

Method

Result

Analyzed Fact

Factor RDL

Chloride

SW 9056

15300 mg/L

9/19/2017

1

1



317 Elm Street
Milford, NH 03055
(603) 673-5440
Sales@chemservelab.com

9/19/2017

1

1

AMRO <u>Analytical Results</u>

 Nancy Stewart
 Control #:
 17090159
 Lab ID:
 17090159

 111 Herrick Street
 Project Number:
 1700396
 Date:
 9/21/2017

Merrimack NH 03054 Project Name: MPA Berth 10 Final Design

Project Location: MA

 Sample
 Client Sample Identity
 Start Date/Time Sampled:
 Matrix

 17090159-002
 1700396-SW-1
 8/30/2017 12:00:00 PM
 Groundwater

Composite Start Date and Time 8/30/2017 12:00:00 PM Composite End Date and Time

Parameter Method Result Date/Time Dilution

Result Qualifier Analyzed Factor RDL

Chloride SW 9056 20200 mg/L

Qualifier: Description:

B- Method blank contaminated with target analyte.

B1- BOD had total oxygen loss. Result reported as ">"the highest dilution.
B2- BOD had no oxygen loss. Result reported as "<" the lowest dilution.

G- Reporting limit elevated due to matrix interference.

H- Method prescribed holding time exceeded.

J- Indicates an estimated value. Value is less than the quantitation limit.

IL- Internal Standard(s) recovery was low due to matrix. Result may be biased high.
 IH- Internal Standard(s) recovery was high due to matrix. Result may be biased low.

LHLaboratory control spike(s) was high. Results may be biased high.
LLLaboratory control spike(s) was low. Results may be biased low.
MHMatrix spike recovery high due to matrix. Results may be biased high.
MLMatrix spike recovery low due to matrix. Results may be biased low.

N- Non-target compound. Reported as a TIC.

NC- Spike recovery was not calculated due to the concentration of the analyte being >4 times the concentration of the spike added.

RRPD outside acceptable recovery limits.
ROSample received out of holding time.
SHSurrogate recovery high due to matrix
SLSurrogate recovery low due to matrix

U- BOD/CBOD blank had an oxygen depletion greater than the suggested amount of 0.200.

V- Sample pH for volatile analysis was not <2 when checked at time of analysis.

Z Too numerous to count (TNTC)

An "A" in the result column on the report indicates absent for presence/absent bacteria and a "P" indicates present for presence/absent bacteria.

AMRO Environmental Laboratories Corporation
111 Herrick Street
Merrimack, NH 03054 | 7090159 9/29

CHAIN-OF-CUSTODY RECORD

62031N

Office: (603) 424-2022 Fax: (603) 429-8496

web: www.amrolabs.com

Learning: Lab Copy Y	legibly and comp turnaround tim resolved.	W/wxam	1///	V-ARA-Y	Relinguished By:	E-mail: Mancy @ amro	Mern mack, NA	1255 T	AMPO ENVILAD.	Send Results To: N	Preservative: CI-HCl, MeOH, N-I	Andrew Control of the						17-00396-SW-1	1700396-WE-2	
Yellow: Client Copy	etely. Samples can not clock will not start unti)		rolabs. com	_		020	1	MeOH, N-HN03, S-H2SO4, Na							12:00	10:30	Project Name: MPA Berth 10 Results Needed by: Seal Intact? Yes No N/A Date/Time Sampled 8-30-17
		1	61-11-6	9-15-17	Date/Time	Ž	AUTHORIZATION No.:	have a coded	Before submitt	L ALIBOIR	Na-NaOH, O- Other							30	6W	Matrix Pesign
	Samples arriving after 12:00 received on the following day		line	1100	Time		TION No.:	have a coded AUTHORIZATION NUMBER	Before submitting samples for expedited TAT, you must	NOTAX TOOLETIN SMIT UNITORANGUT ALIBOIRA	Other						,	-	mage	
	ing after 12 e following			1.116			-	TION NUM	expedited T	TAME ALITE								<	-	Comp. Grah Chloride
	Samples arriving after 12:00 noon will be tracked and bill received on the following day:		with	Ko-	// Re		BY:	IBER	AT, you must	IODITATION										Project Manager:
SHEET	cked and billed as		15 Sep/	\	Received By	MCP Presumpti	Dissolved Metal			METALS									-	π π
0F 1			7 10.80	***************************************	7.000	MCP Presumptive Certainty Required? YES NO Required?	Dissolved Metals Field Filtered?		6010 200.7	1										EQUESTED ANALYSES
AMROCOC2004, Rev.3, 08/18/04	AMRO policy requires notification in writing to the laboratory in cases where the samples were collected from highly contaminated sites.	<u> </u>	EDD required:	level needed: しら	AMRO report package	MCP Methods Needed: YES NO	YES NO		Other Metals:]										LYSES
	KNOWN SITE CONTAMINATION:		 [S-3 GW-3	S-2 GW-2	S-1 GW-1	11 131864 Farden		14 MCF	AACD TITLE				To Address to Aller	Pa	ge 5	of 5			AMRO Project No.: 1708044 Remarks



 Work Order:
 17090159
 Date Analyzed:
 9/19/2017
 Analyst:
 PF

Method Blank ID:	MB091917	
	Method Blank	Detection
	Results	Limits
Chloride	<dl< th=""><th>1.0 (mg/L)</th></dl<>	1.0 (mg/L)

Control Spike ID	DIMS091917	
	Spiked Amount	LCS mg/L
Chloride	1.00	1.04
		RPD



111 Herrick Street, Merrimack, NH 03054 TEL: (603) 424-2022 • FAX: (603) 429-8496 www.amrolabs.com

November 02, 2017

ANALYTICAL TEST RESULTS

Molly Green

GEl Consultants, Inc.

400 Unicorn Park Drive

Woburn, MA 01801

TEL: (781) 721-4000

FAX: (781) 721-4073

Subject: 1700396 MPA Berth 10 Final Design

Workorder No.: 1710012

Dear Molly Greer:

AMRO Environmental Laboratories Corp. received 3 samples on 10/5/2017 for the analyses presented in the following report.

AMRO is accredited in accordance with NELAC and certifies that these test results meet all the requirements of NELAC, where applicable, unless otherwise noted in the case narrative.

The enclosed Sample Receipt Checklist details the condition of your sample(s) upon receipt. Please be advised that any unused sample volume and sample extracts will be stored for a period of 60 days from sample receipt date (90 days for samples from New York). After this time, AMRO will properly dispose of the remaining sample(s). If you require further analysis, or need the samples held for a longer period, please contact us immediately.

This report consists of a total of 80 pages. This letter is an integral part of your data report. All results in this project relate only to the sample(s) as received by the laboratory and documented in the Chain-of-Custody. This report shall not be reproduced except in full, without the written approval of the laboratory. If you have any questions regarding this project in the future, please refer to the Workorder Number above.

Sincerely

Nancy Stewart Vice President

State Certifications: NH (NELAC): 1001, MA: M-NH012, CT: PH-0758, NY: 11278 (NELAC), ME: NH012 and

1001.

Hard copy of the State Certification is available upon request.

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1710012

Date Received: 10/5/2017

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Collection Date	Collection Time
1710012-01A	1700396-WE-10	10/4/2017	11:30 AM
1710012-01B	1700396-WE-10	10/4/2017	11:30 AM
1710012-01C	1700396-WE-10	10/4/2017	11:30 AM
1710012-01D	1700396-WE-10	10/4/2017	11:30 AM
1710012-01E	1700396-WE-10	10/4/2017	11:30 AM
1710012-01F	1700396-WE-10	10/4/2017	11:30 AM
1710012-01G	1700396-WE-10	10/4/2017	11:30 AM
1710012-01H	1700396-WE-10	10/4/2017	11:30 AM
1710012-011	1700396-WE-10	10/4/2017	11:30 AM
1710012-02A	1700396-GEI-212	10/4/2017	12:30 PM
1710012-02B	1700396-GEI-212	10/4/2017	12:30 PM
1710012-02C	1700396-GEI-212	10/4/2017	12:30 PM
1710012-02D	1700396-GEI-212	10/4/2017	12:30 PM
1710012-02E	1700396-GE1-212	10/4/2017	12:30 PM
1710012-02F	1700396-GEI-212	10/4/2017	12:30 PM
1710012-02G	1700396-GEI-212	10/4/2017	12:30 PM
1710012-02H	1700396-GE1-212	10/4/2017	12:30 PM
1710012-021	1700396-GEI-212	10/4/2017	12:30 PM
1710012-03A	1700396-GE1-302(MW)	10/4/2017	2:30 PM
1710012-03B	1700396-GEI-302(MW)	10/4/2017	2:30 PM
1710012-03C	1700396-GEI-302(MW)	10/4/2017	2:30 PM
1710012-03D	1700396-GEI-302(MW)	10/4/2017	2:30 PM
1710012-03E	1700396-GEI-302(MW)	10/4/2017	2:30 PM
1710012-03F	1700396-GE1-302(MW)	10/4/2017	2:30 PM
1710012-03G	1700396-GEI-302(MW)	10/4/2017	2:30 PM
1710012-03H	1700396-GE1-302(MW)	10/4/2017	2:30 PM
1710012-031	1700396-GE1-302(MW)	10/4/2017	2:30 PM

02-Nov-17

AMRO Environmental Laboratories Corp.

Lab Order:

GEI Consultants, Inc.

Client:

1700396 MPA Berth 10 Final Desi **Project:**

S 10/4/20 Client Sample ID 1700396-WE-10 of 8 1710012-01A 1710@12-01C 1710012-01E 1710012-01B Sample ID

		DATE	DATES REPORT	κŢ	
ollection Date	Matrix	Analytical Test Name		Analysis Date	
		Preparatory Test Name	Prep Date	Batch ID	TCLP Da
2017 11:30:00 AM Groundwater	Groundwater	EPA 8260C VOLATILES by GC/MS		10/9/2017	
		EPA 5030B	10/4/2017	R60041	
		EPA 8082A PCBS IN WATER		10/20/2017	
		EPA 3510 AQPREP SEP FUNNEL: PCB	10/10/2017	27528	
		EPA 8270D SEMIVOLATILE ORGANICS, Aqueous		10/10/2017	
		EPA 3510 AQPREP SEP FUNNEL: BNA	10/9/2017	27516	
		PAH BY EPA 8270D SIM		107/6/01	
			10/9/2017	27516	
	rounds - diffe des - de delle server man a nick mellin sa	TPH, EPA 1664A		10/24/2017	
				R60113	
		SM 4500G Chlorine, Total Residual (modified)		10/5/2017	
			; ;	R60122	
		Standard Methods - Total Suspended Solids		10/10/2017	
				R60034	
		EPA 7196 HEXAVALENT CHROMIUM		10/5/2017	
				R60120	
		EPA 7196 HEXAVALENT CHROMIUM		10/5/2017	
				R60120	
		Standard Methods - Cyanide, Total		10/18/2017	
4.00				R60123	
		EPA 200.7 ICP METALS, TOTAL		10/18/2017	
		200 Series Prep: ICP/GFAA	10/16/2017	27525	

10/16/2017 27525

EPA 200.7 ICP METALS, TOTAL

1710012-01G

1710012-01H

1710012-01F

10/16/2017

02-Nov-17

DATES REPORT

AMRO Environmental Laboratories Corp.

GEI Consultants, Inc. 1710012 Lab Order: Client:

Project:	1700396 MPA Berth 10 Final Desi	Jesi				5	
Sample ID	Client Sample ID	Collection Date	Matrix	Analytical Test Name		Analysis Date	
				Preparatory Test Name	Prep Date	Batch ID	TCLP Date
1710012-01H	1700396-WE-10	10/4/2017 11:30:00 AM	Groundwater	EPA 200.9 ARSENIC, Total		10/20/2017	
				200 Series Prep: ICP/GFAA	10/16/2017	27525	
				EPA 200.9 LEAD, Total		10/19/2017	
	And the second s				10/16/2017	27525	
				EPA 200.9 LEAD, Total		10/17/2017	
					10/16/2017	27525	
				EPA 200.9 SELENTUM, Total		10/19/2017	
	The second secon				10/16/2017	27525	
4 (EPA 200.9 ANTIMONY, Total		10/18/2017	
of 8		والمناسقة والمناسقة والمناسقة والمناسقة والمناسقة والمناسقة والمناسقة والمناسقة والمناسقة والمناسقة والمناسقة			10/16/2017	27525	
30				EPA 245.1 MERCURY, Total		10/6/2017	
				MERCURY PREP: EPA 245.1/7040	10/6/2017	27512	
1710012-011				Standard Methods - Ammonia as Nitrogen		10/25/2017	And the second s
				and the second s		R60102	
1710012-02A	1700396-GEI-212	10/4/2017 12:30:00 PM		EPA 8260C VOLATILES by GCMS		10/9/2017	
		The state of the s		EPA 5030B	10/4/2017	R60041	
1710012-02B				EPA 8082A PCBS IN WATER		10/24/2017	
;				EPA 3510 AQPREP SEP FUNNEL: PCB	10/10/2017	27528	
				EPA 8270D SEMIVOLATILE ORGANICS, Aqueous		10/10/2017	
, c				EPA 3510 AQPREP SEP FUNNEL: BNA	10/9/2017	27516	
				PAH BY EPA 8270D SIM		10/9/2017	
			1		10/9/2017	27516	
1710012-02C				TPH, EPA 1664A		10/24/2017	
	CONTRACTOR AND AND AND AND AND AND AND AND AND AND					R60113	

DATES REPORT

AMRO Environmental Laboratories Corp.

1710012 Lab Order:

GEI Consultants, Inc.

Client:

1700396 MPA Berth 10 Final Desi Project: Sample 1D

Sample ID	Client Sample ID	Collection Date	Matrix	Analytical Test Name		Analysis Date	
				Preparatory Test Name	Prep Date	Batch ID	TCLP Date
1710012-02D	1700396-GEI-212	10/4/2017 12:30:00 PM	Groundwater	SM 4500G Chlorine, Total Residual (modified)		10/5/2017	
	e entre en entre e					K60122	
				Standard Methods - Total Suspended Solids		10/10/2017	
						R60034	
1710012-02E				EPA 7196 HEXAVALENT CHROMIUM		10/5/2017	
						R60120	
				EPA 7196 HEXAVALENT CHROMIUM		10/5/2017	
The second secon	mala file	and it was to make the second of the second				R60120	
17100JZ-02F				EPA 7196 HEXAVALENT CHROMIUM		10/2/2017	1
of 8						R60120	
1710002-02G				Standard Methods - Cyanide, Total		10/18/2017	
						R60123	
1710012-02H				EPA 200.7 ICP METALS, TOTAL		10/18/2017	
t y annu finan ey				200 Series Prep: ICP/GFAA	10/16/2017	27525	
				EPA 200.7 ICP METALS, TOTAL		10/16/2017	
					10/16/2017	27525	
				EPA 200.9 ARSENIC, Total		1020/2017	
		,			10/16/2017	27525	
				EPA 200.9 LEAD, Total		10/17/2017	
					10/16/2017	27525	
				EPA 200.9 SELENTUM, Total		10/19/2017	
					10/16/2017	27525	
				EPA 200.9 ANTIMONY, Total		10/18/2017	
					10/16/2017	27525	

02-Nov-17

DATES REPORT GEI Consultants, Inc. 1710012 Lab Order: Client:

1700396 MPA Berth 10 Final Desi

Project:

Sample ID	Chent Sample ID	Collection Date	Matrix	Analytical Test Name		Analysis Date	
				Preparatory Test Name	Prep Date	Batch ID	TCLP Date
1710012-02Н	1700396-GEI-212	10/4/2017 12:30:00 PM	Groundwater	EPA 245.1 MERCURY, Total MERCURY PREP: EPA 245.1/7040	10/6/2017	10/6/2017	
1710012-021				Standard Methods - Ammonia as Nitrogen		10/25/2017 R60102	
1710012-03A	1700396-GEI-302(MW)	10/4/2017 2:30:00 PM		EPA 8260C VOLATILES by GC/MS EPA 5030B	10/4/2017	10/9/2017 R60041	
1710012-03B				EPA 8082A PCBS IN WATER EPA 3510 AQPREP SEP FUNNEL: PCB	10/10/2017	10/24/2017	
6 of 8				EPA 8270D SEMIVOLATILE ORGANICS, Aqueous EPA 3510 AQPREP SEP FUNNEL: BNA	10/9/2017	10/10/2017	
30		30		PAH BY EPA 8270D SIM	10/9/2017	10/9/2017 27516	
1710012-03C				TPH, EPA 1664A		10/24/2017 R60113	• L
1710012-03D				SM 4500G Chlorine, Total Residual (modified)		10/5/2017 R60122	
				Standard Methods - Total Suspended Solids		10/10/2017 R60034	
1710012-03E				EPA 7196 HEXAVALENT CHROMIUM		10/5/2017 R60120	
1710012-03F				EPA 7196 HEXAVALENT CHROMIUM	f ;	10/5/2017 R60120	
1710012-03G				Standard Methods - Cyanide, Total		10/18/2017 R60123	

Lab Order:	1710012						
Client:	GEl Consultants, Inc.				DATES REPORT	RT	
Project:	1700396 MPA Berth 10 Final Desi)esi					
Sample ID	Client Sample ID	Collection Date	Matrix	Analytical Test Name		Analysis Date	
				Preparatory Test Name	Prep Date	Batch ID	TCLP Date
1710012-03H	1700396-GEI-302(MW)	10/4/2017 2:30:00 PM	Groundwater	EPA 200.7 ICP METALS, TOTAL		10/18/2017	
				200 Series Prep: ICP/GFAA	10/16/2017	27525	
				EPA 200.9 ARSENIC, Total		10/20/2017	
					10/16/2017	27525	
				EPA 200.9 LEAD, Total		10/17/2017	
					10/16/2017	27525	
				EPA 200.9 SELENIUM, Total		10/19/2017	
					10/16/2017	27525	
7 (EPA 200.9 ANTIMONY, Total		10/18/2017	
of 8		Transfer of the second			10/16/2017	27525	
30				EPA 245.1 MERCURY, Total		10/6/2017	<u> </u>
	And the second s			MERCURY PREP: EPA 245.1/7040	10/6/2017	27512	
1710012-031				Standard Methods - Ammonia as Nitrogen	F	10/25/2017	
	3					R60102	

Chain-of-(Chain-of-Custody Record	٦			Laboratory:	~-1	AMRO	٥			(Lab use only)	# 000	17100171	010		-	8	
			- C				Project Information	ormation										_
		Project Nam	Project Name: MPA Berth 10 Final Design	h 10 Final D	esign			Project La	Project Location: Boston, MA	oston, M	¥						Page_1_ of_1_	
GE		Project Number:	nber: 1700396	90				Project M	Project Manager: Mike Sabulis	ike Sabu	s <u>i</u>							
900 1	Don't Drive			C 1974	 					ď	Preservative						TWI Bit	
Wobus 7: Hd	•	Send Report to:					•	를 다	None	None H2SO4	O4 None	None	None		HNO3	NaOH HNO3 H2SO4	Sample Handling	丁
FX: 7		Send EDD t	Send EDD to: labdata@geiconsultants.com	eiconsultant	s.com			2530			IV.						Samples Field Filtered	70
MCP PRESUMP	MCP PRESUMPTIVE CERTAINTY REQUIRED	JIRED -	YES NO	Ш	N. S. S. S. S. S. S. S. S. S. S. S. S. S.			_		••		e					YES NO NA	
If Yes, Are MCP.	If Yes, Are MCP Analytical Methods Required?	ired?		YES	S	¥			(၁୯			loride	СРГ				Sampled Shipped	
If Yes, Are Drinki	If Yes, Are Drinking Water Samples Submitted?	vitted?		YES	2	¥			NIS	(AS8	(1						5	
If Yes, Have You	If Yes, Have You Met Minimum Field QC Requirements?	Requirement	ls?	YES	Q	¥			pà e	08)	199					sin	YES NO	T
Lab Sample	GEI Semole 10		Collection	Time	Matrix	No. of Bottles	Sampler(s)	VOCs TBA TBA	SHA9	PCBS	r)HqT	r ,881	D.xeH) tetoT	/ IstoT	оштА	Sample Specific Remarks	
	1700396-WE-10		10/4/2017	11:30	ΑS	4	LT	×	×	×	×	×	×	×	×	×	Do not net dissolved metals until authorized by GEI, but do	., A
	1700396-GEI-212	2	10/4/2017	12:30	₩S	4	MEG	×	┝	H		×	×	×	×	×	nun hex. Chrome	
	1700396-GEI-302(MW)	MW)	10/4/2017	14:30	GW	14	LT	×	×	×	×	×	×	×	×	×		1
												_	_					Т
									\dagger	+	+	+	4	_				Т
										+	-	-						Т
8										H		Н						П
of										\dashv		\dashv						T
80									+	+	+	+	_					T
MCP Level Neede	MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be in	st stringent	Method 1 MC	P standard t	be met for	net for all analytes	ZI			Turnaro	Turnaround Time		31	Before	submit	ting rust	Before submitting rush tumaround samples,	Τ
And I	gondure)	10/4/P	14th 1600	Received by: (signal 1 GG/ F)	Fr) de				Normal 10-Day	la y	Other 7-Day			the TA	Tcanb	the TAT can be achieved	ed.	
Refinquished by: (Agn	(auni)	Date:	Time (13 D.J.P.S.	Received by: (3	r (signature)	1			5-Day	×	3-Day Additional Requirements/Comments/Remarks	Requi	rements		ents/Re	marks:		
Relinquising M. (Signatur	1000	45/01	TA CONT	H //				(1) Metals:	(1) Metals: Anlimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium,silver, zinc, iom.	rsenic, cad	Imlum, chro	ndum, cop	per, tead, n	ercury, nic	kel, selen	lum,sliver,	zinc, lom.	
Refindushed by (sign)	lure)	Date	Time:	Received by:	Constitute	I	1	(2) Dissolv	(2) Dissolved Hex chrome field filtered	me field filt	pare							
\$ 12/2/C	averan/	2/0/12)	7	\prod		(3) Plea	e use EPA R	emediation	General Pe	mit (RGP)	methods an	nd detectio t	in Himitis s	pecified in	(3) Pieae use EPA Remediation General Permit (RGP) methods and detection limits specified in attached Appendix VII of RGP Parmit	Δ.
											l				١	l		1

AMRO Environmental Laboratories Corporation

SAMPLE RECEIPT CHECKLIST

111 Herrick Street Merrimack, NH 03054 (503) 424 2022

lou	41.60.0			(603) 424-2022
Client: JE - Project Name: 1700 596 MPH Bath 10 Hual Bengu	AMRO	ID:		10012
Ship vice (girds one) End En. LIDS AGEO Couries				0/5/17
Ship via: (circle one) Fed Ex., UPS AMRO Courier, Hand Del., Other Courier, Other:	Date Du	ie;		1/12/17
Tante Del., Onici Couriei, Onici.				
Items to be Checked Upon Receipt	Yes	No	NA	Comments
1. Army Samples received in individual plastic bags?	103	1 110	1 7	Comments
2. Custody Seals present?			V	
3. Custody Seals Intact?			1	
4. Air Bill included in folder if received?		 	1	
5. Is COC included with samples?		 	 	
5. Is COC thousand and detail by altered		-	 	
6. Is COC signed and dated by client? 7. Laboratory receipt temperature. Samples rec. with Ice Vice packs pointer.	<u> </u>	 	 	
Security receipt temperature.	ļ			
Bamples ree. With ree_s ree packs heritier		1	 	
8. Were samples received the same day they were sampled?	-/-	V	-	
Is client temperature = or <6°C?	<u> </u>		ļ	
If no obtain authorization from the client for the analyses.			-	
Client authorization from: Date: Obtained by:				
9. Is the COC filled out correctly and completely?	V_			
10. Does the info on the COC match the samples?	<u></u>		ļ	<u> </u>
11. Were samples rec. within holding time?	LV_		ļ	
12. Were all samples properly labeled?	<u> </u>			<u></u>
13. Were all samples properly preserved?	<u> </u>			
14. Were proper sample containers used?	V	<u> </u>		
15. Were all samples received intact? (none broken or leaking)	<u></u>		<u> </u>	
16. Were VOA vials rec. with no air bubbles?	V.			
17. Were the sample volumes sufficient for requested analysis?	V			
18. Were all samples received?	V		200	
19. VPH and VOA Soils only:			V	
Sampling Method VPH (circle one): M=Methanol, E=EnCore (alr-tight container)				•
Sampling Method VOA (circle one): M=Methanol, SB=Sodium Bisulfate, E=EnCore	, B=Bulk,	D= DI w	ater	
If M , SB, DI:				
Does preservative cover the soil?				
Does preservation level come close to the fill line on the vial?				
Date/Time D1 Preserved vials Frozen on:				
Frozen by Client?				
Were vials provided by AMRO?				
If NO then weights MUST be obtained	from clie	nt		
Was dry weight aliquot provided?				
If NO then notified client and inform th	e VOA la	b ASAP.	<u> </u>	
20. Subcontracted Samples:	V			
•	010,020	030		<u> </u>
Where sent:	Vietuse.			
Date:	10/6/17			
Analysis:	Culori	7.		
TAT:	Fam			
21. Information entered into:	, ,,,	2		
	_/			
Internal Tracking Log?	<u> </u>		-	
Dry Weight Log?			-	
Client Log?			V	
Composite Log?	 		V	
Filtration Log?			V /	101.2
Received By: 45 Date: 10/6/17 Logged in By: 45			Date: 10	
Labeled By: \$/5 Date: 10/5/13 Checked By: 5 N			Date:/6	16/17

AMRO Environmentai Laboratories Corporation

111 Herrick Street Merrimack, NH 03054 (603) 424-2022

Please Circle if:
Sample= Soil
Security Wests

AMRO ID: 1713012

Sample 1D
Sample 1D
Sample 1D Analysis Sample Listed pH* Y or N AMRO of Preserv. Added pH 01h-03h V0C 2×90h HCC 01b-03b 5VVC, HAH 2×11 - ~7 01b-03b ACB 2×11 - ~7 01C-03C TPH(166) 2×11 H2N 01D-03D 799, TRC 1H 1×50 - 7 01E=03E Hac Cha 1×50 - ~7 01E=03E Hac Cha 1×50 - ~7 01G-03G Tat. CN 1×20e NaoH, ks 712 01H-03H Tat Metas 1×00 HN03 22 y
01H-03H VOC 2×904 HCL 01B-03B SWC, PAN 2×12 - ~7 01B-03B ACB 2×12 - ~7 01C-03C TPH (166V) 2×12 H220 01D-03D 739, TRC, CH 1×50 - ~7 01E=03E Hea Ch 1×50 - ~7 01F=03F Diss Hea Con 1×50 - ~2 01G-03G Tat. CN 1×250 NaOH, Kst 712 01H=03H Tat. Metab 1×500 HNO3 <2-y
01B-03B SWC, PAN 2×117 y 01B-03B ACB 2×117 y 01C-03C TPH (1664) 2×11 H2×07 y 01D-03D T95, TRC, TH 1×50 - 7 y 01E-03E H00 Ch 1×50 - ~7 y 9:F-03F Diss H0x Chronson - ~2 y 01G-03G Tot. CN 1×250 NaOH, KS 712 y 01H-03H Tot. Metab 1×500 HNO3 <2-2 y
01B-03B RCB 2X/L7 y 01C-03C TPH(1664)2X/L H220 01D-03D T95,TRC th 1X50 - 7 y 01E-03E HOR Ch 1×50 - ~7 y 0:E-03E Siss Hex Com 1x50 - ~2 y 01G-03G Tot. CH 1x230 NaOH, 1x5 712 y 01H-03H Tot. Metab 1x500 HNO3 22 y
01C-03C TPH(166V)2K/L 1250 01D-03D T99, TRC \$\frac{1}{2} \cdot \text{1x50} - 7 \text{7} \tex
01C-03C TPH(166V)2K/L 1250 01D-03D T99, TRC \$\frac{1}{2} \cdot \text{1x50} - 7 \text{7} \tex
010-030 795, TRC 18 1×500 - 7 3 015-03E Hea Ch 1×500 - ~7 3 0:F-03E Diss Hex lang 14, 500 - ~2 4 019-03G Tot. CN 1×250 NaOH, KS 712 4 01H-03H Tot. Medias 1×500 HNO3 22 3
016-02E Max Chu 1×506 - ~7 2 9:F-02F Diss Hex Chro 1x 510 - ~2 4 019-03G Tot. CN 1x250 NaOH, 18 712 4 01H-03H Tot. Medob 1×500 HNO3 22 4
9 F - 03F DISS HER CLAD 12510 - ~ 2 4 019-039 Tot. CH 1250 NaOH, 18 712 4 01 H-03H Tot. Medob 1x500 HNO3 22 4
019-039 Tot. CN 16250 NaOH, 18 712 4 01 H= 03 H Tot. Metas 1x500 HNO3 22 4
List
Preserv. Volume Final
Volume Preserv. Initial Acceptable? Added by Solution 1D # Preservative adjusted TRC Vor N AMRO of Preserv. Added TRC
Sample ID Analysis Sample Listed TRC Yor N AMRO of Preserv. Added TRC
<u></u>
* = If the laboratory preserves the drinking water sample (s) for EPA Method 200 series, sample (s) should be held at least
* = if the laboratory preserves the drinking water sample (s) for EPA Method 200 series, sample (s) should be held at least 16 hours prior to analysis or 24 hours for water sample (s).
14 hours wiles to analysis on 24 hours for water sample (S).
16 hours prior to analysis or 24 hours for water sample (s).
14 hours wiles to analysis on 24 hours for water sample (S).

Date: 02-Nov-17

CLIENT:

GEl Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1710012

CASE NARRATIVE

GC/MS VOLATILES- 8260C:

- 1. A Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were performed on 10/09/17 on V-3 (Batch ID: R60041). All %Rs and RPDs were within the laboratory control limits with the following exception(s):
- 1.1 The RPD for 2 analytes out of 67 analytes were outside the control limits.
- 2. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

GC/MS SEMIVOLATILES- 8270D:

- 1. A Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were performed on 10/10/17 on SV-4 (Batch ID: 27516). All %Rs and RPDs were within the laboratory control limits with the following exception(s):
- 1.1 The %R for 1 analyte out of 67 analytes in the LCS were outside the control limits.
- 1.2 The %R for 1 analyte and 1 surrogate out of 67 analytes in the LCSD were outside the control limits.
- 2. No analytical or quality issues were noted, other than those described above or in the Data Comment page.

GC/MS SEMIVOLATILES- 8270D-PAHSIM:

1. No analytical or quality issues were noted, other than those described in the Data Comment page.

GC/ECD-PCBs-8082A:

1. No analytical or quality issues were noted, other than those described in the Data Comment page.

METALS:

- 1. The Matrix Spike recovery for Iron was slightly low but the Matrix Spike Duplicate was within labortory limits.
- 2. No other QC deviations were noted.

WET CHEMISTRY:

CLIENT:

GE1 Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1710012

CASE NARRATIVE

1. The Matrix Spike recovery for Hexavalent Chromium was low. It was recolored and reanalyzed with the same result.

- 2. The Matrix Spike recovery for Total Residual Chlorine was slightly low. Also the samples for this test were received past the 15-minute holding time.
- 3. No other QC deviations were noted.

DATA COMMENT PAGE

Organic Data Qualifiers

- ND Indicates compound was analyzed for, but not detected at or above the reporting limit.
- Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than the method detection limit.
- H Method prescribed holding time exceeded.
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- B This flag is used when the analyte is found in the associated blank as well as in the sample.
- R RPD outside accepted recovery limits
- RL Reporting limit; defined as the lowest concentration the laboratory can accurately quantitate.
- S Spike Recovery outside accepted recovery limits.
- # See Case Narrative
- Q RPD between signal 1 and signal 2 >40%.

Micro Data Qualifiers

TNTC Too numerous to count

Inorganic Data Qualifiers

- ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.
- J Indicates a value greater than or equal to the method detection limit, but less than the quantitation limit.
- H Indicates analytical holding time exceedance.
- B Indicates that the analyte is found in the associated blank, as well as in the sample.
- MSA Indicates value determined by the Method of Standard Addition
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- R RPD outside accepted recovery limits
- RL Reporting limit; defined as the lowest concentration the laboratory can accurately quantitate.
- S Spike Recovery outside accepted recovery limits.
- PS The analyte was below the Reporting Limit but has significant matrix interference as noted by the poor recovery of the Post Digestion Spike.
- # See Case Narrative
- MCL Exceeded

Report Comments:

- 1. Soil, sediment and sludge sample results are reported on a "dry weight" basis.
- 2. Reporting limits are adjusted for sample size used, dilutions and moisture content, if applicable.

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Lab Order: 1710012

1700396 MPA Berth 10 Final Design

Project: Lab ID:

1710012-01A

Client Sample ID: 1700396-WE-10

Collection Date: 10/4/2017 11:30:00 AM

Matrix: GROUNDWATER

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA 8260C VOLATILES BY GC/MS	sv	V8260C			Analyst: JK
1,4-Dioxane	ND	50	μg/L	1	10/9/2017 5:49:00 PM
Dichlorodifluoromethane	ND	5.0	μg/L	1	10/9/2017 5:49:00 PM
Chloromethane	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Vinyl chloride	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Chloroethane	ND	5.0	μg/L	1	10/9/2017 5:49:00 PM
Bromomethane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Trichlorofluoromethane	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Diethyl ether	ND	5.0	µg/L	1	10/9/2017 5:49:00 PM
Acetone	ND	10	µg/L	1	10/9/2017 5:49:00 PM
1,1-Dichloroethene	ND	1.0	µg/L	1	10/9/2017 5:49:00 PM
Carbon disulfide	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Methylene chloride	ND	5.0	µg/L	1	10/9/2017 5:49:00 PM
Methyl tert-butyl ether	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
trans-1,2-Dichloroethene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,1-Dichloroethane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Tertiary Butanol	ND	20	μg/L	1	10/9/2017 5:49:00 PM
2-Butanone	ND	10	μg/L	1	10/9/2017 5:49:00 PM
Diisopropyl ether	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
cis-1,2-Dichloroethene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Ethyl Tertiary Butyl Ether	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Chloroform	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Tetrahydrofuran	ND	10	µg/L	1	10/9/2017 5:49:00 PM
Bromochloromethane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,1,1-Trichloroethane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,1-Dichloropropene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Carbon tetrachloride	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,2-Dichloroethane	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Benzene	ND	1.0	μg/L	1	10/9/2017 5:49:00 PM
Trichloroethene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
1,2-Dichloropropane	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Bromodichloromethane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Dibromomethane	ND	2.0	μg/L.	1	10/9/2017 5:49:00 PM
Tertiary Amyl Methyl Ether	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	10/9/2017 5:49:00 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	10/9/2017 5:49:00 PM
Toluene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	10/9/2017 5:49:00 PM
1,1,2-Trichloroethane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Lab Order:

1710012

Client Sample ID: 1700396-WE-10

Collection Date: 10/4/2017 11:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-01A

Analyses	Result	RL	Qual Units	DF	Date Analyzed
1,2-Dibromoethane	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
2-Hexanone	ND	10	μg/L	1	10/9/2017 5:49:00 PN
1,3-Dichloropropane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Tetrachloroethene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Dibromochloromethane	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Chlorobenzene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Ethylbenzene	ND	2.0	μg/l.	1	10/9/2017 5:49:00 PM
m,p-Xylene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
o-Xylene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Styrene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Bromoform	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Isopropylbenzene	4.0	2.0	µg/L	1	10/9/2017 5:49:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,2,3-Trichloropropane	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
Bromobenzene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
n-Propylbenzene	5.8	2.0	μg/L	1	10/9/2017 5:49:00 PM
2-Chlorotoluene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
4-Chlorotoluene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
1,3,5-Trimethylbenzene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PN
tert-Butylbenzene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,2,4-Trimethylbenzene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
sec-Butylbenzene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
4-Isopropyltoluene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,3-Dichlorobenzene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,4-Dichlorobenzene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
n-Butylbenzene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
1,2-Dibromo-3-chloropropane	ND	5.0	µg/L	1	10/9/2017 5:49:00 PM
1,2,4-Trichlorobenzene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Hexachlorobutadiene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Naphthalene	ND	5.0	µg/L	1	10/9/2017 5:49:00 PM
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1	10/9/2017 5:49:00 PM
1,3,5-Trichiorobenzene	ND	2.0	μg/L	1	10/9/2017 5:49:00 PM
Surr: Dibromofluoromethane	92.4	74-138	%REC	1	10/9/2017 5:49:00 PM
Surr: 1,2-Dichloroethane-d4	103	64-138	%REC	1	10/9/2017 5:49:00 PM
Surr: Toluene-d8	99.6	77-128	%REC	1	10/9/2017 5:49:00 PM
Surr: 4-Bromofluorobenzene	92.6	81-113	%REC	1	10/9/2017 5:49:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Lab Order:

1710012

Client Sample ID: 1700396-GEI-212

Collection Date: 10/4/2017 12:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-02A

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 8260C VOLATILES BY GC/MS	sv	V8260C	-			Analyst: JK
1,4-Dioxane	ND	50		µg/L	1	10/9/2017 6:27:00 PN
Dichlorodifluoromethane	ND	5.0		µg/L	1	10/9/2017 6:27:00 PM
Chloromethane	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
Vinyl chloride	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
Chloroethane	ND	5.0		µg/L	1	10/9/2017 6:27:00 PM
Bromomethane	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
Trichlorofluoromethane	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
Diethyl ether	ND	5.0		µg/L	1	10/9/2017 6:27:00 PN
Acetone	ND	10		µg/L	1	10/9/2017 6:27:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/9/2017 6:27:00 PM
Carbon disulfide	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
Methylene chloride	ND	5.0		µg/L	1	10/9/2017 6:27:00 PN
Methyl tert-butyl ether	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
trans-1,2-Dichloroethene	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
1,1-Dichloroethane	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
Tertiary Butanol	ND	20		µg/L	1	10/9/2017 6:27:00 PM
2-Butanone	ND	10		μg/L	1	10/9/2017 6:27:00 PM
Dilsopropyl ether	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
2,2-Dichloropropane	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
cis-1,2-Dichloroethene	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
Ethyl Tertiary Butyl Ether	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
Chloraform	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
Tetrahydrofuran	ND	10		μg/L	1	10/9/2017 6:27:00 PM
Bromochloromethane	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
1,1-Dichloropropene	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
Carbon tetrachloride	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
1,2-Dichloroethane	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
Benzene	ND	1.0		μg/L	1	10/9/2017 6:27:00 PM
Trichloroethene	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
1,2-Dichloropropane	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
Bromodichloromethane	ND	2.0		μg/L	1	10/9/2017 6:27:00 PM
Dibromomethane	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
Tertiary Amyl Methyl Ether	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/9/2017 6:27:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/9/2017 6:27:00 PM
Toluene	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/9/2017 6:27:00 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	1	10/9/2017 6:27:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Lab Order:

1710012

Client Sample ID: 1700396-GEI-212

Order: 171001

Collection Date: 10/4/2017 12:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-02A

Analyses	Result	RL	Qual 1	Units	DF	Date Analyzed
1,2-Dibromoethane	ND	2.0	ī	µg/L	1	10/9/2017 6:27:00 PM
2-Hexanone	ND	10	-	µg/L	1	10/9/2017 6:27:00 PM
1,3-Dichloropropane	ND	2.0	i	μg/L	1	10/9/2017 6:27:00 PM
Tetrachloroethene	ND	2.0	i	μ g/L	1	10/9/2017 6:27:00 PM
Dibromochloromethane	ND	2.0		ug/L	1	10/9/2017 6:27:00 PM
Chlorobenzene	ND	2.0	1	ug/L	1	10/9/2017 6:27:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0		ug/L	1	10/9/2017 6:27:00 PM
Ethylbenzene	ND	2.0	ŀ	µ g/L	1	10/9/2017 6:27:00 PM
m,p-Xylene	ND	2.0		ug/L	1	10/9/2017 6:27:00 PM
o-Xylene	ND	2.0	ŀ	ıg/L	1	10/9/2017 6:27:00 PM
Styrene	ND	2.0	4	ug/L	1	10/9/2017 6:27:00 PM
Bromoform	ND	2.0		.g/L	1	10/9/2017 6:27:00 PM
Isopropylbenzene	ND	2.0	ŀ	ıg/L	1	10/9/2017 6:27:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0		ıg/L	1	10/9/2017 6:27:00 PM
1,2,3-Trichloropropane	ND	2.0	ŀ	ıg/L	1	10/9/2017 6:27:00 PM
Bromobenzene	ND	2.0	4	ıg/L	1	10/9/2017 6:27:00 PM
n-Propylbenzene	ND	2.0	ŀ	ıg/L	1	10/9/2017 6:27:00 PM
2-Chlorotoluene	ND	2.0	ŀ	ıg/L	1	10/9/2017 6:27:00 PM
4-Chlorotoluene	ND	2.0	ŀ	ıg/L	1	10/9/2017 6:27:00 PM
1,3,5-Trimethylbenzene	ND	2.0		ig/L	1	10/9/2017 6:27:00 PM
tert-Butylbenzene	ND	2.0	ŀ	ıg/L	1	10/9/2017 6:27:00 PM
1,2,4-Trimethylbenzene	ND	2.0	ŀ	ıg/L	1	10/9/2017 6:27:00 PM
sec-Butylbenzene	ND	2.0	μ	ıg/L	1	10/9/2017 6:27:00 PM
4-Isopropyltoluene	ND	2.0	μ	ıg/L	1	10/9/2017 6:27:00 PM
1,3-Dichlorobenzene	ND	2.0	μ	ıg/L	1	10/9/2017 6:27:00 PM
1,4-Dichlorobenzene	ND	2.0	μ	ıg/L	1	10/9/2017 6:27:00 PM
n-Butylbenzene	ND	2.0	μ	ıg/L	1	10/9/2017 6:27:00 PM
1,2-Dichlorobenzene	ND	2.0	μ	ıg/L	1	10/9/2017 6:27:00 PM
1,2-Dibromo-3-chloropropane	ND	5.0		ıg/L	1	10/9/2017 6:27:00 PM
1,2,4-Trichlorobenzene	ND	2.0	μ	ig/L	1	10/9/2017 6:27:00 PM
Hexachlorobutadiene	ND	2.0	μ	ıg/L	1	10/9/2017 6:27:00 PM
Naphthalene	ND	5.0	μ	ıg/L	1	10/9/2017 6:27:00 PM
1,2,3-Trichlorobenzene	ND	2.0	μ	ig/L	1	10/9/2017 6:27:00 PM
1,3,5-Trichlorobenzene	ND	2.0	μ	ig/L	1	10/9/2017 6:27:00 PM
Surr: Dibromofluoromethane	93.8	74-138		6REC	1	10/9/2017 6:27:00 PM
Surr: 1,2-Dichloroethane-d4	94.4	64-138	9	6REC	1	10/9/2017 6:27:00 PM
Surr: Toluene-d8	99.1	77-128	9/	6REC	1	10/9/2017 6:27:00 PM
Surr: 4-Bromofluorobenzene	94.5	81-113	9/	6REC	1	10/9/2017 6:27:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Lab Order:

1710012

Cllent Sample ID: 1700396-GE1-302(MW)
Collection Date: 10/4/2017 2:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-03A

Analyses	Result	RL	Qual Units	DF	Date Analyzed
EPA 8260C VOLATILES BY GC/MS	sv	V8260C			Analyst: JK
1,4-Dioxane	ND	50	µg/L	1	10/9/2017 7:04:00 PN
Dichlorodifluoromethane	ND	5.0	μg/L	1	10/9/2017 7:04:00 PM
Chloromethane	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Vinyl chloride	ND	2.0	µg/L	1	10/9/2017 7:04:00 PN
Chloroethane	ND	5.0	µg/L	1	10/9/2017 7:04:00 PM
Bromomethane	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Trichlorofluoromethane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Diethyl ether	ND	5.0	µg/L	1	10/9/2017 7:04:00 PM
Acetone	ND	10	μg/L	1	10/9/2017 7:04:00 PN
1,1-Dichloroethene	ND	1.0	µg/L	1	10/9/2017 7:04:00 PM
Carbon disulfide	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Methylene chloride	ND	5.0	µg/L	1	10/9/2017 7:04:00 PM
Methyl tert-butyl ether	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
trans-1,2-Dichloroethene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PN
1,1-Dichloroethane	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Tertiary Butanol	ND	20	μg/L	1	10/9/2017 7:04:00 PM
2-Butanone	ND	10	µg/L	1	10/9/2017 7:04:00 PM
Diisopropyl ether	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
2,2-Dichloropropane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
cls-1,2-Dichloroethene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Ethyl Tertlary Butyl Ether	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Chloroform	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Tetrahydrofuran	ND	10	μg/L	1	10/9/2017 7:04:00 PM
Bromochloromethane	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,1,1-Trichloroethane	ND §	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,1-Dichloropropene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Carbon tetrachloride	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
1,2-Dichloroethane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Benzene	ND	1.0	μg/L	1	10/9/2017 7:04:00 PM
Trichloroethene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,2-Dichloropropane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Bromodichloromethane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Dibromomethane	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Tertiary Amyl Methyl Ether	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
4-Methyl-2-pentanone	ND	10	µg/L	1	10/9/2017 7:04:00 PM
cls-1,3-Dichloropropene	ND	1.0	µg/L	1	10/9/2017 7:04:00 PM
Toluene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	10/9/2017 7:04:00 PM
1,1,2-Trichloroethane	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Lab Order:

1710012

Client Sample ID: 1700396-GE1-302(MW)

Collection Date: 10/4/2017 2:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-03A

Analyses	Result	RL	Qual Units	DF	Date Analyzed
1,2-Dibromoethane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PN
2-Hexanone	ND	10	μg/L	1	10/9/2017 7:04:00 PM
1,3-Dichloropropane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Tetrachioroethene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Dibromochloromethane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Chlorobenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,1,1,2-Tetrachloroethane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Ethylbenzene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
m,p-Xylene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
o-Xylene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
Styrene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Bromoform	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Isopropylbenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,2,3-Trichloropropane	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Bromobenzene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
n-Propylbenzene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
2-Chlorotoluene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
4-Chlorotoluene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
1,3,5-Trimethylbenzene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PN
tert-Butylbenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,2,4-Trimethylbenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
sec-Butylbenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
4-Isopropyltoluene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,3-Dichlorobenzene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
1,4-Dichlorobenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
n-Butylbenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	10/9/2017 7:04:00 PM
1,2,4-Trichlorobenzene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Hexachlorobutadiene	ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Naphthalene	ND	5.0	μg/L	1	10/9/2017 7:04:00 PM
1,2,3-Trichlorobenzene	ND	2.0	μg/L	1	10/9/2017 7:04:00 PM
1,3,5-Trichlorobenzene	.∗ND	2.0	µg/L	1	10/9/2017 7:04:00 PM
Surr: Dibromofluoromethane	93.2	74-138	%REC	1	10/9/2017 7:04:00 PM
Surr: 1,2-Dichloroethane-d4	99.3	64-138	%REC	1	10/9/2017 7:04:00 PM
Surr: Toluene-d8	100	77-128	%REC	1	10/9/2017 7:04:00 PM
Surr: 4-Bromofluorobenzene	93.5	81-113	%REC	1	10/9/2017 7:04:00 PM

Date: 02-Nov-17

CLIENT:	GEI Con	GEI Consultants, Inc.								OC STIMMADY DEPOPT	MADV	DEDU	Ę
Work Order:	: 1710012									ないのの	INTERIOR		
Project:	1700396	1700396 MPA Berth 10 Final Design	sign						;		~	Method Blank	lank
Sample ID: mb-10/09/17	-10/09/17	Batch ID: R60041	Test Code	Test Code: SW8260C	Units: µg/L			Analysis [Jate: 10/9/2	Analysis Date: 10/9/2017 12:32:00 PM	Prep Date	Prep Date: 10/9/2017	
Client ID:	58		Run (D:	V-3_171009A	9			SeqNo:	1007149	ø			
		QC Sample		J	QC Spike Original Sample	I Sample				Original Sample			
Analyte	- Company	Result	귙	Units	Amount		%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
1,4-Dioxane		QN	20	µ9/L									
Dichlorodifluoromethane	methane	Q	5.0	µg/L									
Chloromethane		QV	2.0	₽9/L									
Vinyl chloride		Q	2.0	hg/L									
Chloroethane		Q	5.0	µg∕L									
Bromomethane		Q	2.0	µ9/L									
Trichlorofluommethane	nethane	Q	2.0	hg/L									
Diethyl ether		Q	5.0	µg∕L									
Acetone		Q	9	µ9/L									
1,1-Dichloroethene	ene	Q	1.0	120/L									
Carbon disulfide	ø	Q	2.0	µg∕L									
Methylene chloride	ride	Q	5.0	11g/L									
Methyl tert-butyl ether	ıl ether	Q	2.0	µg∕t									
trans-1,2-Dichloroethene	proethene	ջ	2.0	µ9∕L									
1,1-Dichloroethane	ane	Q	2.0	μg/L									
Tertiary Butanol	-	S	20	μg/L									
2-Butanone		2	우	ъбц									
Diisopropyl ether	er er	Q	2.0	µg/L									
2,2-Dichloropropane	pane	9	2.0	µg/L									
cis-1,2-Dichloroethene	ethene	QN	2.0	µg/L									
Ethyl Tertiary Butyl Ether	utyl Ether	ᄝ	2.0	µg/L									
Chloroform		Q	2.0	µg/L									
Tetrahydrofuran	-	Q	우	1/6rt									
Bromochloromethane	Sthane	8	2.0	µg/L									
1,1,1-Trichloroethane	thane	Q	2.0	µ9∕L									
Qualifiers:	ND - Not Detected	ND - Not Detected at the Reporting Limit	S	- Spike Recove	S - Spike Recovery outside accepted recovery limits	d recovery	limits	B - Analy	te detected in	B - Analyte detected in the associated Method Blank	od Blank		
•	J - Analyte detects	J - Analyte detected below quantitation limits	24	- RPD outside	R - RPD outside accepted recovery limits	limits		NA - Not	apolicable w	NA - Not applicable where J values or ND results occur	esults occur		
	RL - Reporting Li	RL - Reporting Limit; defined as the lowest concentration the faboratory can accurately quantitate.	centration the	: faboratory can	s accurately quantit	ate.							

	III, IIII.			
Work Order: 1710012				
Project: 1700396 MPA	1700396 MPA Berth 10 Final Design	sign		Method Blank
1,1-Dichloropropene	QN	2.0	µg/L	
Carbon tetrachloride	9	2.0	µg/L	
1,2-Dichloroethane	Q	2.0	µg/L	
Benzene	Q	0.1	μg/L	
Trichloroethene	Q	2.0	μg/L	
1,2-Dichloropropane	Q	2.0	µg/L	
Bromodichloromethane	Q	2.0	µg∕L	
Dibromomethane	9	2.0	μg/L	
Tertiary Amyl Methyl Ether	Q	5.0	µg/L	
4-Methyl-2-pentanone	2	10	μg/L	
cis-1,3-Dichloropropene	Q	1.0	μg/L	
Toluene	Q	2.0	µg/L	
trans-1,3-Dichloropropene	9	1.0	μg/L	
1,1,2-Trichloroethane	Q	2.0	μg/L	
1,2-Dibromoethane	Q	2.0	μg/L	
2-Hexanone	Q	10	µg/L	
1,3-Dichloropropane	ᄝ	2.0	hg/L	
Tetrachloroethene	Q	2.0	μg/L	
Dibromochloromethane	9	2.0	hg/L	
Chlorobenzene	Q	2.0	µg/L	
1,1,1,2-Tetrachloroethane	9	2.0	µg/L	
Ethylbenzene	9	2.0	hg∕L	
m,p-Xylene	Q	2.0	нg/L	
o-Xylene	9	2.0	μg/L	
Styrene	9	2.0	μg/L	
Bromoform	9	2.0	hg/L	
Isopropylbenzene	9	2.0	hg∕L	
1,1,2,2-Tetrachloroethane	9	2.0	μg/L	
1,2,3-Trichloropropane	9	2.0	hg/L	
Bromobenzene	9	2.0	μg/L	
n-Propylbenzene	Q	5.0	μg/L	
Qualifiers: ND - Not Detected at the Reporting Limit	: Reporting Limit		S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits	w quantitation limits		R - RPD outside accepted recovery limits	NA - Not annitoshle where I values or ND recults occur
				TARK TIRES TO STATE A STATE ALARMADE TO LESS

CLIENT:	GEI Consultants, Inc.	Inc.								
Work Order:	1710012									UC SUMMARY KEPOKI
Project:	1700396 MPA Berth 10 Final Design	erth 10 Final D	esign							Method Blank
2-Chlorotoluene		S	2.0	19/L						
4-Chlorotoluene		2	2.0	µg/L						
1,3,5-Trimethylbenzene	zene	2	2.0	hg/L						
tert-Butylbenzene		Q	2.0	µg/L						
1,2,4-Trimethylbenzene	zene	Q	2.0	рgЛ						
sec-Butylbenzene		Q	2.0	ng/L						
4-Isopropyltoluene		Q	2.0	µg/L						
1,3-Dichlorobenzene	ē	Q	2.0	hgv						
1,4-Dichlorobenzene	ē	9	2.0	rg/L						
n-Butylbenzene		2	2.0	рgЛ						
1,2-Dichlorobenzene	92	9	2.0	иg/L						
1,2-Dibromo-3-chloropropane	ropropane	9	5.0	pg/L						
1,2,4-Trichlorobenzene	zene	2	2.0	µ6√						
Hexachlorobutadiene	7e	9	2.0	µ9∕L						
Naphthalene		2	5.0	hg4						
1,2,3-Trichlorobenzene	zene	2	2.0	hg/L						
1,3,5-Trichlorobenzene	zene	2	2.0	hgyr						
Surr: Dibromofluoromethane	oromethane	24.97	2.0	μg/L	25	0	6.66	74	138	0
Surr: 1,2-Dichloroethane-d4	oethane-d4	24.39	2.0	μg/L	25	0	97.6	\$	138	0
Surr. Toluene-d8		25.07	2.0	hg/L	25	0	5	11	128	0
Surr: 4-Bromofluorobenzene	orobenzene	22.79	2.0	µg/L	25	0	91.2	8	113	0
				•						

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

CLIENT:

Work Order:

Project:

Laboratory Control Spike QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012

Date: 02-Nov-17

Check ID: CC Sample CC Sample CC Spine Original Sample CC Spine O	Sample ID: Ics-10/09/17	Batch ID: R60041	Test Code: SW8260C	SW8260C	Units: µg/L			Analysis D.	ate: 10/9/20	Analysis Date: 10/9/2017 10:46:00 AM	Prep Date	Prep Date: 10/9/2017	
CC Sample Result RL Units Amount Result SAFEC LowLinnt HighLinnt or MS Result SAFEC SAFEC LowLinnt HighLinnt or MS Result SAFEC SAFEC LowLinnt HighLinnt or MS Result SAFEC	lient ID:		Run ID:	V-3_171009	⋖			SeqNo:	1007147				
Security Result RL Units Amount Result SREC LowLinith HighLinith Or MIS Result SRED		QC Sample		_	C Spike Original				_	Original Sample			
90.76 50 μg/L 100 90.8 e 21.59 50 μg/L 20 108 e 14.86 2.0 μg/L 20 74.3 e 21.41 2.0 μg/L 20 101 e 20.28 5.0 μg/L 20 118 nmethane 23.53 2.0 μg/L 20 118 nmethane 22.38 5.0 μg/L 20 94.8 de 14.04 2.0 μg/L 20 94.8 noride 15.89 5.0 μg/L 20 94.8 noride 15.76 2.0 μg/L 20 94.8 noride 15.57 10 10 114	nalyte	Result	전		Amount	- 3	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
romethane 21.59 5.0 μg/L 20 108 108 108 14.86 2.0 μg/L 20 107 14.3 12.0 μg/L 20 107 107 10.2 12.41 2.0 μg/L 20 10 107 10.2 12.2 12.3 2.0 μg/L 20 10 11.3 12.3 12.3 12.0 μg/L 20 10 11.3 12.3 12.0 μg/L 20 10 11.3 12.3 12.0 μg/L 20 10 11.3 12.3 12.0 μg/L 20 10 11.3 12.3 12.0 μg/L 20 10 11.3 12.3 12.0 μg/L 20 10 11.3 12.3 12.0 μg/L 20 10 10.3 12.3 12.3 12.3 12.3 12.3 12.3 12.3 12	4-Dioxane	90.76	20	нg/L	100	0	90.8	30	172	0			
te te table 20 μg/L 20 0 74.3 21.41 2.0 μg/L 20 0 107 20.28 5.0 μg/L 20 0 107 20.28 2.0 μg/L 20 0 107 20.28 2.0 μg/L 20 0 107 34.47 10 μg/L 20 0 118 Anthere 18.97 1.0 μg/L 20 0 118 Anthere 18.97 2.0 μg/L 20 0 104 Anthere 19.57 2.0 μg/L 20 0 104 Anthere 19.57 2.0 μg/L 20 0 104 Anthere 18.31 2.0 μg/L 20 0 115 Anthere 18.31 2.0 μg/L 20 0 116 Anthere 20.87 2.0 μg/L 20 0 116 Anthere 20.87 2.0 μg/L 20 0 117 Anthere 20.87 2.0 μg/L 20 0 118 Anthere 20.87 2.0 μg/L 20 0 119 Anthere 20.88 2.0 μg/L 20 0 119 Anthere 20.88 2.0 μg/L 20 0 113 Anthere 20.88 2.0 μg/L 20 0 113 Anthere 20.88 2.0 μg/L 20 0 113 Anthere 20.88 2.0 μg/L 20 0 113 Anthere 20.88 2.0 μg/L 20 0 113 Anthere 20.88 2.0 μg/L 20 0 113 Anthere 20.88 2.0 μg/L 20 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 0 113 Anthere 20.88 2.0 μg/L 20 0 0 0 113	ichlorodifluoromethane	21.59	9.0	рgЛ	20	0	108	5	158	0			
21.41 2.0 μg/L 20 0 107 20.28 5.0 μg/L 20 0 101 20.28 5.0 μg/L 20 0 118 22.38 5.0 μg/L 20 0 118 22.38 5.0 μg/L 20 0 118 22.38 5.0 μg/L 20 0 118 22.38 5.0 μg/L 20 0 118 34.47 10 μg/L 20 0 218 de 14.04 2.0 μg/L 20 0 24.8 lorder 15.89 5.0 μg/L 20 0 270.4 lorder 20.74 2.0 μg/L 20 0 170.4 lorder 17.76 2.0 μg/L 20 0 118 an 18.31 2.0 μg/L 20 0 118 22.95 20 μg/L 20 0 118 38.57 10 μg/L 20 0 114 opple 22.88 2.0 μg/L 20 0 91.6 an 18.38 2.0 μg/L 20 0 0 114 an 18.38 2.0 μg/L 20 0 0 114 ber 22.88 2.0 μg/L 20 0 0 114 an 18.88 10 μg/L 20 0 0 119 an 18.88 10 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.87 2.0 μg/L 20 0 0 113 oethane 20.82 2.0 μg/L 20 0 0 113	hforomethane	14.86	2.0	иg/L	20	0	74.3	45	1	0			
te 20.28 5.0 μg/L 20 101 te 24.08 2.0 μg/L 20 0 120 mmethane 23.53 2.0 μg/L 20 0 118 de 22.38 5.0 μg/L 20 0 118 de 14.74 10 μg/L 20 0 94.8 de 14.04 2.0 μg/L 20 0 94.8 de 14.04 2.0 μg/L 20 0 94.8 de 14.04 2.0 μg/L 20 0 70.2 oride 15.89 5.0 μg/L 20 0 70.2 oride 15.59 2.0 μg/L 20 0 73.4 hare 17.76 2.0 μg/L 20 0 97.8 oride 229.5 20 μg/L 20 0 97.8 oride 228.8	inyl chloride	21.41	2.0	рg/L	20	0	107	45	140	0			
24.08 2.0 µg/L 20 0 120 23.53 2.0 µg/L 20 0 118 22.38 5.0 µg/L 20 0 112 34.47 10 µg/L 20 0 20 112 18.97 1.0 µg/L 20 0 20 20.8 15.89 5.0 µg/L 20 0 70.4 19.57 2.0 µg/L 20 0 10 79.4 19.57 2.0 µg/L 20 0 10 115 229.5 20 µg/L 20 0 115 38.57 10 µg/L 20 0 115 220.8 20 µg/L 20 0 115 38.57 10 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 0 119 22.59 2.0 µg/L 20 0 0 119 22.59 2.0 µg/L 20 0 0 119 22.59 2.0 µg/L 20 0 0 119 22.59 2.0 µg/L 20 0 0 119 22.59 2.0 µg/L 20 0 0 119 20.62 2.59 2.0 µg/L 20 0 0 119 20.62 2.59 2.0 µg/L 20 0 0 119 20.62 2.59 ke Recovery limits	hloroethane	20.28	5.0	иg/L	50	Q	5	49	140	0			
23.53 2.0 µg/L 20 0 118 22.38 5.0 µg/L 20 0 112 34.47 10 µg/L 20 0 112 18.97 1.0 µg/L 20 0 20 14.04 2.0 µg/L 20 0 20 15.89 5.0 µg/L 20 0 70.2 15.89 5.0 µg/L 20 0 79.4 19.57 2.0 µg/L 20 0 104 19.57 2.0 µg/L 20 0 104 19.57 10 µg/L 20 0 0 115 229.5 20 µg/L 20 0 97.8 18.31 2.0 µg/L 20 0 0 115 22.88 2.0 µg/L 20 0 0 116 22.88 2.0 µg/L 20 0 0 116 22.88 2.0 µg/L 20 0 0 116 22.88 10 µg/L 20 0 0 114 20.87 2.0 µg/L 20 0 0 114 20.87 2.0 µg/L 20 0 0 114 20.87 2.0 µg/L 20 0 0 113 20.87 2.0 µg/L 20 0 0 113 20.82 2.0 µg/L 20 0 0 113 20.82 2.0 µg/L 20 0 0 113 20.82 2.0 µg/L 20 0 0 113 20.82 2.0 µg/L 20 0 0 113 20.82 2.0 µg/L 20 0 0 113 20.82 2.0 µg/L 20 0 0 113 20.82 2.0 µg/L 20 0 0 114	romomethane	24.08	2.0	рg/L	20	0	120	Š	149	0			
22.38 5.0 µg/L 20 0 112 34.47 10 µg/L 40 0 86.2 18.97 1.0 µg/L 20 0 70.2 15.89 5.0 µg/L 20 0 770.2 20.74 2.0 µg/L 20 0 779.4 19.57 2.0 µg/L 20 0 104 19.57 2.0 µg/L 20 0 104 17.76 2.0 µg/L 20 0 115 229.5 20 µg/L 20 0 115 38.57 10 µg/L 20 0 0 115 229.8 2.0 µg/L 20 0 0 115 22.88 2.0 µg/L 20 0 0 116 22.88 2.0 µg/L 20 0 0 116 22.88 2.0 µg/L 20 0 0 114 20.87 2.0 µg/L 20 0 0 114 20.87 2.0 µg/L 20 0 0 114 20.87 2.0 µg/L 20 0 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 0 119 22.59 2.0 µg/L 20 0 0 113 20.62 2.0 µg/L 20 0 0 113 20.62 2.0 µg/L 20 0 0 113 20.62 2.0 µg/L 20 0 0 113 20.64 pg/L 20 0 0 113	ichlorofluoromethane	23.53	2.0	иg/L	20	0	118	7	154	0			
34.47 10 µg/L 40 0 86.2 18.97 1.0 µg/L 20 0 94.8 14.04 2.0 µg/L 20 0 70.2 15.89 5.0 µg/L 20 0 70.4 19.57 2.0 µg/L 20 0 104 19.57 2.0 µg/L 20 0 104 17.76 2.0 µg/L 20 0 97.8 229.5 20 µg/L 20 0 96.4 18.31 2.0 µg/L 20 0 96.4 18.31 2.0 µg/L 20 0 115 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 104 19 20.87 2.0 µg/L 20 0 104 19 20.87 2.0 µg/L 20 0 104 19 20.87 2.0 µg/L 20 0 104 19 20.87 2.0 µg/L 20 0 104 20.87 2.0 µg/L 20 0 104 20.87 2.0 µg/L 20 0 104 20.87 2.0 µg/L 20 0 104 20.87 2.0 µg/L 20 0 104 20.89 2.0 µg/L 20 0 104 20.80 2.0 µg/L 20 0 104 20.80 2.0 µg/L 20 0 104 20.80 2.0 µg/L 20 0 104 20.80 2.0 µg/L 20 0 104 20.80 2.0 µg/L 20 0 104 20.80 2.0 µg/L 20 0 0 104 20.80 2.0 µg/L 20 0 0 104	ethyl ether	22.38	5.0	рgЛ	20	0	112	65	142	0			
18.97 1.0 µg/L 20 0 94.8 14.04 2.0 µg/L 20 0 70.2 15.89 5.0 µg/L 20 0 70.2 20.74 2.0 µg/L 20 0 79.4 19.57 2.0 µg/L 20 0 114 229.5 20 µg/L 200 0 115 38.57 10 µg/L 200 0 115 38.57 10 µg/L 200 0 115 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 91.6 22.88 1.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 119 21.79 2.0 µg/L 20 0 119 22.59 2.0 µg/L 20 0 119 22.59 2.0 µg/L 20 0 119 22.59 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.83 20.84 Recovery outside accepted recovery limits	cetone	34.47	£	рgЛ	6	0	86.2	2	179	0			
14.04 2.0 µg/L 20 0 70.2 15.89 5.0 µg/L 20 0 79.4 20.74 2.0 µg/L 20 0 104 19.57 2.0 µg/L 20 0 116 229.5 2.0 µg/L 200 0 115 38.57 10 µg/L 200 0 115 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 119 18.98 10 µg/L 20 0 119 22.59 2.0 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 22.69 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113	1-Dichloroethene	18.97	1.0	рgЛ	20	0	94.8	69	152	0			
15.89 5.0 µg/L 20 0 79.4 20.74 2.0 µg/L 20 0 104 19.57 2.0 µg/L 20 0 97.8 17.76 2.0 µg/L 20 0 97.8 229.5 20 µg/L 20 0 96.4 18.31 2.0 µg/L 20 0 115 38.57 10 µg/L 20 0 115 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 91.6 22.89 2.0 µg/L 20 0 104 19 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 113 20.87 2.0 µg/L 20 0 113 20.87 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.62 2.0 µg/L 20 0 113 20.62 2.0 µg/L 20 0 113 20.62 2.0 µg/L 20 0 113 20.62 2.0 µg/L 20 0 113 20.62 2.0 µg/L 20 0 113	arbon disulfide	14.04	2.0	рgЛ	50	0	70.2	42	149	0			
20.74 2.0 µg/L 20 0 104 19.57 2.0 µg/L 20 0 97.8 17.76 2.0 µg/L 20 0 97.8 229.5 20 µg/L 200 0 115 38.57 10 µg/L 200 0 115 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 21.79 2.0 µg/L 20 0 119 18.98 10 µg/L 20 0 119 22.59 2.0 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.62 20 µg/L 20 0 113 20.64 pg/L 20 0 113 20.65 µg/L 20 0 113	ethylene chloride	15.89	5.0	μg/L	20	0	79.4	69	159	0			
19.57 2.0 µg/L 20 0 97.8 17.76 2.0 µg/L 20 0 97.8 229.5 20 µg/L 200 0 115 38.57 10 µg/L 200 0 115 22.88 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 19 2.0 µg/L 20 0 119 18.98 10 µg/L 20 0 95 21.79 2.0 µg/L 20 0 119 22.59 2.0 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 20.62 2.59 µg/L 20 0 113 20.62 2.59 µg/L 20 0 113 20.62 2.59 µg/L 20 0 113 20.62 2.64 µg/L 20 0 113	ethyl tert-butyl ether	20.74	2.0	µg/L	20	0	5	67	<u>4</u>	0			
17.76 2.0 µg/L 20 0 88.8 229.5 20 µg/L 200 0 115 38.57 10 µg/L 200 0 115 18.31 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 21.79 2.0 µg/L 20 0 109 18.98 10 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 20.62 2.0 µg/L 20 0 113 4. Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	ans-1,2-Dichloroethene	19.57	2.0	рgЛ	20	0	8.76	22	149	0			
229.5 20 µg/L 200 0 115 38.57 10 µg/L 40 0 96.4 18.31 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 104 er 19 2.0 µg/L 20 0 109 18.98 10 µg/L 20 0 109 18.98 10 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 20.62 2.0 µg/L 20 0 113 4. Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	1-Dichloroethane	17.76	2.0	μg/L	20	0	88.8	74	147	0			
38.57 10 µg/L 40 0 96.4 18.31 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 104 er 19 2.0 µg/L 20 0 109 18.98 10 µg/L 20 0 109 18.98 10 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 At Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	ertiary Butanol	229.5	20	рgЛ	200	0	115	43	162	0			
18.31 2.0 µg/L 20 0 91.6 22.88 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 104 19 2.0 µg/L 20 0 109 18.98 10 µg/L 20 0 109 22.59 2.0 µg/L 20 0 143 20.82 2.0 µg/L 20 0 143 4t Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	Butanone	38.57	9	иgЛ	9	0	96.4	9	164	0			
22.88 2.0 µg/L 20 0 114 20.87 2.0 µg/L 20 0 104 er 19 2.0 µg/L 20 0 104 18.98 10 µg/L 20 0 109 18.98 10 µg/L 20 0 113 22.59 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 4.0 pd/L 20 0 113 5. Spike Recovery outside accepted recovery limits Are detected below quantitation limits R. RPD outside accepted recovery limits	iisopropyl ether	18.31	2.0	иg/L	20	0	91.6	83	149	0			
er 19 2.0 µg/L 20 0 104 21.79 2.0 µg/L 20 0 109 18.98 10 µg/L 20 0 95 18.98 10 µg/L 20 0 109 22.59 2.0 µg/L 20 0 143 20.82 2.0 µg/L 20 0 143 4. Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	2-Dichloropropane	22.88	2.0	tight.	20	0	114	99	166	0			
19 2.0 μg/L 20 0 95 21.79 2.0 μg/L 20 0 109 18.98 10 μg/L 20 0 109 22.59 2.0 μg/L 20 0 113 20.82 2.0 μg/L 20 0 113 betected at the Reporting Limit S - Spike Recovery outside accepted recovery limits G-eccepted below quantitation limits R - RPD outside accepted recovery limits	s-1,2-Dichlomethene	20.87	2.0	иg/L	20	0	5	74	1	0			
21.79 2.0 µg/L 20 0 109 18.98 10 µg/L 20 0 94.9 22.59 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 vir Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	thyl Tertiary Butyf Ether	19	2.0	μg/L	20	0	92	92	148	0			
18.98 10 µg/L 20 0 94.9 22.59 2.0 µg/L 20 0 113 20.82 2.0 µg/L 20 0 113 of Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	hloroform	21.79	2.0	μg/L	8	0	109	72	137	0			
22.59 2.0 µg/l. 20 0 113 20.82 2.0 µg/l. 20 0 104 of Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	strahydrofuran	18.98	£	рgЛ.	20	0	94.9	23	149	0			
20.82 2.0 µg/l. 20 0 104 ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	romochloromethane	22.59	2.0	идуг	20	0	113	92	145	0			
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	1,1-Trichloroethane	20.82	2.0	μg/L	20	0	104	76	138	0			
R - RPD outside accepted recovery limits		ected at the Reporting Limit	S.	Spike Recover	y outside accepted	recovery	imits	B - Analyt	detected in	the associated Meth	od Blank		
	J - Analyte de	stected below quantitation limits	~	RPD outside a	ccepted recovery	imits		MA - Mot	dur eldesilen	ere I volue or ND	recorde occur		

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21.73 2.0		1700396 MPA Berth 10 Final De	sign							Laboratory Co	ntrol Spik
20.69 2.0 μg/L 20 0 103 19.5 2.0 μg/L 20 0 97.5 20.36 1.0 μg/L 20 0 97.5 20.36 2.0 μg/L 20 0 105 20.85 2.0 μg/L 20 0 101 20.85 2.0 μg/L 20 0 101 20.88 2.0 μg/L 20 0 101 20.88 2.0 μg/L 20 0 104 40.72 10 μg/L 20 0 104 21.66 1.0 μg/L 20 0 104 21.34 2.0 μg/L 20 0 104 21.34 2.0 μg/L 20 0 107 21.34 2.0 μg/L 20 0 107 21.34 2.0 μg/L 20 0 107 21.34 2.0 μg/L 20 0 107 21.34 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.31 2.0 μg/L 20 0 107 20.32 2.0 μg/L 20 0 107 20.33 2.0 μg/L 20 0 107 20.34 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 107 20.35 2.0 μg/L 20 0 0 107 20.35 2.0 μg/L 20 0 0 107 20.35 2.0 μg/L 20 0 0 107 20.30 2.0 μg/L 20 0 0 107 20.30 2.0 μg/L 20 0 0 107 20.30 2.0 μg/L 20 0 0 107 20.30 2.0 μg/L 20 0 0 107 20.30 2.0 μg/L 20 0 0 0 107 20.30 2.0 μg/L 20 0 0 107 20.30 2.0 μg/L 20 0 0 0 107 20.30 2.0 μg/L 20 0 0 0 107 20.30 2.0 μg/L 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1,1-Dichloropropene	21.79	2.0	μg/L	20	٥	6	74	138	0	
19.5 2.0 μg/L 20 0 97.5 20.96 1.0 μg/L 20 0 0 105 20.05 1.0 μg/L 20 0 105 20.08 2.0 μg/L 20 0 101 20.08 2.0 μg/L 20 0 118 20.08 2.0 μg/L 20 0 118 20.08 2.0 μg/L 20 0 118 21.05 2.0 μg/L 20 0 104 21.31 2.0 μg/L 20 0 105 21.05 2.0 μg/L 20 0 105 21.05 2.0 μg/L 20 0 105 21.05 2.0 μg/L 20 0 105 21.05 2.0 μg/L 20 0 107 21.32 2.0 μg/L 20 0 107 21.33 2.0 μg/L 20 0 107 20.31 2.0 μg/L 20 0 107 20.31 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 0 107 20.21 2.0 μg/L 20 0 0 107 20.21 2.0 μg/L 20 0 0 107 20.22 2.0 μg/L 20 0 0 107 20.23 2.0 μg/L 20 0 0 107 20.24 2.0 μg/L 20 0 0 107 20.25 2.0 μg/L 20 0 0 107 20.20 2.0 μg/L 20 0 0 107 20.00 2.0 μg/L 20 0 0 107 20.00 2.0 μg/L 20 0 0 107 20.00 2.0 μg/L 20 0 0 107 20.00 2.0 μg/L 20 0 0 107 20.00 2.0 μg/L 20 0 0 107 20.00 2.0 μg/L 20 0 0 100 20.00 2.0 μg/L 20 0 0 100 20.00 μg/L 20 0 0 100 20.00 μg/L 20 0 0 0 100 20.00 μg/L 20 0 0 0 0 00	Carbon tetrachloride	20.69	2.0	μg/L	20	0	103	20	138	0	
20.96 1.0 μg/L 20 0 105 20.18 2.0 μg/L 20 0 101 20.85 2.0 μg/L 20 0 101 20.88 2.0 μg/L 20 0 101 20.88 2.0 μg/L 20 0 101 20.88 2.0 μg/L 20 0 104 40.72 2.0 μg/L 20 0 102 21.65 1.0 μg/L 20 0 102 21.65 1.0 μg/L 20 0 102 21.65 1.0 μg/L 20 0 104 21.31 2.0 μg/L 20 0 104 21.34 2.0 μg/L 20 0 107 21.34 2.0 μg/L 20 0 107 21.35 2.0 μg/L 20 0 107 20.77 20 μg/L 20 0 107 20.77 20 μg/L 20 0 107 20.77 20 μg/L 20 0 107 20.71 20 μg/L 20 0 107 20.72 20 μg/L 20 0 107 20.73 2.0 μg/L 20 0 107 20.73 2.0 μg/L 20 0 107 20.74 20 20 μg/L 20 0 107 20.75 20 μg/L 20 0 107 20 20 μg/L 20 0 107 20 20 μg/L 20 0 107 20 20 μg/L 20 0 107 20 20 μg/L 20 0 107 20 20 μg/L 20 0 107 20 20 μg/L 20 0 1	1,2-Dichloroethane	19.5	2.0	μg/L	20	0	97.5	74	134	0	
20.18 2.0 hg/L 20 0 101 20.95 2.0 hg/L 20 0 105 23.62 2.0 hg/L 20 0 108 23.62 2.0 hg/L 20 0 108 23.62 2.0 hg/L 20 0 108 20.88 2.0 hg/L 20 0 104 21.31 2.0 hg/L 20 0 108 21.34 2.0 hg/L 20 0 108 21.34 2.0 hg/L 20 0 107 21.34 2.0 hg/L 20 0 107 21.35 2.0 hg/L 20 0 107 21.35 2.0 hg/L 20 0 107 21.42 2.0 hg/L 20 0 107 20.23 2.0 hg/L 20 0 107 20.23 2.0 hg/L 20 0 107 20.24 2.0 hg/L 20 0 107 20.25 2.0 hg/L 20 0 107 20.25 2.0 hg/L 20 0 107 20.26 15.31 2.0 hg/L 20 0 107 20.27 2.0 hg/L 20 0 107 20.28 2.0 hg/L 20 0 107 20.29 2.0 hg/L 20 0 107 20.29 2.0 hg/L 20 0 107 20.59 2.0 hg/L 20 0 107 20.59 2.0 hg/L 20 0 6 100 19.71 2.0 hg/L 20 0 0 107 20.59 2.0 hg/L 20 0 0 107 20.59 2.0 hg/L 20 0 0 107 20.59 2.0 hg/L 20 0 0 107 20.59 2.0 hg/L 20 0 0 107 20.69 2.0 hg/L 20 0 0 107 20.02 2.0 hg/L 20 0 0 107 20.02 2.0 hg/L 20 0 0 107 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 100 20.02 2.0 hg/L 20 0 0 0 100 20.02 2.0 hg/L 20 0 0 0 100 20.02 2.0 hg/L 20 0 0 0 100 20.02 2.0 hg/L 20 0 0 0 100 20.02 2.0 hg/L 20 0 0 0 100 20.02 2.0 hg/L 20 0 0 0 100 20.02 2.0 hg/L 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Benzene	20.96	1.0	рgЛ	29	0	105	69	148	0	
23.62 2.0 µg/L 20 0 105 23.62 2.0 µg/L 20 0 118 20.88 2.0 µg/L 20 0 118 20.88 2.0 µg/L 20 0 118 40.72 10 µg/L 20 0 104 21.34 2.0 µg/L 20 0 105 21.34 2.0 µg/L 20 0 107 21.34 2.0 µg/L 20 0 107 21.34 2.0 µg/L 20 0 107 21.34 2.0 µg/L 20 0 107 21.35 2.0 µg/L 20 0 107 20.23 2.0 µg/L 20 0 107 20.23 2.0 µg/L 20 0 107 20.24 2.0 µg/L 20 0 107 20.25 2.0 µg/L 20 0 107 20.25 2.0 µg/L 20 0 107 20.21 2.0 µg/L 20 0 107 20.23 2.0 µg/L 20 0 107 20.23 2.0 µg/L 20 0 107 20.24 2.0 µg/L 20 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.25 2.0 µg/L 20 0 0 107 20.02 2.0 µg/L 20 0 0 107 20.02 2.0 µg/L 20 0 0 107 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 100 20.02 2.0 µg/L 20 0 0 0 100 20.02 2.0 µg/L 20 0 0 0 100 20.02 2.0 µg/L 20 0 0 0 100 20.02 2.0 µg/L 20 0 0 0 100 20.02 2.0 µg/L 20 0 0 0 0 100 20.02 2.0 µg/L 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Trichloroethene	20.18	2.0	µg∕L	20	0	5	74	136	0	
23.62 2.0 μg/L 20 0 118 20.88 2.0 μg/L 20 0 104 20.88 2.0 μg/L 20 0 104 40.72 10 μg/L 20 0 105 21.66 1.0 μg/L 20 0 106 21.66 1.0 μg/L 20 0 106 21.65 1.0 μg/L 20 0 108 21.34 2.0 μg/L 20 0 107 21.34 2.0 μg/L 20 0 107 35.14 10 μg/L 20 0 107 35.14 10 μg/L 20 0 107 20.23 2.0 μg/L 20 0 107 20.23 2.0 μg/L 20 0 107 20.23 2.0 μg/L 20 0 107 20.24 20.2 μg/L 20 0 107 20.25 20 μg/L 20 0 107 20.25 20 μg/L 20 0 107 20.25 20 μg/L 20 0 107 20.25 20 μg/L 20 0 107 20.25 20 μg/L 20 0 107 20.25 20 μg/L 20 0 107 20.25 20 μg/L 20 0 107 20.59 20 μg/L 20 0 107 20.59 20 μg/L 20 0 107 20.59 20 μg/L 20 0 107 20.59 20 μg/L 20 0 107 20.59 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 107 20.50 20 μg/L 20 0 0 100 20.50 20 μg/L 20 0 0 100 20.50 20 μg/L 20 0 0 100 20.50 20 μg/L 20 0 0 100 20.50 20 μg/L 20 0 0 100 20.50 20 μg/L 20 0 0 0 100 20.50 20 μg/L 20 0 0 0 100 20.50 20 μg/L 20 0 0 0 0 100 20.50 20 μg/L 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1,2-Dichloropropane	20.95	2.0	μg/L	20	0	105	72	137	0	
20.88 2.0 lg/L 20 0 104 19.72 2.0 lg/L 20 0 104 40.72 10 lg/L 20 0 105 21.66 1.0 lg/L 20 0 105 21.65 1.0 lg/L 20 0 105 21.65 2.0 lg/L 20 0 105 21.34 2.0 lg/L 20 0 107 21.34 2.0 lg/L 20 0 107 21.34 2.0 lg/L 20 0 107 21.34 2.0 lg/L 20 0 107 21.34 2.0 lg/L 20 0 107 21.34 2.0 lg/L 20 0 107 21.34 2.0 lg/L 20 0 107 20.23 2.0 lg/L 20 0 107 20.23 2.0 lg/L 20 0 107 20.23 2.0 lg/L 20 0 107 20.23 2.0 lg/L 20 0 0 107 20.24 2.0 lg/L 20 0 0 107 20.25 2.0 lg/L 20 0 0 107 20.25 2.0 lg/L 20 0 0 107 20.25 2.0 lg/L 20 0 0 107 20.26 2.0 lg/L 20 0 0 107 20.27 20.2 lg/L 20 0 0 107 20.29 2.0 lg/L 20 0 0 107 20.29 2.0 lg/L 20 0 0 107 20.20 2.0 lg/L 20 0 0 107 20.20 2.0 lg/L 20 0 0 107 20.20 2.0 lg/L 20 0 0 107 20.20 2.0 lg/L 20 0 0 107 20.20 2.0 lg/L 20 0 0 107 20.20 2.0 lg/L 20 0 0 107 20.20 2.0 lg/L 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Bromodichloromethan		2.0	µg∕L	20	0	118	74	137	0	
19.72 2.0 µg/L 20 0 98.6 40.72 10 µg/L 20 0 102 102 102 103 103 103 103 103 103 103 103 103 103	Dibromomethane	20.88	2.0	hg∕L	20	0	\$	75	129	0	
40.72 10 199L 40 0 102 21.66 1.0 199L 20 0 108 21.05 2.0 199L 20 0 108 21.03 1.0 199L 20 0 109 21.34 2.0 199L 20 0 107 21.34 2.0 199L 20 0 107 35.14 10 199L 20 0 107 21.34 2.0 199L 20 0 107 20.23 2.0 199L 20 0 107 20.23 2.0 199L 20 0 107 20.23 2.0 199L 20 0 107 20.24 2.0 199L 20 0 107 20.25 2.0 199L 20 0 107 20.25 2.0 199L 20 0 107 20.25 2.0 199L 20 0 107 20.59 2.0 199L 20 0 107 20.59 2.0 199L 20 0 107 20.59 2.0 199L 20 0 107 20.59 2.0 199L 20 0 107 20.59 2.0 199L 20 0 0 107 20.59 2.0 199L 20 0 0 107 20.59 2.0 199L 20 0 0 107 20.59 2.0 199L 20 0 0 107 20.59 2.0 199L 20 0 0 107 20.59 2.0 199L 20 0 0 107 20.59 2.0 199L 20 0 0 107 20.50 2.0 199L 20 0 0 107 20.50 20 20 199L 20 0 0 107 20.50 20 20 199L 20 0 0 107 20.50 20 20 199L 20 0 0 109L 20.50 20 20 199L 20 0 0 109L 20.50 20 199L 20 0 0 0 109L 20.50 20 199L 20 0 0 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 0 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 109L 20.50 20 199L 20 0 109L 20.50 199L 20 0 1	Tertiary Amyl Methyl i		2.0	рgЛ	20	0	98.6	22	146	0	
21.66 1.0 μg/L 20 0 108 21.05 2.0 μg/L 20 0 105 20.8 1.0 μg/L 20 0 104 21.31 2.0 μg/L 20 0 107 21.34 2.0 μg/L 20 0 107 35.14 10 μg/L 20 0 107 35.14 10 μg/L 20 0 107 21.32 2.0 μg/L 20 0 107 20.77 20 μg/L 20 0 107 20.23 2.0 μg/L 20 0 107 20.23 2.0 μg/L 20 0 107 20.24 20 μg/L 20 0 107 20.25 2.0 μg/L 20 0 107 20.25 2.0 μg/L 20 0 107 20.25 2.0 μg/L 20 0 107 20.26 μg/L 20 0 107 20.27 20.2 μg/L 20 0 107 20.25 2.0 μg/L 20 0 107 20.59 2.0 μg/L 20 0 107 20.59 2.0 μg/L 20 0 107 20.59 2.0 μg/L 20 0 107 20.59 2.0 μg/L 20 0 107 20.59 2.0 μg/L 20 0 107 20.59 2.0 μg/L 20 0 107 20.59 2.0 μg/L 20 0 107 20.50 2.0 μg/L 20 0 107 20.65 15.31 2.0 μg/L 20 0 107 20.02 2.0 μg/L 20 0 107 20.02 2.0 μg/L 20 0 107 20.02 2.0 μg/L 20 0 107 20.02 2.0 μg/L 20 0 98.6	4-Methyl-2-pentanone		9	μg/L	40	0	102	49	138	0	
21.05 2.0 μg/L 20 0 105 20.8 1.0 μg/L 20 0 104 21.31 2.0 μg/L 20 0 107 21.34 2.0 μg/L 20 0 107 35.14 10 μg/L 20 0 33.8 18.76 2.0 μg/L 20 0 107 20.77 2.0 μg/L 20 0 107 20.31 2.0 μg/L 20 0 107 20.33 2.0 μg/L 20 0 107 20.31 2.0 μg/L 20 0 107 20.31 2.0 μg/L 20 0 107 20.31 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.21 2.0 μg/L 20 0 107 20.25 2.0 μg/L 20 0 107 15.39 2.0 μg/L 20 0 6 103 15.39 2.0 μg/L 20 0 6 103 15.39 2.0 μg/L 20 0 6 103 15.31 2.0 μg/L 20 0 6 100 19.72 2.0 μg/L 20 0 6 100 19.72 2.0 μg/L 20 0 6 98.6 20.02 2.0 μg/L 20 0 98.6 20.02 2.0 μg/L 20 0 98.6 19.72 2.0 μg/L 20 0 98.6	cis-1,3-Dichloroproper		1.0	рgЛ	20	0	108	72	134	0	
20.8 1.0 µg/L 20 0 104 21.31 2.0 µg/L 20 0 107 21.34 2.0 µg/L 20 0 107 35.14 10 µg/L 20 0 107 35.14 10 µg/L 20 0 87.8 18.76 2.0 µg/L 20 0 87.8 20.77 20.77 20 µg/L 20 0 107 20.23 2.0 µg/L 20 0 107 20.31 2.0 µg/L 20 0 107 20.31 2.0 µg/L 20 0 107 20.31 2.0 µg/L 20 0 107 20.31 2.0 µg/L 20 0 107 20.21 2.0 µg/L 20 0 107 20.21 2.0 µg/L 20 0 107 15.99 2.0 µg/L 20 0 6 107 15.99 2.0 µg/L 20 0 6 107 15.31 2.0 µg/L 20 0 6 100 19.72 20.02 2.0 µg/L 20 0 85.6 15.31 2.0 µg/L 20 0 98.6 15.31 2.0 µg/L 20 0 98.6 15.31 2.0 µg/L 20 0 98.6 15.31 2.0 µg/L 20 0 98.6	Toluene		2.0	μg/L	20	0	105	75	139	0	
tane 21.31 2.0 μg/L 20 0 107 ne 21.34 2.0 μg/L 20 0 107 ane 18.76 2.0 μg/L 20 0 107 e 21.42 2.0 μg/L 20 0 107 sthane 20.77 2.0 μg/L 20 0 107 roethane 19.99 2.0 μg/L 20 0 104 coethane 19.99 2.0 μg/L 20 0 104 coethane 19.99 2.0 μg/L 20 0 104 20.21 2.0 μg/L 20 0 104 20.23 2.0 μg/L 20 0 103 s roethane 17.12 2.0 μg/L 20 0 103 s pane 15.31 2.0 μg/L 20 0 103 s pane 15.31 2.0 μg/L 20 0 103 s pane 15.31 2.0 μg/L 20	trans-1,3-Dichloroprop		1.0	μg/L	20	0	5	2	132	0	
nee 21.34 2.0 μg/L 20 0 407 ane 35.14 10 μg/L 40 0 87.8 ane 18.76 2.0 μg/L 20 0 93.8 e 21.42 2.0 μg/L 20 0 107 sthane 20.77 2.0 μg/L 20 0 107 roethane 19.99 2.0 μg/L 20 0 107 coethane 20.31 2.0 μg/L 20 0 101 coethane 15.99 2.0 μg/L 20 0 101 s pane 15.31 2.0 μg/L 20 0 100 s	1,1,2-Trichloroethane	21.31	2.0	μg/L	8	0	107	æ	138	0	
35.14 10 μg/L 40 0 87.8 e 18.76 2.0 μg/L 20 0 93.8 e 21.42 2.0 μg/L 20 0 107 gthane 20.77 2.0 μg/L 20 0 104 20.23 2.0 μg/L 20 0 104 20.31 2.0 μg/L 20 0 101 20.31 2.0 μg/L 20 0 101 20.31 2.0 μg/L 20 0 101 20.31 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.59 2.0 μg/L 20 0 101 15.99 2.0 μg/L 20 0 101 20.59 2.0 μg/L 20 0 101 15.31 2.0 μg/L 20 0 101 16.31 2.0 μg/L 20 0 0 101 16.31 2.0 μg/L 20 0 0 98.6 D- Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	1,2-Dibromoethane	21.34	2.0	μg/L	20	0	107	22	136	0	
ane 18.76 2.0 μg/L 20 0 93.8 e 21.42 2.0 μg/L 20 0 107 athane 20.23 2.0 μg/L 20 0 104 roethane 19.99 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 103 15.99 2.0 μg/L 20 0 103 pane 15.39 2.0 μg/L 20 0 76.6 spane 15.31 2.0 μg/L 20 0 76.6 ppane 15.31 2.0 μg/L 20 0 76.6 ppane 15.31 2.0 μg/L 20 0 76.6 ppane 15.32 2.0 μg/L 20	2-Hexanone	35.14	5	μgΛ	40	0	87.8	35	138	0	
e 21.42 2.0 μg/L 20 107 ethane 20.77 2.0 μg/L 20 0 104 roethane 19.99 2.0 μg/L 20 0 101 roethane 20.31 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 103 15.99 2.0 μg/L 20 0 103 s roethane 17.12 2.0 μg/L 20 0 76.6 ppane 15.31 2.0 μg/L 20 0 76.6 ppane 15.31 2.0 μg/L 20 0 76.6 ppane 15.31 2.0 μg/L 20 0 100 19.72 2.0 μg/L 20 0 9	1,3-Dichloropropane	18.76	2.0	иgл	29	0	93.8	75	120	0	
sthane 20.77 2.0 μg/L 20 104 20.23 2.0 μg/L 20 0 101 roethane 19.99 2.0 μg/L 20 0 101 20.31 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 103 s 19.21 2.0 μg/L 20 0 96 s roethane 17.12 2.0 μg/L 20 0 76.6 spane 15.31 2.0 μg/L 20 0 76.6 pgane 16.37 2.0 μg/L 20 0 76.6 spane 15.31 2.0 μg/L 20 0 76.6 D-Not Detected at the Reporting Limits S-Spike Recovery outside accepted recovery limits R-RPD outside accepted recovery limits	Tetrachlomethene		5.0	μg/L	20	0	107	11	125	0	
20.23 2.0 μg/L 20 0 101 roethane 19.99 2.0 μg/L 20 0 100 20.31 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.23 2.0 μg/L 20 0 103 15.99 2.0 μg/L 20 0 86 s 19.21 2.0 μg/L 20 0 76 spane 15.31 2.0 μg/L 20 0 76 spane 15.31 2.0 μg/L 20 0 76 D-Not Detected at the Reporting Limit 2.0 μg/L 20 0 98.6 Analyte detected below quantitation limits R - RPD outside accepted recovery limits R - RPD outside accepted recovery limits	Dibromochloromethan		2.0	μg/L	8	0	10	88	113	0	
roethane 19.99 2.0 μg/L 20 0 100 20.31 2.0 μg/L 20 0 102 40.32 2.0 μg/L 20 0 101 20.21 2.0 μg/L 20 0 101 20.59 2.0 μg/L 20 0 103 roethane 17.12 2.0 μg/L 20 0 86.6 spane 15.31 2.0 μg/L 20 0 76.6 ppane 15.31 2.0 μg/L 20 0 76.6 19.72 2.0 μg/L 20 0 76.6 19.72 2.0 μg/L 20 0 98.6 D- Not Detected at the Reporting Limit S-Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits R - RPD outside accepted recovery limits	Chlorobenzene	20.23	2.0	μg/L	20	0	1 0	23	120	0	
20.31 2.0 μg/L 20 0 102 40.32 2.0 μg/L 40 0 101 20.21 2.0 μg/L 20 0 101 20.59 2.0 μg/L 20 0 103 15.99 2.0 μg/L 20 0 103 pane 17.12 2.0 μg/L 20 0 86.6 pane 17.12 2.0 μg/L 20 0 86.6 20.02 μg/L 20 0 96.6 20.02 2.0 μg/L 20 0 100 19.72 2.0 μg/L 20 0 86.6 20.02 2.0 μg/L 20 0 98.6 20.02 2.0 μg/L 20 0 98.6 20.02 2.0 μg/L 20 0 98.6 20.02 2.0 μg/L 20 0 98.6 20.02 2.0 μg/L 20 0 98.6 20.04 μg/L 20 0 98.6 20.05 μg/L 20 0 100 20.05 μg/L 20 0 100 20.05 μg/L 20 100 20.00 μg	1,1,1,2-Tetrachloroeth		2.0	µg/L	8	0	9	E	118	0	
40.32 2.0 μg/L 40 0 101 20.21 2.0 μg/L 20 0 101 20.23 2.0 μg/L 20 0 101 15.99 2.0 μg/L 20 0 96 roethane 17.12 2.0 μg/L 20 0 76.6 spane 15.31 2.0 μg/L 20 0 76.6 20.02 2.0 μg/L 20 0 76.6 19.72 2.0 μg/L 20 0 98.6 D- Not Detected at the Reporting Limit S- Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits R - RPD outside accepted recovery limits	Ethylbenzene	20.31	2.0	pg/L	20	0	102	75	127	0	
20.21 2.0 μg/L 20 0 101 20.59 2.0 μg/L 20 0 103 15.99 2.0 μg/L 20 0 80 roethane 17.12 2.0 μg/L 20 0 85.6 ppane 15.31 2.0 μg/L 20 0 85.6 20.02 2.0 μg/L 20 0 76.6 19.72 2.0 μg/L 20 0 76.6 19.72 20.02 2.0 μg/L 20 98.6 D-Not Detected at the Reporting Limit S- Spike Recovery outside accepted recovery fimits R-RPD outside accepted recovery fimits	m,p-Xylene	40.32	2.0	μg/L	40	0	101	73	131	0	
20.59 2.0 µg/L 20 0 103 15.99 2.0 µg/L 20 0 103 roethane 17.12 2.0 µg/L 20 0 86 ppane 15.31 2.0 µg/L 20 0 76.6 20.02 2.0 µg/L 20 0 76.6 19.72 2.0 µg/L 20 0 76.6 19.72 2.0 µg/L 20 0 76.6 19.72 2.0 µg/L 20 0 98.6 19.72 2.0 µg/L 20 0 98.6 19.74 20 µg/L 20 0 100 19.75 2.0 µg/L 20 100 19.75 2.0 µg/L 20 100 19.75 2.0 µg/L 20 100 19.76 200 100 19.77 2.0 µg/L 20 100 19.78 200 100 19.79 200 µg/L 20 100 19.70 100	o-Xylene	20.21	2.0	μg/L	20	0	101	23	133	0	
15.99 2.0 μg/L 20 0 80 roethane 17.12 2.0 μg/L 20 0 85.6 pane 15.31 2.0 μg/L 20 0 76.6 20.02 2.0 μg/L 20 0 76.6 19.72 2.0 μg/L 20 0 98.6 D-Not Detected at the Reporting Limit S-Spike Recovery outside accepted recovery limits Analyse detected below quantitation limits R-RPD outside accepted recovery limits	Styrene	20.59	2.0	'nô√	8	0	103	69	134	0	
Paralyte detected below quantitation limits 19.21 2.0 μg/L 20 0 96 ppane 15.31 2.0 μg/L 20 0 76.6 20.02 2.0 μg/L 20 0 76.6 D- Not Detected at the Reporting Limit S- Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	Bromoform	15.99	2.0	₽g√	20	0	8	5	112	0	
roethane 17.12 2.0 μg/L 20 0 85.6 spane 15.31 2.0 μg/L 20 0 76.6 20.02 2.0 μg/L 20 0 100 19.72 2.0 μg/L 20 0 98.6 D - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	Isopropylbenzene		2.0	µ9∕L	8	0	96	89	128	0	
ppane 15.31 2.0 μg/L 20 0 76.6 20.02 2.0 μg/L 20 0 100 19.72 2.0 μg/L 20 0 98.6 D - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits R - RPD outside accepted recovery limits	1,1,2,2-Tetrachloroeth		2.0	µg∕L	70	0	85.6	65	121	0	
20.02 2.0 µg/L 20 0 100 19.72 2.0 µg/L 20 0 98.6 D-Not Detected at the Reporting Limit S-Spike Recovery outside accepted recovery limits R-RPD outside accepted recovery limits	1,2,3-Trichloropropan		2.0	hg/L	20	0	9.9/	59	125	0	
D - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	Bromobenzene	20.02	2.0	μg/L	20	0	100	75	120	0	
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	n-Propylbenzene	19.72	2.0	hg/L	20	0	98.6	99	131	0	
R - RPD outside accepted recovery limits		ot Detected at the Reporting Limit		S - Spike Recover	y outside accepted r	есочету [і	mits	B - Analyte of	etected in the as	sociated Method Blank	
	J - Ana	lyte detected below quantitation limits		R - RPD outside a	ccepted recovery lin	nits		NA Motor	in the second	The conference of the conferen	

AMRO Environmental Laboratories Corp.

CLIENI:	GEI Consultants, Inc.									OC SUMMARY REPORT
Work Order:	1710012									
Project:	1700396 MPA Berth 10 Final Design	th 10 Final D	esign						į	Laboratory Control Spike
2-Chlorotoluene		19.49	2.0	идуг	20	0	97.5	89	123	0
4-Chlorotoluene		19.44	2.0	µg∕L	20	0	97.2	69	124	0
1,3,5-Trimethylbenzene	ene	20.12	2.0	µg/L	20	0	1	89	130	0
tert-Butylbenzene		19.29	2.0	µg/L	20	0	96.5	29	129	0
1,2,4-Trimethylbenzene	ane	20.43	2.0	μgΛ.	20	0	102	69	132	0
sec-Butylbenzene		19.55	2.0	иgЛ	8	0	97.8	62	136	0
4-Isopropyttoluene		21.58	2.0	μg/L	20	0	108	65	137	0
1,3-Dichlorobenzene		19.57	2.0	µg/L	20	0	97.8	7	126	0
1,4-Dichlorobenzene	•	19.23	2.0	µg∕L	20	0	96.2	72	123	0
n-Butylbenzene		21.23	2.0	μgΛ.	20	0	901	2	138	0
1,2-Dichlorobenzene		19.72	2.0	µg∕L	20	0	98.6	75	124	0
1,2-Dibromo-3-chloropropane	opropane	18.62	9.0	μgΛ.	20	0	93.1	48	130	0
1,2,4-Trichlorobenzene	ne	18.08	2.0	µg∕L	8	0	90.4	2	141	0
Hexachlorobutadiene	0	16.96	2.0	μgΛ.	20	0	84.8	45	1 5	0
Naphthalene		18.31	5.0	μgΛ.	20	0	91.6	4	143	0
1,2,3-Trichlorobenzene	ane .	16.88	2.0	µg∕L	20	0	84.4	9	152	0
1,3,5-Trichlorobenzene	ane.	21.13	2.0	μg/L	8	0	106	47	155	0
Surr: Dibromofluoromethane	romethane	25.14	2.0	μg/L	25	0	101	74	138	0
Surr. 1,2-Dichloroethane-d4	ethane-d4	23.86	2.0	μgΛ.	25	0	95.4	2	138	0
Surr. Toluene-d8		24.91	2.0	μg/L	25	0	9.66	11	128	0
Sur: 4-Bromofluorobenzene	mbenzene	24.44	20	/ U11	25	<	Q 7.0	5	113	•

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

NA - Not applicable where J values or ND results occur

GEI Consultants, Inc. CLIENT:

1700396 MPA Berth 10 Final Design 1700396 MPA Berth 10 Final Design Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run D: W43_171009A Run Result Run Units Amnount Result Result Run Result Run Result Run Run Result Run Result Run	17001306 MPA Berth 10 Final Design 17001306	CLIENT:		GEI Consultants, Inc.								QC SUMMARY REPORT	IMARY	REPO	Z
Column C	Part Direct-Guodel Pastch ID: Resolut Run ID: V-1,171098A Seculor: 1007148 August Sample August	Project:		2 5 MPA Berth 10 Final 1	Design							aboratory Co	ontrol Sp	ike Duplic	ate
Care Survive Patch	Color Colo														H
CCS Sample CCS Spike Original Sample Cospike Original Sample C	CL Sample CL Sample CL Sample CL Sample CL Sample Amount Result SRC Longinal Sample CL Sample Amount Result SRC Longinal Sample CL Sample Amount Result SRC Longinal Sample CL Sample Amount Result SRC Longinal Sample CL Sample Amount Result SRC Longinal Sample CL Sample Amount Result SRC Longinal Sample CL S	Sample ID: 1cs	sd-10/09/17	Batch ID: R60041	Test Co	de: SW8260C	Units: µg	7		Analysis D	ate: 10/9/201	7 11:21:00 AM	Prep Date	: 10/9/2017	
CL Sample AC Spike Original Sample AC Spike Original Sample Result WREC LowLmit HighLmit OrMS Result WRED RPDLimit PRDLimit NRS Result WRED RPDLimit RPDLimit NRS RESUlt WRED RPDLimit RPDLimit RPDLimit RPDLimit NRS RESUlt WRED RPDLimit	OC Sample CC Spike Original Sample Result RRED Original Sample Smith Smith Original Sample Smith Smi	Client ID:			Run ID:	V-3_17100	V 6			SeqNo:	1007148				
Result Result Result Sept Loudinit Sept Loudinit Sept Loudinit Sept Loudinit Sept Repoll.ting Sept Sept Repoll.ting Sept	Result RL Units Amount RREAL LowLinit Hight-linit or MS Result %RPC 1923 50 µg/L 100 64.9 30 172 90.76 6.17.99 1923 50 µg/L 20 96.2 10 45 144 91.89 17.18 20.71 2.0 µg/L 20 0 104 45 140 21.48 32.1 20.71 2.0 µg/L 20 0 104 45 140 21.48 32.1 20.72 2.0 µg/L 20 104 45 140 21.48 32.1 20.75 2.0 µg/L 20 10 10 45 140 21.41 32.2 20.76 5.0 µg/L 20 10 10 10 42 142 14.9 14.9 14.9 14.9 14.9 14.9 14.9 14.9 14.9 14.9 14.9 1			QC Sample		J	C Spike Origi	nal Sample			O	riginal Sample			
1923 50 1971 100 0 64.9 30 172 90.76 6.71 20 183 11.6 20 183 21.59 11.6 20 183 21.59 11.6 20 183 21.59 11.6 20 20.71 20 1971 20 1971 20 1971 20 1971 20 20 20 20 20 20 20 2	te 1923 56 jugl. 100 6 64.9 30 172 90.76 14.39 2.0 jugl. 20 0 96.2 10 158 21.59 14.39 2.0 jugl. 20 0 197 45 144 14.86 16.13 2.0 jugl. 20 0 104 45 140 21.41 16.13 2.0 jugl. 20 0 106 49 20 24.08 16.13 2.0 jugl. 20 0 11 154 22.08 22.66 2.0 jugl. 20 0 11 154 22.08 17.52 10 jugl. 20 0 106 69 20 152 149 22.08 17.52 10 jugl. 20 0 106 106	Analyte		Result	럳		Amount	Result	%REC	LowLimit	- 1	or MS Result	%RPD	RPDLimit	ĕ
18.23 5.0 1901. 20 0 96.2 10 156 21.59 116 20 20.20 14.38 2.0 1901. 20 0 172 45 144 14.88 3.21 20 20.20 16.13 20 1901. 20 0 104 45 140 20.20 20.38 23.6 20 20.20 2	1e 19.23 5.0 μg/L 20 96.2 10 158 21.59 14.39 2.0 μg/L 20 72 45 144 14.86 14.39 2.0 μg/L 20 10 45 45 140 21.41 16.13 2.0 μg/L 20 13 45 140 21.41 2.266 2.0 μg/L 20 13 71 154 23.53 2.0.76 2.0 μg/L 20 10 10 142 140 20.23 15.27 2.0 μg/L 20 10 10 154 142 14.40 20.23 15.77 12.49 2.0 μg/L 20 10 142 142 14.40 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44 14.44	1,4-Dioxane		84.87	8	ъдг	9	0	84.9	8	172	90.76	6.71	50	
14.39 2.0 μg/L 20 0 72 45 144 1486 3.21 20 20.71 20 1 μg/L 20 0 104 45 140 21.41 3.32 20 20.71 2.0 μg/L 20 0 104 45 140 21.41 3.32 20 20 16.13 2.0 μg/L 20 0 104 45 140 20.28 23.6 20 20.26 2.0 μg/L 20 0 104 65 140 20.28 3.37 20 20.75 20 μg/L 20 0 104 65 140 20.28 3.47 20 20.20 17.82 1.0 μg/L 20 0 10.4 42 149 152 3.44 3.84 20.1 12.49 2.0 μg/L 20 0 10.4 42 149 15.8 14.0 11.7 20 20.1 12.49 2.0 μg/L 20 0 10.4 42 149 15.8 14.0 11.7 20 20.1 12.49 2.0 μg/L 20 0 10.4 42 149 15.8 14.0 11.7 20 20.1 12.49 2.0 μg/L 20 0 10.4 14.1 14.1 15.4 20.1 13.8 12.0 14.1 12.4 14.1 12.0 14.1 12.0 14.1 12.4 14.1 12.0 14.1 12.4 14.1 12.0 14.1 12.4 14.1 12.0 14.1 12.4 14.1 12.0 14.1 12.	14.39 2.0 μg/L 20 (Dichlorodifluor	omethane	19.23	5.0	рgЛ	20	0	96.2	9	158	21.59	11.6	20	
20.71 2.0 pg/L 20 0 104 45 140 21.41 3.32 20 141 161 161 179 21.41 3.32 20 151 161 20 pg/L 20 0 104 45 140 20.28 21.6 2.0 pg/L 20 0 105 65 140 20.28 21.6 20 20 20.5 20 19g/L 20 0 105 65 142 21.53 3.77 20 20.5 20.75 20 19g/L 20 0 104 65 142 21.33 3.77 20 20.5 20.75 20 19g/L 20 0 104 65 142 21.33 3.77 20 20.75 20 19g/L 20 0 10g/L	20.71 2.0 μg/L 20 0 104 45 140 20.28 16.13 2.0 μg/L 20 0 60 60 69 64 140 20.28 16.13 2.0 μg/L 20 0 113 71 154 23.38 22.66 2.0 μg/L 20 0 113 71 154 23.38 23.62 10 μg/L 20 0 10 113 71 154 23.38 17.42 10 μg/L 20 0 60 60 61 170 170 149 24.34 11.549 2.0 μg/L 20 0 60 60 61 170 170 149 14.04 11.549 2.0 μg/L 20 0 60 60 60 150 150 150 150 150 150 150 150 150 15	Chloromethane	Đ	14.39	2.0	µg/L	20	0	72	45	4	14.86	3.21	20	
16 5.0 pyPl. 20 0 60 49 140 20.28 23.5 20 22.66 2.0 pyPl. 20 0 60.6 54 149 20.28 23.5 20 22.66 2.0 pyPl. 20 0 0 60.6 54 149 20.23 39.5 20 22.66 2.0 pyPl. 20 0 0 104 67 154 22.38 7.51 20 20.76 20.0 pyPl. 20 0 0 69.6 69 152 22.38 7.51 20 20.76 20.0 pyPl. 20 0 20.4 42 42 22.38 7.51 20 20.76 20.0 pyPl. 20 0 20.4 42 42 22.38 7.51 20 20.76 20.0 pyPl. 20 0 20.4 42 42 42 43.47 3.84 20 20.76 20.0 pyPl. 20 0 20.4 42 42 43.47 3.84 20 20.74 43.73 43.47 43.84 20.74 43.73 43.84 20.74 43.74 43.84 43.	16 5.0 μg/L 20 6 49 49 40 20.28 16.13 2.0 μg/L 20 6 49 49 140 20.28 2.266 2.0 μg/L 20 173 71 154 23.53 2.0.76 5.0 μg/L 20 0 66 179 62.38 17.32 1.0 μg/L 20 0 62.4 42 142 23.33 18.57 2.0 μg/L 20 0 62.4 42 143 14.04 18.57 2.0 μg/L 20 0 62.4 42 149 14.04 18.57 2.0 μg/L 20 0 62.4 42 14.04 14.04 18.58 2.0 μg/L 20 0 43 42 14.04 14.04 18.51 2.0 μg/L 20 0 43 42 44 14.04	Vinyl chloride		20.71	2.0	µg/L	20	0	104	45	140	21.41	3.32	20	
16.13 2.0 lug/L 20 6 66 54 149 24.08 39.5 20 22.68 2.0 lug/L 20 0 113 71 154 22.53 3.77 20 20.56 2.0 lug/L 20 0 104 65 142 22.53 3.77 20 20.56 2.0 lug/L 20 0 20.4 42 149 14.04 11.7 20 20.56 20 12.49 2.0 199/L 20 20 20.5 159 20 20.5 2	16.13 2.0 μg/L 20 0 60.6 54 149 24.08 24.08 22.8	Chloroethane		16	5.0	µg/L	20	0	8	49	140	20.28	23.6	20	œ
p 22.66 2.0 µg/L 20 113 71 154 25.53 3.77 20.76 5.0 µg/L 20 104 65 142 22.38 7.51 35.62 1,0 µg/L 20 0 104 65 142 22.38 7.51 12.49 1,0 µg/L 20 0 69.6 69 152 14.04 11.7 15.57 5.0 µg/L 20 0 94.8 73 149 14.04 11.7 19.38 2.0 µg/L 20 0 94.8 73 149 14.04 11.7 19.58 2.0 µg/L 20 0 94.8 73 149 14.04 11.7 16.73 2.0 µg/L 20 0 94.8 73 149 14.04 11.7 16.73 2.0 µg/L 2.0 µg/L 20 0 149 149 <td< td=""><td>2.2.66 2.0 μg/L 20 113 71 154 23.53 2.0.76 5.0 μg/L 20 104 65 142 22.38 35.82 10 μg/L 20 0 69.6 10 179 22.38 17.34 2.0 μg/L 20 0 69.6 69 159 18.37 15.57 2.0 μg/L 20 0 62.4 42 14.9 14.04 16.57 2.0 μg/L 20 0 62.4 42 14.9 14.04 16.57 2.0 μg/L 20 0 9.48 73 14.9 15.7 16.73 2.0 μg/L 20 0 9.48 73 14.9 17.76 16.73 2.0 μg/L 20 0 9.48 73 14.9 17.76 17.33 2.0 μg/L 20 0 14.1 17.76 18.3 <!--</td--><td>Bromomethane</td><td>0</td><td>16.13</td><td>2.0</td><td>µg/L</td><td>20</td><td>0</td><td>80.6</td><td>2</td><td>149</td><td>24.08</td><td>39.5</td><td>20</td><td>ď</td></td></td<>	2.2.66 2.0 μg/L 20 113 71 154 23.53 2.0.76 5.0 μg/L 20 104 65 142 22.38 35.82 10 μg/L 20 0 69.6 10 179 22.38 17.34 2.0 μg/L 20 0 69.6 69 159 18.37 15.57 2.0 μg/L 20 0 62.4 42 14.9 14.04 16.57 2.0 μg/L 20 0 62.4 42 14.9 14.04 16.57 2.0 μg/L 20 0 9.48 73 14.9 15.7 16.73 2.0 μg/L 20 0 9.48 73 14.9 17.76 16.73 2.0 μg/L 20 0 9.48 73 14.9 17.76 17.33 2.0 μg/L 20 0 14.1 17.76 18.3 </td <td>Bromomethane</td> <td>0</td> <td>16.13</td> <td>2.0</td> <td>µg/L</td> <td>20</td> <td>0</td> <td>80.6</td> <td>2</td> <td>149</td> <td>24.08</td> <td>39.5</td> <td>20</td> <td>ď</td>	Bromomethane	0	16.13	2.0	µg/L	20	0	80.6	2	149	24.08	39.5	20	ď
20.76 5.0 lgg/L 20 0 104 65 142 22.38 7.51 35.82 10 lgg/L 20 0 89.6 10 179 34.7 3.84 17.92 1.0 lgg/L 20 0 89.6 69 152 18.97 5.69 12.49 2.0 lgg/L 20 0 62.4 42 149 14.0 17.7 19.81 19.82 2.0 lgg/L 20 0 94.8 73 149 14.0 17.7 16.73 2.0 lgg/L 20 0 94.8 73 149 18.31 5.5 226.6 20 lgg/L 20 0 193 140 17.7 176 5.97 17.33 2.0 lgg/L 20 0 101 140 16 164 18.31 5.5 17.34 2.0 lgg/L 20 0 101 16 16 164 38.57 4.39 17.35 2.0 lgg/L 20 0 101 101 101 101 101 101 101 101 10	20.76 5.0 μg/L 20 0 104 65 142 22.38 34.47 14.22 1.0 μg/L 20 0 104 65 142 22.38 34.47 14.22 1.0 μg/L 20 0 89.6 19.6 179 34.47 14.24 11.249 2.0 μg/L 20 0 89.6 16.2 14.9 14.04 14.04 14.24 19.98 2.0 μg/L 20 0 17.8 69 152 14.9 14.04 14.04 14.32 2.0 μg/L 20 0 14.3 14.7 14.7 14.7 14.2 14.3 2.0 μg/L 20 0 14.3 14.3 16.2 2.0 μg/L 20 10.1 14.3 16.2 14.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16	Trichlorofluoro	methane	22.66	2.0	µg/L	20	0	113	71	154	23.53	3.77	29	
35.82 10 μg/L 20 69.6 10 179 34.47 3.84 17.22 1.0 μg/L 20 0 89.6 69 152 18.97 5.69 17.22 1.0 μg/L 20 0 89.6 69 152 18.97 5.69 17.24 12.49 2.0 μg/L 20 0 89.8 69 152 18.97 5.69 17.2 18.97 5.69 17.24 17.22 18.97 2.0 μg/L 20 0 89.8 73 149 19.57 3.11 18.22 2.0 μg/L 20 0 113 43 149 19.57 3.11 18.22 2.0 μg/L 20 0 113 43 149 19.57 3.11 18.22 2.0 μg/L 20 0 113 43 162 229.5 1.29 17.23 2.0 μg/L 20 0 101 16 16 164 38.57 4.39 17.24 19.53 2.0 μg/L 20 0 101 16 16 164 20.8 18.9 18.31 5.5 1.29 17.24 19.55 2.0 μg/L 20 0 102 103 172 172 20.55 2.0 μg/L 20 0 102 103 172 172 20.55 2.0 μg/L 20 0 102 172 172 20.55 2.0 μg/L 20 0 103 172 172 172 20.55 2.0 μg/L 20 0 103 172 172 172 20.55 2.0 μg/L 20 0 103 172 172 172 20.55 2.0 μg/L 20 0 103 172 172 18.96 2.25 173 18.96 2.23 2.0 μg/L 20 0 102 172 172 18.96 2.25 173 18.96 2.25 173 18.96 2.25 174 18	35.82 10 µg/L 40 0 89.6 10 179 34.47 17.32 1.0 µg/L 20 0 69.6 69 152 18.97 12.49 2.0 µg/L 20 0 62.4 42 149 14.04 15.57 5.0 µg/L 20 0 77.8 69 159 14.04 16.73 2.0 µg/L 20 0 77.8 69 159 15.09 16.73 2.0 µg/L 20 0 94.8 73 149 16.78 226.6 2.0 µg/L 20 0 143 17.76 17.76 40.3 1.0 µg/L 20 0 17.1 43 16.7 17.76 17.33 2.0 µg/L 20 0 10.1 16 16.9 14.9 18.31 17.33 2.0 µg/L 20 10.0 10.0	Diethyl ether		20.76	5.0	µg/L	20	0	10	88	142	22.38	7.51	20	
17.92 1.0 µg/L 20 99.6 69.6 69.7 152 18.97 5.69 12.49 2.0 µg/L 20 0 62.4 42 149 14.04 11.7 15.57 5.0 µg/L 20 0 77.8 69 159 15.89 2.03 19.88 2.0 µg/L 20 0 99.9 67 144 17.76 5.97 16.73 2.0 µg/L 20 0 94.8 73 149 19.57 3.11 226.6 2.0 µg/L 20 0 94.8 73 149 17.76 5.97 40.3 1.0 µg/L 20 0 113 43 162 229.5 1.29 40.3 1.0 µg/L 20 0 113 43 162 229.5 1.29 40.3 1.0 µg/L 20 0 114 17 1.29 <td< td=""><td>17.92 1.0 µg/L 20 69.6 69.6 69.7 145.7 18.97 18.97 12.49 2.0 µg/L 20 0 62.4 42 149 14.04 15.57 5.0 µg/L 20 0 77.8 69 159 15.89 19.58 2.0 µg/L 20 9.48 73 149 20.74 16.73 2.0 µg/L 20 9.48 73 149 15.89 16.73 2.0 µg/L 20 0 9.48 73 149 15.89 16.73 2.0 µg/L 20 0 9.48 73 149 17.76 17.33 2.0 µg/L 20 0 171 147 17.76 17.23 2.0 µg/L 20 0 149 149 18.31 19.53 2.0 µg/L 20 0 140 141 17.76</td><td>Acetone</td><td></td><td>35.82</td><td>₽</td><td>µ9/L</td><td>9</td><td>0</td><td>9.68</td><td>6</td><td>179</td><td>34.47</td><td>3.84</td><td>8</td><td></td></td<>	17.92 1.0 µg/L 20 69.6 69.6 69.7 145.7 18.97 18.97 12.49 2.0 µg/L 20 0 62.4 42 149 14.04 15.57 5.0 µg/L 20 0 77.8 69 159 15.89 19.58 2.0 µg/L 20 9.48 73 149 20.74 16.73 2.0 µg/L 20 9.48 73 149 15.89 16.73 2.0 µg/L 20 0 9.48 73 149 15.89 16.73 2.0 µg/L 20 0 9.48 73 149 17.76 17.33 2.0 µg/L 20 0 171 147 17.76 17.23 2.0 µg/L 20 0 149 149 18.31 19.53 2.0 µg/L 20 0 140 141 17.76	Acetone		35.82	₽	µ9/L	9	0	9.68	6	179	34.47	3.84	8	
12.49 2.0 µg/L 20 0 62.4 42 149 14.04 11.7 15.57 5.0 µg/L 20 0 77.8 69 159 15.89 2.03 19.88 2.0 µg/L 20 0 99.9 67 144 20.74 3.73 16.73 2.0 µg/L 20 0 94.8 73 149 19.57 3.11 16.73 2.0 µg/L 20 0 94.8 73 149 19.57 3.11 17.33 2.0 µg/L 20 0 101 16 164 18.21 17.34 2.0 µg/L 20 0 101 16 164 18.3 18.57 4.39 19.53 2.0 µg/L 20 0 101 16 164 164 17.0 6.63 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 117.28 10 µg/L 20 0 103 72 137 21.79 5.86 117.28 10 µg/L 20 0 103 72 137 21.79 5.86 11.6 22.33 2.0 µg/L 20 0 112 76 145 18.96 9.38 11.6 22.33 2.0 µg/L 20 0 112 76 145 18.96 9.38 11.6 22.33 2.0 µg/L 20 0 112 76 145 20.08 5.08 11.6 19.65 2.0 µg/L 20 0 98.2 76 136 20.08 5.78 11.6 µg/L 20 0 98.2 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 136 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 0 112 76 145 20.08 5.78 11.6 µg/L 20 1	12.49 2.0 µg/L 20 0 62.4 15.57 5.0 µg/L 20 0 77.8 19.98 2.0 µg/L 20 0 77.8 16.73 2.0 µg/L 20 0 94.8 226.6 20 µg/L 20 0 113 40.3 10 µg/L 20 0 113 40.3 10 µg/L 20 0 113 17.33 2.0 µg/L 20 0 101 17.33 2.0 µg/L 20 0 101 17.33 2.0 µg/L 20 0 101 19.53 2.0 µg/L 20 0 108 19.53 2.0 µg/L 20 0 112 22.33 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112	1,1-Dichloroett	hene	17.92	0.7	µ9/L	20	0	9.68	69	152	18.97	5.69	20	
15.57 5.0 µg/L 20 77.8 69 159 15.89 2.03 19.38 2.0 µg/L 20 99.9 67 144 20.74 3.73 19.38 2.0 µg/L 20 0 94.8 73 149 19.57 3.11 226.6 2.0 µg/L 20 0 83.6 74 147 17.76 5.97 226.6 2.0 µg/L 20 0 113 43 162 229.5 1.29 40.3 10 µg/L 20 0 161 16 162 229.5 1.29 17.33 2.0 µg/L 20 0 167 63 149 18.31 5.5 17.33 2.0 µg/L 20 0 86.7 63 149 18.31 5.5 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63	15.57 5.0 µg/L 20 0 77.8 19.98 2.0 µg/L 20 0 94.8 16.73 2.0 µg/L 20 0 94.8 226.6 20 µg/L 200 0 113 40.3 10 µg/L 200 0 113 40.3 2.0 µg/L 200 0 113 17.33 2.0 µg/L 20 0 101 17.33 2.0 µg/L 20 0 101 19.53 2.0 µg/L 20 0 108 19.53 2.0 µg/L 20 0 108 19.53 2.0 µg/L 20 0 112 22.33 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 108 11.28 10 µg/L 20 0 112 19.65 2.0 µg/L 20 0 108 11.28 10 µg/L 20 0 0 112 19.65 2.0 µg/L 20 0 0 112 19.65 2.0 µg/L 20 0 0 112 19.65 2.0 µg/L 20 0 0 112 19.65 2.0 µg/L 20 0 0 112	Carbon disulfid	je je	12.49	2.0	μg/L	20	0	62.4	42	149	14.04	11.7	20	
19.98 2.0 µg/L 20 99.9 67 144 20.74 3.73 ne 18.97 2.0 µg/L 20 0 94.8 73 149 105.7 3.11 16.73 2.0 µg/L 20 0 94.8 73 149 19.57 3.11 226.6 2.0 µg/L 20 0 113 43 162 229.5 1.29 40.3 1 µg/L 20 0 113 43 162 229.5 1.29 17.33 2.0 µg/L 20 0 101 16 164 38.57 4.39 19.53 2.0 µg/L 20 0 96.7 63 149 18.31 5.5 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 19.53 2.0 µg/L 20 0 97.6 74 141 20.8	19.98 2.0 µg/L 20 0 99.9 18.97 2.0 µg/L 20 0 94.8 16.73 2.0 µg/L 20 0 113 226.6 20 µg/L 200 0 113 40.3 10 µg/L 200 0 1113 21.23 2.0 µg/L 20 0 106 19.53 2.0 µg/L 20 0 106 19.53 2.0 µg/L 20 0 106 19.53 2.0 µg/L 20 0 106 11.28 10 µg/L 20 0 112 22.33 2.0 µg/L 20 0 112 17.28 10 µg/L 20 0 113 17.28 10 µg/L 20 0 113 17.28 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 198.4 22.33 2.0 µg/L 20 0 198.2 19.65 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 108 11.24 22.33 2.0 µg/L 20 0 108 11.25 µg/L 20 0 112 19.65 2.0 µg/L 20 0 108 11.25 µg/L 20 0 112 19.65 2.0 µg/L 20 0 0 112 19.65 2.0 µg/L 20 0 0 112 19.65 2.0 µg/L 20 0 0 112	Methylene chic	oride	15.57	5.0	μg⁄L	20	0	77.8	69	159	15.89	2.03	8	
ne 18.97 2.0 µg/L 20 94.8 73 149 19.57 3.11 226.6 20 µg/L 20 0 83.6 74 147 17.76 5.97 40.3 10 µg/L 200 0 101 16 162 229.5 1.29 17.33 2.0 µg/L 20 0 101 16 164 38.57 4.39 19.53 2.0 µg/L 20 0 96.7 63 149 18.31 5.5 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 17.28 10 µg/L 20 0 97.6 74 141 20.87 6.63 17.28 10 µg/L 20 0 103 76 145 17.9 </td <td>ne 18.97 2.0 µg/L 20 0 94.8 16.73 2.0 µg/L 20 0 83.6 226.6 20 µg/L 200 0 113 40.3 10 µg/L 20 0 101 17.33 2.0 µg/L 20 0 106 19.53 2.0 µg/L 20 0 97.6 19.53 2.0 µg/L 20 0 116 10.55 2.0 µg/L 20 0 113 17.28 10 µg/L 20 0 112 17.28 10 µg/L 20 0 112 19.65 2.0 µg/L 20 0 98.4 10.66 2.0 µg/L 20 0 98.2 10.66 2.0 µg/L 20 0 98.2 10.66 2.0 µg/L 20 0 98.2</td> <td>Methyl tert-but</td> <td>lyl ether</td> <td>19.98</td> <td>2.0</td> <td>µg∕L</td> <td>20</td> <td>0</td> <td>99.9</td> <td>29</td> <td>144</td> <td>20.74</td> <td>3.73</td> <td>20</td> <td></td>	ne 18.97 2.0 µg/L 20 0 94.8 16.73 2.0 µg/L 20 0 83.6 226.6 20 µg/L 200 0 113 40.3 10 µg/L 20 0 101 17.33 2.0 µg/L 20 0 106 19.53 2.0 µg/L 20 0 97.6 19.53 2.0 µg/L 20 0 116 10.55 2.0 µg/L 20 0 113 17.28 10 µg/L 20 0 112 17.28 10 µg/L 20 0 112 19.65 2.0 µg/L 20 0 98.4 10.66 2.0 µg/L 20 0 98.2 10.66 2.0 µg/L 20 0 98.2 10.66 2.0 µg/L 20 0 98.2	Methyl tert-but	lyl ether	19.98	2.0	µg∕L	20	0	99.9	29	144	20.74	3.73	20	
16.73 2.0 μg/L 20 0 83.6 74 147 17.76 5.97 226.6 20 μg/L 200 0 113 43 162 229.5 1.29 40.3 10 μg/L 20 0 101 16 164 38.57 4.39 17.33 2.0 μg/L 20 0 101 63 149 18.31 5.5 21.23 2.0 μg/L 20 0 97.6 74 141 20.87 6.63 19.53 2.0 μg/L 20 0 97.6 74 141 20.87 6.63 19.53 2.0 μg/L 20 0 97.6 74 141 20.87 6.63 17.28 1 μg/L 20 0 97.6 74 141 20.87 6.53 17.28 1 μg/L 20 103 72 137 21.79 5.89<	16.73 2.0 µg/L 200 0 83.6 226.6 20 µg/L 200 0 1113 40.3 10 µg/L 200 0 1113 17.33 2.0 µg/L 20 0 101 21.23 2.0 µg/L 20 0 86.7 19.53 2.0 µg/L 20 0 106 19.54 20.55 2.0 µg/L 20 0 113 17.28 10 µg/L 20 0 113 17.28 10 µg/L 20 0 113 17.28 10 µg/L 20 0 113 19.65 2.0 µg/L 20 0 113 19.65 2.0 µg/L 20 0 113 19.65 2.0 µg/L 20 0 113 19.65 2.0 µg/L 20 0 113 19.65 2.0 µg/L 20 0 113 19.65 2.0 µg/L 20 0 198 19.65 2.0 µg/L 20 0 198 19.65 2.0 µg/L 20 0 198 19.65 2.0 µg/L 20 0 198 19.65 2.0 µg/L 20 0 198 19.65 2.0 µg/L 20 0 198 19.65 2.0 µg/L 20 0 113	trans-1,2-Dichl	loroethene	18.97	2.0	μg∕L	20	0	94.8	73	149	19.57	3.11	20	
226.6 20 µg/L 200 0 113 43 162 229.5 1.29 40.3 10 µg/L 40 0 101 16 164 38.57 4.39 17.33 2.0 µg/L 20 0 66 68 166 22.88 7.48 21.23 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 10.55 2.0 µg/L 20 0 97.6 72 178 19 4.25 17.28 10 µg/L 20 0 86.4 53 149 18.96 9.38 22.33 2.0 µg/L 20 0 96.2 76 145 20.82 5.78 19.65 2.3 µg/L 20 98.2 76 138 20.82 5.78<	226.6 20 µg/L 200 0 113 40.3 10 µg/L 40 0 101 17.33 2.0 µg/L 20 0 101 21.23 2.0 µg/L 20 0 97.6 ler 18.21 2.0 µg/L 20 0 97.6 ler 20.55 2.0 µg/L 20 0 103 17.28 10 µg/L 20 0 112 22.33 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 98.2 nt Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	1,1-Dichloroeth	hane	16.73	2.0	µg/L	20	0	83.6	74	147	17.76	5.97	8	
40.3 10 µg/L 20 10 16 164 38.57 4.39 17.33 2.0 µg/L 20 0 66.7 63 149 18.31 5.5 21.23 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 10.55 2.0 µg/L 20 0 97.6 76 148 19 4.25 20.55 2.0 µg/L 20 0 91 70 148 19 4.25 17.28 10 µg/L 20 0 103 76 145 16.99 9.38 17.28 10 µg/L 20 0 112 76 145 22.59 1.16 19.65 2.0 µg/L 20 0 98.2 76 145 20.82 5.78	40.3 10 µg/L 40 0 101 17.33 2.0 µg/L 20 0 86.7 21.23 2.0 µg/L 20 0 106 19.53 2.0 µg/L 20 0 97.6 19.53 2.0 µg/L 20 0 97.6 17.28 10 µg/L 20 0 112 22.33 2.0 µg/L 20 0 86.4 22.33 2.0 µg/L 20 0 98.2 19.65 2.0 µg/L 20 0 98.2 19 65 2.0 µg/L 20 0 98.2 19 65 2.0 µg/L 20 0 98.2 Net detected below quantitation limits R- RPD outside accepted recovery limits	Tertiary Butano	5	226.6	70	₽₽₽	200	0	113	43	162	229.5	1.29	20	
17.33 2.0 µg/L 20 0 86.7 63 149 18.31 5.5 21.23 2.0 µg/L 20 0 106 68 166 22.88 7.48 19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 20.55 2.0 µg/L 20 0 103 72 137 21.79 5.86 17.28 10 µg/L 20 0 103 72 137 21.79 5.86 17.28 10 µg/L 20 0 112 76 149 18.96 9.38 22.33 2.0 µg/L 20 0 98.4 53 149 18.96 9.38 19.65 2.0 µg/L 20 0 98.2 76 136 20.82 5.78 10 bected at the Reporting Limits R-RPD outside accepted recovery limits R-RPD outside accepted recovery limits	17.33 2.0 µg/L 20 0 86.7 21.23 2.0 µg/L 20 0 106 19.53 2.0 µg/L 20 0 97.6 19.53 2.0 µg/L 20 0 97.6 17.28 10 µg/L 20 0 112 22.33 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 98.2 11 Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	2-Butanone		40.3	5	₽g∕L	40	0	101	16	1 64	38.57	4.39	20	
21.23 2.0 μg/L 20 0 106 68 166 22.88 7.48 19.53 2.0 μg/L 20 0 97.6 74 141 20.87 6.63 lef 18.21 2.0 μg/L 20 0 91 70 148 19 4.25 20.55 2.0 μg/L 20 0 103 72 137 21.79 5.86 17.28 10 μg/L 20 0 112 76 145 22.59 1.16 22.33 2.0 μg/L 20 0 98.2 76 145 20.82 5.78 I Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	21.23 2.0 μg/L 20 0 106 19.53 2.0 μg/L 20 0 106 19.53 2.0 μg/L 20 0 97.6 20.55 2.0 μg/L 20 0 103 17.28 10 μg/L 20 0 113 22.33 2.0 μg/L 20 0 112 19.65 2.0 μg/L 20 0 112 19.65 2.0 μg/L 20 0 112 19.65 2.0 κg/L 20 0 112 19.65 2.0 κg/L 20 0 198.2 19.65 2.0 κg/L 20 0 112 19.65 2.0 κg/L 20 0 112 19.65 2.0 κg/L 20 10 112 19.65 2.0 κg/L 20 10 112 19.65 2.0 κg/L 20 10 112 19.65 2.0 κg/L 20 10 112 19.65 2.0 κg/L 20 10 112	Diisopropyt eth	her	17.33	2.0	µg∕L	20	0	86.7	83	149	18.31	5.5	20	
19.53 2.0 µg/L 20 0 97.6 74 141 20.87 6.63 lef 18.21 2.0 µg/L 20 0 91 70 148 19 4.25 20.55 2.0 µg/L 20 0 103 72 137 21.79 5.86 17.28 10 µg/L 20 0 86.4 53 149 18.98 9.38 22.33 2.0 µg/L 20 0 112 76 145 22.59 1.16 19.65 2.0 µg/L 20 0 98.2 76 138 20.82 5.78 I Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits R - RPD outside accepted recovery limits	19.53 2.0 µg/L 20 0 97.6 18.21 2.0 µg/L 20 0 91 20.55 2.0 µg/L 20 0 103 17.28 10 µg/L 20 0 103 22.33 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 98.2 at Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	2,2-Dichloropro	opane	21.23	2.0	₽₽₽	20	0	106	89	166	22.88	7.48	20	
ry Butyl Ether 18.21 2.0 µg/L 20 0 91 70 148 19 4.25 20.55 2.0 µg/L 20 0 103 72 137 21.79 5.86 ornethane 17.28 10 µg/L 20 0 66.4 53 149 18.98 9.38 ornethane 22.33 2.0 µg/L 20 0 112 76 145 22.59 1.16 orcethane 19.65 2.0 µg/L 20 98.2 76 138 20.82 5.78 ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank 3.4	ry Butyl Ether 18.21 2.0 µg/L 20 0 91 uran 17.28 10 µg/L 20 0 103 omethane 22.33 2.0 µg/L 20 0 112 oroethane 19.65 2.0 µg/L 20 0 112 ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	cls-1,2-Dichlon	oethene	19.53	2.0	hg∕L	20	0	97.6	74	141	20.87	6.63	20	
20.55 2.0 pg/L 20 0 103 72 137 21.79 5.86 uran 17.28 10 µg/L 20 0 86.4 53 149 18.98 9.38 orredhane 22.33 2.0 µg/L 20 0 112 76 145 22.59 1.16 orredhane 19.65 2.0 µg/L 20 0 98.2 76 138 20.82 5.78 ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits NA NA NA NA SA SA SA SA SA SA SA SA SA SA SA SA SA	20.55 2.0 μg/L 20 0 103 omethane 17.28 10 μg/L 20 0 86.4 oroethane 19.65 2.0 μg/L 20 0 112 ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits S - Spike Recovery outside accepted recovery limits J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	Ethyl Tertiary E	Butyl Ether	18.21	2.0	₽g√L	20	0	9	20	148	19	4.25	20	
17.28 10 µg/L 20 0 86.4 53 149 18.96 9.38 22.33 2.0 µg/L 20 0 112 76 145 22.59 1.16 19.65 2.0 µg/L 20 0 98.2 76 138 20.82 5.78 of Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank lyne detected below quantitation limits R - RPD outside accepted recovery limits	17.28 10 µg/L 20 0 86.4 22.33 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 98.2 ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits S - Spike Recovery outside accepted recovery limits	Chloroform		20.55	2.0	hg/L	20	0	103	22	137	21.79	5.86	20	
22.33 2.0 µg/L 20 0 112 76 145 22.59 1.16 19.65 2.0 µg/L 20 0 98.2 76 138 20.82 5.78 of Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank lyte detected below quantitation limits R - RPD outside accepted recovery limits	22.33 2.0 µg/L 20 0 112 19.65 2.0 µg/L 20 0 112 of Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits lyte detected below quantitation limits R - RPD outside accepted recovery limits	Tetrahydrofura	5	17.28	5	- Tygq	20	0	86.4	53	149	18.98	9.38	20	
19.65 2.0 µg/L 20 0 98.2 76 138 20.82 5.78 ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank lyte detected below quantitation limits R - RPD outside accepted recovery limits	ot Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	Bromochlorom	nethane	22.33	2.0	µ9/L	20	0	112	92	145	22.59	1.16	20	
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	1,1,1-Trichloro	ethane	19.65	2.0	pg/L	20	0	98.2	92	138	20.82	5.78	20	
R - RPD outside accepted recovery limits	R - RPD outside accepted recovery limits		ND - Not Detecte	ed at the Reporting Limit		S - Spike Recove	rry outside accep	ited recovery	limits	B - Analyt	e detected in the	ie associated Meth	od Blank		
			J - Analyte detect	ted below quantitation limits		R - RPD outside	accepted recove	ry fimits		MA M.			_		

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

AMRO Environmental Laboratories Corp.

	OEI Consumants, me.								OC SIMMARV REPORT	MARVI	REPORT
Work Order: 1710012								1			
Project: 1700396 M	1700396 MPA Berth 10 Final Design	sign						Lai	Laboratory Control Spike Duplicate	ntrol Spik	e Duplicat
1,1-Dichloropropene	20.75	2.0	hg/L	20	0	5	74	138	21.79	4.89	20
Carbon tetrachloride	20.55	2.0	µg/L	8	0	103	2	138	20.69	0.679	20
1,2-Dichloroethane	18.86	2.0	μg/L	20	0	94.3	74	2	19.5	3.34	50
Benzene	19.66	1.0 0.1	μg/L	20	0	98.3	69	148	20.96	6.4	20
Trichloroethene	19.19	2.0	µg/L	20	0	96	74	136	20.18	5.03	20
1,2-Dichloropropane	19.08	2.0	рg/L	8	0	95.4	72	137	20.95	9.34	20
Bromodichloromethane	22.22	2.0	μg/L	29	0	#	74	137	23.62	6.11	20
Dibromomethane	20.38	2.0	µ9/L	8	0	102	75	129	20.88	2.42	20
Tertiary Amyl Methyl Ether	19.99	2.0	µg∕L	70	0	100	72	146	19.72	1.36	20
4-Methyl-2-pentanone	39.91	9	µg∕L	4	0	8.66	49	138	40.72	2.01	20
cis-1,3-Dichloropropene	21.05	1.0	µg∕L	8	0	105	72	1 3	21.66	2.86	20
Toluene	20.04	2.0	µg/L	20	0	9	75	139	21.05	4.92	20
trans-1,3-Dichloropropene	20.28	1.0	μg/L	20	0	ᅙ	\$	132	20.8	2.53	20
1,1,2-Trichloroethane	20.94	2.0	рgЛ	20	0	105	ಜ	138	21.31	1.75	50
1,2-Dibromoethane	20.87	2.0	hg∕L	20	0	5	72	136	21.34	2.23	20
2-Hexanone	35.17	9	µg∕L	40	0	87.9	35	138	35.14	0.0853	20
1,3-Dichloropropane	17.92	2.0	μg/L	20	•	89.6	75	120	18.76	4.58	20
Tetrachloroethene	19.41	2.0	Joh	20	0	97	11	125	21.42	9.85	20
Dibromochloromethane	19.95	2.0	µ9⁄L	20	0	8.66	89	113	20.77	4.03	50
Chlorobenzene	18.82	2.0	µ9∕L	20	0	<u>¥</u>	79	120	20.23	7.22	20
1,1,1,2-Tetrachioroethane	18.51	2.0	μg/L	8	0	95.6	23	118	19.99	7.69	20
Ethylbenzene	19.03	2.0	µ9∕L	20	0	95.2	75	127	20.31	6.51	20
m,p-Xylene	37.77	2.0	μg/L	4	0	8 .4	23	131	40.32	6.53	20
o-Xylene	18.42	2.0	µg∕L	8	0	92.1	23	133	20.21	9.27	20
Slyrene	19.58	2.0	₽₽₽	20	0	97.9	69	2 5	20.59	5.03	20
Вготобот	15.11	2.0	₽9⁄L	20	0	75.6	51	112	15.99	5.66	20
Isopropylbenzene	18.06	2.0	µg√L	20	•	90.3	88	128	19.21	6.17	20
1,1,2,2-Tetrachloroethane	17.08	2.0	µ9/L	20	0	85.4	65	121	17.12	0.234	20
1,2,3-Trichloropropane	15.33	2.0	µg∕L	20	0	76.7	29	125	15.31	0.131	20
Bromobenzene	18.89	2.0	µg/L	20	0	94.4	75	120	20.02	5.81	20
n-Propylbenzene	18.38	2.0	hg/L	20	0	91.9	99	131	19.72	7.03	20
Qualifiers: ND - Not Detected at	ND - Not Detected at the Reporting Limit	 	S - Spike Recove	S - Spike Recovery outside accepted recovery limits	recovery	imits	B - Analyte	letected in the	B - Analyte detected in the associated Method Blank	d Blank	
J - Analyte detected l	J - Analyte detected below quantitation limits		R - RPD outside	R - RPD outside accepted recovery limits	imits		MA Motor	liantle artem.	NA Not conditional and an included the	1	
				•							

Work Order	1710012	1210012							→	QC SUMMARY REPORT	TAKY H	EPORT
Project:	1700396 MPA Berth 10 Final Design	th 10 Final De	esign						Lab	aboratory Control Spike Duplicate	ıtrol Spike	Duplicate
2-Chiorotoluene		18.38	2.0	µg∕L	20	0	91.9	68	123	19.49	5.86	20
4-Chlorotoluene		18.19	2.0	μg/L	20	0	6	69	124	19.44	6.64	20
1,3,5-Trimethylbenzene	ene.	18.88	2.0	µg∕L	8	0	94.4	89	50	20.12	6.36	20
tert-Butylbenzene		18.4	2.0	µg/L	20	0	95	29	129	19.29	4.72	20
1,2,4-Trimethylbenzene	tene	19.02	2.0	µg/L	20	0	95.1	69	132	20.43	7.15	20
sec-Butylbenzene		18.29	2.0	рgЛ	8	0	91.4	63	136	19.55	99.9	20
4-Isopropyltotuene		19.47	2.0	µ9/L	20	0	97.4	65	137	21.58	10.3	20
1,3-Dichlorobenzene	9	18.36	2.0	иgЛ.	20	0	91.8	7	126	19.57	6.38	20
1,4-Dichlorobenzene	0	18.6	2.0	иgЛ	8	0	83	72	123	19.23	3.33	20
n-Butylbenzene		19.74	2.0	µg/L	20	0	98.7	2	138	21.23	7.27	20
1,2-Dichlorobenzene	•	18.84	2.0	рgЛ.	20	0	94.2	75	124	19.72	4.56	20
1,2-Dibromo-3-chloropropane	ropropane	18.36	5.0	μg/L	20	0	91.8	48	130	18.62	1.41	20
1,2,4-Trichlorobenzene	ene	17.08	2.0	µg∕L	8	0	85.4	<u>6</u>	141	18.08	5.69	20
Hexachlorobutadiene	ē	13.97	2.0	µg∕L	20	0	8.69	45	154	16.96	19.3	20
Naphthalene		16.8	9.0	µg∕L	20	0	¥	4	143	18.31	8.6	20
1,2,3-Trichlorobenzene	ene	15.19	2.0	иgЛ	8	0	20	4	152	16.88	10.5	20
1,3,5-Trichlorobenzene	ene	19.9	2.0	µg/L	20	0	99.5	47	155	21.13	မ	20
Surr. Dibromofluoromethane	oromethane	25.27	2.0	μg/L	25	0	5	74	138	0	0	0
Surr: 1,2-Dichloroethane-d4	pethane-d4	24.03	2.0	µ9/L	25	0	96.1	2	138	0	0	0
Surr: Toluene-d8		25.29	2.0	рgЛ.	25	0	₽	11	128	0	0	0
Surr: 4-Bromofluorobenzene	orobenzene	23.55	2.0	µg∕L	25	0	94.2	₩	113	0	0	o

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

Date: 02-Nov-17

CLIENT:

GEl Consultants, Inc.

1710012

Client Sample ID: 1700396-WE-10

Lab Order:

Collection Date: 10/4/2017 11:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-01B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 8270D SEMIVOLATILE ORGANICS		SW8270D				Analyst: NS
Phenol	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Bis(2-chloroethyi)ether	ND	10		µg/L	1	10/10/2017 4:17:00 PM
2-Chlorophenol	ND	10		µg/L	1	10/10/2017 4:17:00 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Benzyl alcohol	ND	21		µg/L	1	10/10/2017 4:17:00 PM
2-Methylphenol	ND	10		µg/L	1	10/10/2017 4:17:00 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	10/10/2017 4:17:00 PM
4-Methylphenol	ND	10		μg/L	1	10/10/2017 4:17:00 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Hexachloroethane	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Nitrobenzene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Isophorone	ND	10		µg/L	1	10/10/2017 4:17:00 PM
2,4-Dimethylphenol	ND	10		μg/L	1	10/10/2017 4:17:00 PM
Benzoic acid	ND	21		µg/L	1	10/10/2017 4:17:00 PM
2-Nitrophenol	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	10/10/2017 4:17:00 PM
2,4-Dichlorophenol	ND	10		µg/L	1	10/10/2017 4:17:00 PM
1,2,4-Trichlorobenzene	ND	10		μg/L	1	10/10/2017 4:17:00 PM
Naphthalene	ND	10		μg/L	1	10/10/2017 4:17:00 PM
4-Chloroanlline	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Hexachlorobutadiene	ND	10		μg/L	1	10/10/2017 4:17:00 PM
4-Chloro-3-methylphenol	ND	21		µg/L	1	10/10/2017 4:17:00 PM
2-Methylnaphthalene	ND	10		μg/L	1	10/10/2017 4:17:00 PM
Hexachlorocyclopentadiene	ND	10		μg/L	1	10/10/2017 4:17:00 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	10/10/2017 4:17:00 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	10/10/2017 4:17:00 PM
2-Chioronaphthalene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
2-Nitroaniline	ND	21		µg/L	1	10/10/2017 4:17:00 PM
Dimethyl phthalate	ND	10		µg/L	1	10/10/2017 4:17:00 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Acenaphthylene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
3-Nitroaniline	ND	21		μg/L	1	10/10/2017 4:17:00 PM
4-Nitrophenol	ND	21		µg/L	1	10/10/2017 4:17:00 PM
2,4-Dinitrophenol	ND	21		µg/L	1	10/10/2017 4:17:00 PM
Acenaphthene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	10/10/2017 4:17:00 PM
Dibenzofuran	ND	10		µg/L	1	10/10/2017 4:17:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Lab Order:

1710012

Client Sample ID: 1700396-WE-10

Collection Date: 10/4/2017 11:30:00 AM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-01B

Analyses	Result	RL	Qual {	Units	DF	Date Analyzed
Diethyl phthalate	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PN
4-Chlorophenyl phenyl ether	ND	10		ig/L	1	10/10/2017 4:17:00 PM
Fluorene	ND	10	ų	ig/L	1	10/10/2017 4:17:00 PM
4-Nitroaniline	ND	21	μ	ıg/L	1	10/10/2017 4:17:00 PM
4,6-Dinitro-2-methylphenol	ND	21	μ	ıg/L	1	10/10/2017 4:17:00 PM
N-Nitrosodiphenylamine	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PM
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PM
4-Bromophenyl phenyl ether	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PM
Hexachlorobenzene	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PN
Pentachlorophenol	ND	21	μ	ig/L	1	10/10/2017 4:17:00 PM
Phenanthrene	ND	10	μ	ig/L	1	10/10/2017 4:17:00 PN
Anthracene	ND	10	μ	ig/L	1	10/10/2017 4:17:00 PN
Carbazole	ND	10	μ	ig/L	1	10/10/2017 4:17:00 PN
Di-n-butyl phthalate	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PN
Fluoranthene	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PN
Pyrene	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PN
Butyl benzyl phthalate	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PN
Bis(2-ethylhexyl)phthalate	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PM
3,3'-Dichlorobenzidine	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PM
Benz(a)anthracene	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PM
Chrysene	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PM
Di-n-octyl phthalate	ND	10	μ	ıg/L	1	10/10/2017 4:17:00 PM
Benzo(b)fluoranthene	ND	10	μ	g/L	1	10/10/2017 4:17:00 PN
Benzo(k)fluoranthene	ND	10	μ	g/L	1	10/10/2017 4:17:00 PM
Benzo(a)pyrene	ND	10	μ	g/L	1	10/10/2017 4:17:00 PM
Dibenz(a,h)anthracene	ND	10	μ	g/L	1	10/10/2017 4:17:00 PN
Indeno(1,2,3-cd)pyrene	ND	10	μ	g/L	1	10/10/2017 4:17:00 PM
Benzo(g,h,i)perylene	ND	10	μ	g/L	1	10/10/2017 4:17:00 PM
Surr: 2-Fluorophenol	39.3	25-62	%	4REC	1	10/10/2017 4:17:00 PM
Surr: Phenol-d5	26.7	13-43	%	6REC	1	10/10/2017 4:17:00 PM
Surr: Nitrobenzene-d5	71.8	36-108	%	4REC	1	10/10/2017 4:17:00 PM
Surr: 2-Fluorobiphenyl	73.9	44-117	%	6REC	1	10/10/2017 4:17:00 PM
Surr: 2,4,6-Tribromophenol	91.2	39-131	%	6REC	1	10/10/2017 4:17:00 PM
Surr: 4-Terphenyl-d14	107	44-122	%	6REC	1	10/10/2017 4:17:00 PM

Date: 02-Nov-17

CLIENT: Lab Order: GEl Consultants, Inc.

Client Sample ID: 1700396-GE1-212

1710012 Collection Date: 10/4/2017 12:30:00 PM

Matrix: GROUNDWATER

Project:

1700396 MPA Berth 10 Final Design

Lab ID: 1710012-02B

Analyses	Resuit	RL	Quai	Units	DF	Date Analyzed
EPA 8270D SEMIVOLATILE ORGANICS	SV	V8270D				Analyst: NS
Phenol	ND	10		μg/L	1	10/10/2017 4:42:00 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	10/10/2017 4:42:00 PM
2-Chlorophenol	ND	10		µg/L	1	10/10/2017 4:42:00 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	10/10/2017 4:42:00 PN
1,4-Dichlorobenzene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Benzyl alcohol	ND	20		µg/L	1	10/10/2017 4:42:00 PM
2-Methylphenol	ND	10		µg/L	1	10/10/2017 4:42:00 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Bis(2-chloroisopropyl)ether	ND	10		μg/L	1	10/10/2017 4:42:00 PM
4-Methylphenol	ND	10		µg/L	1	10/10/2017 4:42:00 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Hexachloroethane	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Nitrobenzene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Isophorone	ND	10		µg/L	1	10/10/2017 4:42:00 PM
2,4-Dimethylphenol	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Benzoic acid	ND	20		μg/L	1	10/10/2017 4:42:00 PM
2-Nitrophenol	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Bis (2-chloroethoxy)methane	ND	10		µg/L	1	10/10/2017 4:42:00 PM
2,4-Dichlorophenol	ND	10		µg/L	1	10/10/2017 4:42:00 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Naphthalene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
4-Chloroaniline	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Hexachlorobutadiene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
4-Chloro-3-methylphenol	ND	20		μg/L	1	10/10/2017 4:42:00 PM
2-Methylnaphthalene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
2,4,6-Trichlorophenol	ND	10		μg/L	1	10/10/2017 4:42:00 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	10/10/2017 4:42:00 PM
2-Chloronaphthalene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
2-Nitroaniline	ND	20		µg/L	1	10/10/2017 4:42:00 PM
Dimethyl phthalate	ND	10		µg/L	1	10/10/2017 4:42:00 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Acenaphthylene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
3-Nitroaniline	ND	20		µg/L	1	10/10/2017 4:42:00 PM
4-Nitrophenol	ND	20		μg/L	1	10/10/2017 4:42:00 PM
2,4-Dinitrophenol	ND	20		µg/L	1	10/10/2017 4:42:00 PM
Acenaphthene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
2,4-Dinitrotoluene	ND	10		μg/L	1	10/10/2017 4:42:00 PM
Dibenzofuran	ND	10		µg/L	1	10/10/2017 4:42:00 PM

Date: 02-Nov-17

CLIENT:

GEl Consultants, Inc.

Client Sample ID: 1700396-GE1-212

Lab Order:

1710012

Collection Date: 10/4/2017 12:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-02B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diethyl phthalate	ND	10		µg/L	1	10/10/2017 4:42:00 PM
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Fluorene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
4-Nitroaniline	ND	20		µg/L	1	10/10/2017 4:42:00 PM
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	10/10/2017 4:42:00 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	10/10/2017 4:42:00 PN
1,2-Diphenylhydrazlne (as Azobenzene)	ND	10		µg/L	1	10/10/2017 4:42:00 PN
4-Bromophenyi phenyi ether	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Hexachlorobenzene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Pentachiorophenol	ND	20		µg/L	1	10/10/2017 4:42:00 PM
Phenanthrene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Anthracene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Carbazole	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Di-n-butyl phthalate	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Fluoranthene	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Pyrene	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Butyl benzyl phthalate	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	10/10/2017 4:42:00 PM
3,3'-Dichlorobenzidine	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Benz(a)anthracene	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Chrysene	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Di-n-octyl phthalate	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Benzo(b)fluoranthene	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Benzo(k)fluoranthene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Benzo(a)pyrene	ND	10		µg/L	1	10/10/2017 4:42:00 PN
Dibenz(a,h)anthracene	ND	10		μg/L	1	10/10/2017 4:42:00 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	10/10/2017 4:42:00 PM
Surr: 2-Fluorophenol	33.5	25-62		%REC	1	10/10/2017 4:42:00 PM
Surr: Phenol-d5	25.9	13-43		%REC	1	10/10/2017 4:42:00 PN
Surr: Nitrobenzene-d5	54.8	36-108		%REC	1	10/10/2017 4:42:00 PM
Surr: 2-Fluorobiphenyl	64.2	44-117		%REC	1	10/10/2017 4:42:00 PM
Surr: 2,4,6-Tribromophenol	88.2	39-131		%REC	1	10/10/2017 4:42:00 PM
Surr: 4-Terphenyl-d14	101	44-122		%REC	1	10/10/2017 4:42:00 PM

Date: 02-Nov-17

CLIENT:

GEl Consultants, Inc.

Lab Order:

1710012

Client Sample ID: 1700396-GEI-302(MW)

Collection Date: 10/4/2017 2:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-03B

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 8270D SEMIVOLATILE ORGANICS		SW8270D				Analyst: NS
Phenol	ND	11		μg/L	1	10/10/2017 5:06:00 PM
Bis(2-chloroethyl)ether	ND	11		μg/L	1	10/10/2017 5:06:00 PM
2-Chlorophenol	ND	11		µg/L	1	10/10/2017 5:06:00 PM
1,3-Dichlorobenzene	ND	11		µg/L	1	10/10/2017 5:06:00 PM
1,4-Dichlorobenzene	ND	11		μg/L	1	10/10/2017 5:06:00 PM
Benzyl alcohol	ND	21		µg/L	1	10/10/2017 5:06:00 PM
2-Methylphenol	ND	11		μg/L	1	10/10/2017 5:06:00 PM
1,2-Dichlorobenzene	ND	11		μg/L	1	10/10/2017 5:06:00 PM
Bis(2-chlorolsopropyl)ether	ND	11		µg/L	1	10/10/2017 5:06:00 PM
4-Methylphenol	ND	11		µg/L	1	10/10/2017 5:06:00 PM
N-Nitrosodi-n-propylamine	ND	11		µg/L	1	10/10/2017 5:06:00 PM
Hexachloroethane	ND	11		µg/L	1	10/10/2017 5:06:00 PM
Nitrobenzene	ND	11		µg/L	1	10/10/2017 5:06:00 PM
Isophorone	ND	11		μg/L	1	10/10/2017 5:06:00 PM
2,4-Dimethylphenol	ND	11		μg/L	1	10/10/2017 5:06:00 PM
Benzolc acid	ND	21		μg/L	1	10/10/2017 5:06:00 PM
2-Nitrophenol	ND	11		µg/L	1	10/10/2017 5:06:00 PM
Bis(2-chloroethoxy)methane	ND	11		µg/L	1	10/10/2017 5:06:00 PM
2,4-Dichlorophenol	ND	11		µg/L	1	10/10/2017 5:06:00 PM
1,2,4-Trichlorobenzene	ND	11		μg/L	1	10/10/2017 5:06:00 PM
Naphthalene	ND	11		µg/L	1	10/10/2017 5:06:00 PM
4-Chloroaniline	ND	11		μg/L	1	10/10/2017 5:06:00 PM
Hexachlorobutadiene	ND	11		µg/L	1	10/10/2017 5:06:00 PM
4-Chloro-3-methylphenol	ND	21		μg/L	1	10/10/2017 5:06:00 PM
2-Methylnaphthalene	ND	11		µg/L	1	10/10/2017 5:06:00 PM
Hexachlorocyclopentadiene	ND	11		µg/L	1	10/10/2017 5:06:00 PM
2.4,6-Trichlorophenol	ND	11		µg/L	1	10/10/2017 5:06:00 PM
2,4,5-Trichlorophenol	ND	11		µg/L	1	10/10/2017 5:06:00 PM
2-Chloronaphthalene	ND	11		µg/L	1	10/10/2017 5:06:00 PM
2-Nitroaniline	ND	21		µg/L	1	10/10/2017 5:06:00 PM
Dimethyl phthalate	ND	11		µg/L	1	10/10/2017 5:06:00 PM
2,6-Dinitrotoluene	ND	11		μg/L	1	10/10/2017 5:06:00 PM
Acenaphthylene	ND	11		µg/L	1	10/10/2017 5:06:00 PM
3-Nitroaniline	ND	21		μg/L	1	10/10/2017 5:06:00 PM
4-Nitrophenol	ND	21		μg/L	1	10/10/2017 5:06:00 PM
2,4-Dinitrophenol	ND	21		µg/L	1	10/10/2017 5:06:00 PM
Acenaphthene	ND	11		μg/L	1	10/10/2017 5:06:00 PM
2,4-Dinitrotoluene	ND	11		μg/L	1	10/10/2017 5:06:00 PM
Dibenzofuran	ND	11		μg/L	1	10/10/2017 5:06:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-GEI-302(MW)

Lab Order:

1710012

Collection Date: 10/4/2017 2:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-03B

nalyses	Result	RL (Qual Units	DF	Date Analyzed
Diethyl phthalate	ND	11	μg/L	1	10/10/2017 5:06:00 PN
4-Chlorophenyl phenyl ether	ND	11	µg/L	1	10/10/2017 5:06:00 PN
Fluorene	ND	11	μg/L	1	10/10/2017 5:06:00 PN
4-Nitroaniline	ND	21	μg/L	1	10/10/2017 5:06:00 PN
4,6-Dinitro-2-methylphenol	ND	21	μg/L	1	10/10/2017 5:06:00 PN
N-Nitrosodiphenylamine	ND	11	μg/L	1	10/10/2017 5:06:00 PN
1,2-Diphenylhydrazine (as Azobenzene)	ND	11	µg/L	1	10/10/2017 5:06:00 PM
4-Bromophenyl phenyl ether	ND	11	μg/L	1	10/10/2017 5:06:00 PM
Hexachlorobenzene	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Pentachiorophenol	ND	21	μg/L	1	10/10/2017 5:06:00 PN
Phenanthrene	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Anthracene	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Carbazole	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Di-n-butyl phthalate	ND	11	μg/L	1	10/10/2017 5:06:00 PM
Fluoranthene	ND	11	µg/L	1	10/10/2017 5:06:00 PM
Pyrene	ND	11	μg/L	1	10/10/2017 5:06:00 PM
Butyl benzyl phthalate	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Bis(2-ethylhexyl)phthalate	ND	11	μg/L	1	10/10/2017 5:06:00 PN
3,3'-Dichlorobenzidine	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Benz(a)anthracene	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Chrysene	ND	11	hā/ŗ	1	10/10/2017 5:06:00 PN
Di-n-octyl phthalate	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Benzo(b)fluoranthene	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Benzo(k)fluoranthene	ND	11	µg/L	1	10/10/2017 5:06:00 PN
Benzo(a)pyrene	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Dibenz(a,h)anthracene	ND	11	μg/L	1	10/10/2017 5:06:00 PN
Indeno(1,2,3-cd)pyrene	ND	11	µg/L	1	10/10/2017 5:06:00 PM
Benzo(g,h,l)perylene	NĐ	11	µg/L	1	10/10/2017 5:06:00 PN
Surr: 2-Fluorophenol	34.7	25-62	%REC	1	10/10/2017 5:06:00 PN
Surr: Phenol-d5	28.1	13-43	%REC	1	10/10/2017 5:06:00 PM
Surr: Nitrobenzene-d5	55.4	36-108	%REC	1	10/10/2017 5:06:00 PM
Surr: 2-Fluorobiphenyl	66.6	44-117	%REC	1	10/10/2017 5:06:00 PM
Surr: 2,4,6-Tribromophenol	86.1	39-131	%REC	1	10/10/2017 5:06:00 PM
Surr: 4-Terphenyl-d14	98.8	44-122	%REC	1	10/10/2017 5:06:00 PM

Date: 02-Nov-17

CLIENT:	GEI Core	GEI Consultants, Inc.								Tabasa Va Amaria	AWA DV	DEPOI	Ę
Work Order:	1710012									WICE ON	INTERIOR		
Project:	1700396	1700396 MPA Berth 10 Final Design	sign								N	Method Blank	ank
													ıl
Sample ID: MB-27516	27516	Batch ID: 27516	Test Code	Test Code: SW8270D	Units: µg/L			Anatysis D	late: 10/10/2	Analysis Date: 10/10/2017 3:04:00 PM	Prep Date	Prep Date: 10/9/2017	
Client ID:			Run ID:	SV-4_171010A	10A			SeqNo:	1006962				
		QC Sample		J	QC Spike Original Sample	al Sample			•	Original Sample			
Analyte		Result	귙	Cnits	Amount	Result	%REC	LowLimit HighLimit	- 1	or MS Result	%RPD	RPDLimit	ä
Phenol		QN	5	μg/L									
Bis(2-chloroethyl)ether	ether	Q	5	Lg/L									
2-Chlorophenal		QV	5	иgЛ									
1,3-Dichlorobenzene	ene	Q	우	μg/L									
1,4-Dichlorobenzene	ene	Q	6	µ9∕L									
Benzył alcohoł		Q	20	µg∕L									
2-Methylphenol		QN	6	µ9∕L									
1,2-Dichlorobenzene	ene	QN	9	иgЛ									
Bis(2-chloroisopropyl)ether	opyl)ether	S	6	µg∕l.									
4-Methylphenol		Q	\$	µg∕l.									
N-Nitrosodi-n-propylamine	pylamine	Q	9	μg/L									
Hexachioroethane	0	S	9	μg/L									
Nitrobenzene		Q	5	μg/L									
Isophorone		Q	9	µg∕L									
2,4-Dimethyiphenol	lor	Q	9	µg∕l.									
Benzoic acid		Q	20	μg/L									
2-Nitrophenol		Q	9	₽g∕L									
Bis(2-chloroethoxy)methane	cy)methane	오	9	iu9∕L									
2,4-Dichlorophenol	<u>ō</u>	Q	9	pg/L									
1,2,4-Trichlorobenzene	nzene	Q	2	µg∕L									
Naphthalene		9	2	µ9/L									
4-Chloroaniline		Q	9	µ9⁄L									
Hexachlorobutadiene	iene	Q	9	ng/L									
4-Chloro-3-methylphenol	/lphenol	Q	20	µg∕L									
2-Methylnaphthalene	ene	QN	5	µg/L									
Qualifiers: NI	D - Not Detected	ND - Not Detected at the Reporting Limit	S	- Spike Recove	S - Spike Recovery outside accepted recovery limits	d recovery	limits	B - Analy	te detected in	B - Analyte detected in the associated Method Blank	od Blank		
J.	 Analyte detects 	J - Analyte detected below quantitation limits	~	- RPD outside	R - RPD outside accepted recovery limits	' limits		NA - Not	applicable wt	NA - Not applicable where J values of ND results occur	results occur		
32 124	L - Reporting Li	RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.	centration the	: laboratory can) accurately quantit	itate.			•				
				•									

Work Ordon					
MOLN CICE.	1710012				QC SUMMAKI KEYOKI
Project:	1700396 MPA Berth 10 Final Design	inal Design			Method Blank
Hexachlorocyclopentadiene	entadiene ND	10		μg/L	
2,4,6-Trichlorophenol	QN lon	5	_	µg/L	
2,4,5-Trichlorophenol	ON lon lon	5	_	µg/L	
2-Chloronaphthalene	ON	01	_	ug/L	
2-Nitroaniline	QN	20	_	pg/L	
Dimethyl phthalate	QN A	5	_	ng/L	
2,6-Dinitrotoluene	QN	5	_	ygr	
Acenaphthylene	<u>Q</u>	5	_	µg/L	
3-Nitroaniline	ON	20	_	hg/L	
4-Nitrophenol	<u>N</u>	20	_	µg∕l.	
2,4-Dinitrophenol	<u>N</u>	20	_	μg/L	
Acenaphthene	ON	10	_	µg/L	
2,4-Dinitrotoluene	2	10	_	μg/L	
Dibenzofuran	₽ Q	£	_	µg/L	
Diethyl phthalate	Q	10	_	μg/L	
4-Chlorophenyl phenyl ether	enyl ether ND	10	_	µg/L	
Fluorene	Q	5	_	μg/L	
4-Nitroaniline	ON N	20	30	µg/L	
4,6-Dinitro-2-methylphenol	ylphenol ND	20	_	μg/L	
N-Nitrosodiphenylamine	amine ND	10	_	µg/L	
1,2-Diphenylhydrazine (as Azobe	zine (as Azobe ND	5	_	μg/L	
4-Bromophenyl phenyl ether	enyl ether ND	9	_	µg/L	
Hexachlorobenzene	ND e	9	_	μg/L	
Pentachiorophenol	ON .	20	_	нgЛ	
Phenanthrene	<u>Q</u>	5	_	µg/L	
Anthracene	2	5	_	μg/L	
Carbazole	ON NO	10	_	µg/L	
Di-n-butyl phthalate	ON O	5	_	μg/L	
Finoranthene	ON NO	5	_	µg/L	
Pyrene	QN	9	_	Jy Jy Jy	
Butyl benzyl phthalate	late	9	_	pg/L	
Qualifiers: ND	ND - Not Detected at the Reporting Limit	į	Ś	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
J-1	J - Analyte detected below quantitation limits	limits	~	R - RPD outside accepted recovery limits	MA Not confirmed and confirmed
Ĭ				•	The applicable where I values of the results occur

CLIENT: Work Order: Project:	GEI Consultants, Inc. 1710012 1700396 MPA Berth 10 Final Design	nc. rth 10 Final D	esign						00	QC SUMMARY REPORT Method Blank
Bis(2-ethylhexyl)phthalate	thalate	QN	10	µg∕L						
3,3'-Dichlorobenzidine	line	2	5	иg/L						
Benz(a)anthracene		S	5	μg/L						
Chrysene		Q	우	µg/L						
Di-n-octyl phthalate		Q	9	pg/L						
Benzo(b)fluoranthene	Je	Q	2	µg/L						
Benzo(k)fluoranthene	ne	Q	9	μg/L						
Benzo(a)pyrene		2	2	иgЛ						
Dibenz(a,h)anthracene	ene	Q	9	µg/L						
Indeno(1,2,3-cd)pyrene	rène	Q	9	μg/L						
Benzo(g,h,i)perylene	ē	Q	6	µg∕L						
Surr: 2-Fluorophenol	enol	20.75	.	μg/L	75	0	27.7	52	62	0
Surr. Phenol-d5		13.14	1.0	μg/L	75	0	17.5	13	£3	0
Surr. Nitrobenzene-d5	ne-d5	23.9	0:	μg/L	20	0	47.8	36	108	0
Surr. 2-Fluorobiphenyl	henyl	24.53	0.	μg/L	20	0	49.1	\$	117	0
Surr. 2,4,6-Tribromophenol	торнело	42.87	5 .	µg∕L	75	•	57.2	39	131	0
Surr. 4-Terphenyl-d14	/Hd14	33.78	1.0	μg/L	20	0	67.6	4	122	0

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

Date: 02-Nov-17

GEI Consultants, Inc. CLIENT:

ð S Laboratory Control Spike QC SUMMARY REPORT Prep Date: 10/9/2017 %RPD RPDLimit NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank Analysis Date: 10/10/2017 3:29:00 PM Original Sample or MS Resuft 1006963 **HighLimit** 8 은 드 55 ᅙ 61 97 2 8 LowLimit 9 8 9 8 器 SeqNo: Result %REC 6.9 70.9 72.6 74.4 59.1 59.7 109 36.6 76.5 8 73.1 33.5 73.4 72.7 79.8 83.1 62.2 90.9 76.2 S - Spike Recovery outside accepted recovery limits QC Spike Original Sample R - RPD outside accepted recovery limits Units: µg/L 50 Amount ଅ ଅ ß င္ပ 50 50 50 50 50 50 50 50 50 50 50 50 SV-4_171010A Test Code: SW8270D 퉏 βğ λgr μgr μgr Agr. λgr Λgr 퉏 퉏 ğ 퉏 흳 퉏 절 Run ID: 9 9 9 9 2 0 2 2 8 700396 MPA Berth 10 Final Design J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Batch ID: 27516 39.99 50.19 38.08 Result 34.51 53.19 36.29 37.2 29.54 44.79 35.54 54.52 54.88 39.01 38.27 36.54 25.11 55.04 36.34 59.84 41.57 31.12 45.47 61.72 QC Sample 1710012 Bis(2-chloroethoxy)methane Bis(2-chloroisopropyl)ether N-Nitrosodi-n-propylamine 4-Chloro-3-methylphenol Sample ID: LCS-27516 1,2,4-Trichlorobenzene Bis(2-chloroethyl)ether 1,3-Dichlorobenzene **Pexachlorobutadiene** 2-Methylnaphthalene I.4-Dichlorobenzene 1,2-Dichlorobenzene 2,4-Dimethylphenol 2,4-Dichlorophenol Hexachloroethane Work Order: 2-Methylphenol 4-Methylphenol 2-Chlorophenol 4-Chloroaniline Benzyl alcohol 2-Nitrophenol Vitrobenzene **Japhthalene** Benzoic acid Qualifiers: sophorone **Project:** Client ID: Analyte Phenol

RL - Reporting Limit, defined as the lowest concentration the faboratory can accurately quantitate.

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Date: 02-Nov-17

Work Order	1710012								QC SUMMARY REPORT	EFORE
	1700396 MPA Berth 10 Final Design	esign							Laboratory Control Spike	trol Spike
Hexachlorocyclopentadiene	adiene 8.7	10	иgЛ	20	٥	17.4	9	91	0	
2,4,6-Trichlorophenol	74.27	9	иgЛ	75	0	66	84	129	0	
2,4,5-Trichlorophenol	79.86	9	hg/L	75	0	106	45	131	0	
2-Chioronaphthalene	45.68	9	µg∕L	20	0	91.4	48	107	0	
2-Nitroaniline	52.54	20	μg⁄L	90	0	105	4	123	0	
Dimethyl phthalate	48.81	t	μg/L	20	0	97.6	28	114	0	
2,6-Dinitrotoluene	45.65	5	µg/L	90	0	91.3	25	115	0	
Acenaphthylene	39.13	t	μg/L	20	0	78.3	25	110	0	
3-Nitroaniline	45.11	20	µg/L	50	0	90.2	20	121	0	
4-Nitrophenol	37.35	20	μg/L	75	0	49.8	4	53	0	
2,4-Dinitrophenol	65.27	8	µg/L	75	0	87	19	12	0	
Acenaphthene	44.21	5	µg/L	20	0	88.4	25	110	0	
2,4-Dinitrotoluene	49.84	5	µg/L	20	0	99.7	29	116	0	
Dibenzofuran	44.94	우	µg/L	20	0	89.9	51	119	0	
Diethyi phthalate	48.2	₽	µg/L	20	0	96.4	22	115	0	
4-Chlorophenyl phenyl ether	/i ether 50.38	5	µg/L	20	0	5	99	114	0	
Fluorene	46.54	5	μg/L	20	٥	93.1	ঠ	115	0	
4-Nitroaniline	43.1	8	µg/L	20	0	86.2	49	119	0	
4,6-Dinitro-2-methylphenol	henol 66.01	8	μg/L	75	0	88	4	127	0	
N-Nitrosodiphenylamine	ine 38.95	2	μg/L	20	0	77.9	5	118	0	
1,2-Diphenylhydrazine (as Azobe	e (as Azobe 36.01	9	μg/L	20	0	72	43	118	0	
4-Bromophenyl phenyl ether	/l ether 43.59	9	µ9∕L	20	•	87.2	8	115	0	
Hexachlorobenzene	43.52	9	µg/L	20	0	87	98	114	0	
Pentachlorophenoi	85.01	29	μg/L	75	0	113	33	128	0	
Phenanthrene	40.74	£	µg∕L	90	0	81.5	35	112	0	
Anthracene	40.34	5	µg∕L	20	0	90.7	ጃ	113	0	
Carbazole	38.96	2	μg/L	9	0	77.9	25	120	0	
Di-n-butyl phthalate	39.8	5	µg/L	20	0	79.6	28	114	0	
Fluoranthene	44.66	5	μg/L	20	0	89.3	28	115	0	
Pyrene	39.67	유	µg/L	20	0	79.3	53	119	0	
Butyl benzyi phthalate	37.79	5	µg/L	20	0	75.6	53	120	0	
Qualifiers: ND - N	ND - Not Detected at the Reporting Limit		S - Spike Recove	S - Spike Recovery outside accepted recovery limits	d recovery	imits	B - Analyte o	letected in th	B - Analyte detected in the associated Method Blank	
J - Ana	J - Analyte detected below quantitation limits		R - RPD outside	R - RPD outside accepted recovery limits	limits		NA - Not and	replante wher	NA - Not annitrable where I values or ND recuite occur	
	•									

AMRO Environmental Laboratories Corp.

CLIENT:	GEI Consultants. Inc.	its. Inc.							=	
Work Order:	1710012									2C SUMMARY REPORT
Project:	1700396 MPA	1700396 MPA Berth 10 Final Design	Design							Laboratory Control Spike
Bis(2-ethylhexyl)phthalate	hthalate	39.48	10	μg/L	50	0	62	55	122	0
3,3'-Dichlombenzidine	idine	48.43	6	µ9⁄L	20	0	6.96	સ	126	0
Benz(a)anthracene	je P	40.89	2	µ9/L	20	0	81.8	83	118	0
Chrysene		42.37	5	µ9∕L	20	0	84.7	8	116	0
Di-n-octyl phthalate	te	38.69	2	µg/L	90	0	77.4	20	124	0
Benzo(b)fluoranthene	nene	42.76	2	µg∕L	90	0	85.5	55	113	0
Benzo(k)fluoranthene	ายกล	38.28	5	µg/L	20	0	9.9/	59	115	0
Benzo(a)pyrene		40.21	5	µg/L	99	0	80.4	26	112	0
Dibenz(a,h)anthracene	acene	39.04	우	µg∕L	99	0	78.1	51	113	0
Indeno(1,2,3-cd)pyrene	yrene	40.01	우	µg∕L	20	0	80	51	113	0
Benzo(g,h,i)perylene	ene	38.67	5	µg∕L	<u>8</u>	0	77.3	20	113	0
Surr. 2-Fluorophenol	henoi	30.86	1.0	μg/L	75	0	41.1	52	62	0
Surr. Phenol-d5	2	20.37	1.0	µg/L	75	0	27.2	5	43	0
Surr: Nitrobenzene-d5	ene-d5	38.93	1.0	µg∕L	20	0	6.77	36	108	0
Surr. 2-Fluorobiphenyl	iphenyl	42.24	1.0	µg∕L	20	0	84.5	4	117	0
Surr. 2,4,6-Tribromophenol	nomophenol	76.62	0:	µg∕L	75	0	102	39	131	0
Surr: 4-Terphenyl-d14	nyl-d14	60.34	1.0	μg/L	20	0	121	4	122	0

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

QC SUMMARY REPORT GEI Consultants, Inc. CLIENT

Work Order: Project:	1710012 1700396	1710012 1700396 MPA Berth 10 Final Design	Design							Laboratory Control Spike Duplicate	ontrol Sp.	ike Dupli	cate
Sample ID: 1 CSD-27516	516	Batch ID: 27516	Test Code	Test Code: SW82700	I Inite: 110.11			Analysis D	ate: 40/40/2	Analysis Date: 40M012047 3-53-00 BM	OteO Case	Dran Date: 40(0):047	П
Client ID:	}		Run ID:	SV-4 171010A				SeaNo:	1006964		Top Care		
		QC Sample			OC Soike Original Sample	Samole		•		Orininal Samole			
Analyte		Result	쿈	Units	Amount	- 1	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Phenol		22.6	10	μg/L	75	0	30.1	13	47	24.06	6.26	25	
Bis(2-chlomethyl)ether	=	33.92	0	rg/	20	0	67.8	42	102	34.51	1.72	52	
2-Chlorophenol		49.94	0+	rg.	75	0	9.99	39	110	53.19	6.3	72	
1,3-Dichlorobenzene		35.23	10	hg/L	20	0	70.5	\$	66	36.29	2.96	25	
1,4-Dichlorobenzene		35.72	5	μg/L	20	0	71.4	33	66	37.2	4.06	22	
Benzyi aicohol		26.74	20	μg⁄L	20	0	53.5	3	8	29.54	9.95	25	
2-Methylphenol		44.64	01	hg∕L	75	0	59.5	35	100	44.79	0.335	25	
1,2-Dichlorobenzene		35.09	5	иgЛ	20	0	70.2	37	66	35.54	1.27	25	
Bis(2-chloroisopropyl)ether	ether	52.52	10	rg/L	20	0	105	31	5	54.52	3.74	25	S
4-Methylphenol		53.05	10	µg∕L	150	0	35.4	23	61	54.88	3.39	25	
N-Nitrosodi-n-propylamine	mine	37.04	5	µg√	20	0	74.1	43	=======================================	39.01	5.18	25	
Hexachloroethane		37.72	t	μg/L	20	0	75.4	33	46	38.27	1.45	25	
Nitrobenzene		37.62	10	µg∕L	20	0	75.2	46	102	39.99	6.11	25	
Isophorone		34.43	9	μg/L	20	0	68.9	38	105	36.54	5.95	25	
2,4-Dimethylphenol		50.21	10	µg/L	75	0	6.99	38	110	50.19	0.0398	52	
Benzoic acid		29.16	20	µg/L	75	0	38.9	9	52	25.11	14.9	25	
2-Nitrophenol		52.85	10	µg∕L	75	0	70.5	4	118	55.04	4.06	22	
Bis(2-chloroethoxy)methane	ethane	34.11	10	₽9/L	20	0	68.2	22	106	36.34	6.33	52	
2,4-Dichlorophenol		57.89	9	hg∕L	75	0	77.2	\$	117	59.84	3.31	25	
1,2,4-Trichlorobenzene	9	39.66	9	µg/L	20	0	79.3	4	50	41.57	4.7	25	
Naphthalene		36.96	9	μg/L	<u>%</u>	0	73.9	45	5	38.08	2.99	52	
4-Chloroaniline		31.64	0	µg/L	20	0	63.3	28	113	31.12	1.66	25	
Hexachlorobutadiene		43.47	10	μg⁄L	20	0	86.9	9	<u></u>	45.47	4.5	25	
4-Chloro-3-methylphenol	inol	61.84	20	µg∕L	75	0	82.5	47	119	61.72	0.194	25	
2-Methyinaphthalene		35.89	2	μgγ	20	0	71.8	4	107	38.04	5.82	22	
Qualificrs: ND-N	lot Detecte	ND - Not Detected at the Reporting Limit	S	- Spike Recover	S - Spike Recovery outside accepted recovery limits	recovery li	mits	B - Analyt	e detected in	B - Analyte detected in the associated Method Blank	od Blank		
J - Anal	lyte detecti	J - Analyte detected below quantitation limits		- RPD outside a	R - RPD outside accepted recovery limits	imits		N. A.V.		<u>.</u>			
	•	•			· ·	!		NA - NOI	ipplicable wn	NA - Not applicable where J values or NLJ results occur	esuits occur		

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

AMRO Environmental Laboratories Corp.

1710012 1700396 MPA Bertl adiene												OC SUMMARY REFORT
exachlorocyclopentadiene 8 4.6-Trichlorophenol 73 4.5-Trichlorophenol 82								1-1	Ç	11.0.1.1.		-
	0 Final Desig	шá						Lab	Laboratory Control Spike Duplicate	itroi Spik	e Duplica	ate
	8.69	ë	иду	8	٥	17.4	5	91	8.7	0.115	25	רו
	73.83	£	hg/L	75	0	98.4	84	129	74.27	0.594	52	
	82.08	0	µg/L	75	0	109	45	131	79.86	2.74	22	
z-caloronapamaiene	4	0	µg∕L	20	0	88	48	107	45.68	3.75	52	
2-Nitroaniline 51	51.95	20	µg/L	20	0	5	\$	122	52.54	1.13	52	
Dimethyl phthatate 50	50.09	우	μg/L	20	0	9	28	114	48.81	2.59	52	
2,6-Dinitrotoluene 48	48.61	5	рg/L	20	0	97.2	25	115	45.65	6.28	25	
Acenaphthylene 38	38.12	6	μg/L	20	0	76.2	25	110	39.13	2.61	52	
3-Nitroaniline 44	44.69	20	μg/L	20	0	89.4	20	121	45.11	0.935	52	
4-Nitrophenot 37	37.02	20	µg∕L	75	0	49.4	7	53	37.35	0.887	25	
2,4-Dinitrophenol 72	72.95	20	µ9∕L	75	0	97.3	6	521	65.27	1.1	52	
Acenaphthene 44	44.21	우	₽9Æ	20	0	88.4	25	110	44.21	0	52	
2,4-Dinitrotoluene 52	52.05	5	μg/L	20	0	104	29	116	49.84	4.34	52	
Dibenzofuran 43	43.88	01	рgЛ	20	0	87.8	5	119	44.94	2.39	52	
Diethyl phthalate 50	50.75	6	µg/L	50	0	102	24	115	48.2	5.15	52	
4-Chlorophenyl phenyl ether 50	50.83	0	µ9/L	20	0	102	26	114	50.38	0.889	22	
Fluorene 47	47.04	5	µg∕L	20	0	<u>¥</u>	\$	115	46.54	1.07	52	
4-Nitroaniline 46	46.08	8	µg∕L	20	0	92.2	49	119	43.1	6.68	52	
4,6-Dinitro-2-methylphenol 70	70.17	20	₽g∕L	75	0	93.6	4	127	66.01	6.11	25	
N-Nitrosodiphenylamine 40	40.62	ᅌ	µg∕L	20	0	81.2	5	118	38.95	4.2	22	
1,2-Diphenylhydrazine (as Azobe 37	37.36	우	рgЛ	20	0	74.7	.	118	36.01	3.68	52	
4-Bromophenyi phenyl ether	44.95	5	μg/L	20	0	89.9	98	115	43.59	3.07	52	
Hexachlorobenzene 47	47.89	0	рgЛ	20	0	95.8	8	114	43.52	9.56	52	
Pentachlorophenol 85	85.37	20	рgЛ	75	0	114	38	128	85.01	0.423	83	
Phenanthrene 43	43.01	6	µg∕L	20	0	98	25	112	40.74	5.42	52	
Anthracene 43	43.38	0	µg∕L	20	0	86.8	3	113	40.34	7.26	52	
Carbazole 42	42.16	유	µg∕L	20	0	84.3	25	120	38.96	7.89	25	
Di-n-butyl phthalate 43	43.12	0	μg/L	20	0	86.2	88	114	39.8	8.01	52	
Fluoranthene 4	46.7	6	μg/L	20	0	93.4	58	115	44.66	4.47	52	
Pyrene 42	42.04	5	µg∕L	20	0	84 .1	23	119	39.67	5.8	52	
Butyl benzyi phthalate 39	39.96	0	µg∕L	20	0	6.62	53	120	37.79	5.58	22	
Qualifiers: ND - Not Detected at the Reporting Limit	g Limit	S	S - Spike Recovery outside accepted recovery limits	outside accepted 1	ecovery li	mits	B - Analyte	letected in the a	B - Analyte detected in the associated Method Blank	i Blank		
J - Analyte detected below quantitation limits	ation limits	×	R - RPD outside accepted recovery limits	epted recovery lis	iis		NA - Not an	licable where I	NA - Not applicable where I values or ND mentic occur	suffe occur		
		•					de sous ve	,				

CLIENT: Work Order: Project:	GEI Consultants, Inc. 1710012 1700396 MPA Berth	GEI Consultants, Inc. 1710012 1700396 MPA Berth 10 Final Design	Jesign						Lab	QC SUMMARY REPORT Laboratory Control Spike Duplicate	AARY R trol Spike	EPORT Duplicate
Bis(2-ethylhexyl)phthalate	ralate	41.66	5	тgц	20	0	83.3	55	122	39.48	5.37	25
3,3'-Dichlorobenzidine	Je	49.64	6	hg/L	20	0	99.3	સ	126	48.43	2.47	52
Benz(a)anthracene		44.15	9	µg/L	20	0	88.3	53	118	40.89	7.67	52
Chrysene		44.61	9	µg∕L	20	0	89.2	99	116	42.37	5.15	52
Di-n-octyi phthalate		40.44	5	µg/L	90	0	80.9	22	124	38.69	4.42	52
Benzo(b)fluoranthene	•	46.89	5	µg∕L	20	0	93.8	55	113	42.76	9.21	52
Benzo(k)fluoranthene	60	40.57	5	µg∕L	20	0	81.1	29	115	38.28	5.81	25
Benzo(a)pyrene		43.94	6	μg/L	20	0	87.9	8	112	40.21	8.87	52
Dibenz(a,h)anthracene	Je Je	41.65	£	µ9∕L	20	0	83.3	51	113	39.04	6.47	52
Indeno(1,2,3-cd)pyrene	ine	42.67	10	µ9∕L	20	0	85.3	51	113	40.01	6.43	52
Benzo(g,h,i)perylene		41.29	5	µg∕L	90	0	82.6	50	113	38.67	6.55	52
Surr: 2-Fluorophenol	nof	29.68	.	μ9⁄L	75	0	39.6	22	62	0	0	0
Surr. Phenol-d5		19.17	t. 0:	µg/L	75	0	25.6	13	43	0	0	0
Surr: Nitrobenzene-d5	e-d5	36.76	1.0	µ9∕L	90	0	73.5	98	108	0	0	0
Surr: 2-Fluorobiphenyl	enyl	39.46	1	µ9/L	20	0	78.9	4	117	0	0	0
Surr: 2,4,6-Tribromophenol	nophenol	79.78	0.1	µ9/L	75	0	106	33	131	0	0	0
Surr. 4-Terphenyl-d14	414	62.25	1.0	рдуг	90	0	124	4	122	0	0	S

Qualifiers:

Date: 02-Nov-17

CLIENT: GEI Consultants, Inc.

Lab Order: 1710012

1700396 MPA Berth 10 Final Design

Lab ID: 1710012-01B

Project:

Client Sample ID: 1700396-WE-10

Collection Date: 10/4/2017 11:30:00 AM Matrix: GROUNDWATER

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
PAH BY EPA 8270D SIM	S	W8270D			Analyst: NS
Naphthalene	0.12	0.10	μg/L	1	10/9/2017 9:18:00 PM
2-Methylnaphthalene	ND	0.10	µg/L	1	10/9/2017 9:18:00 PM
Acenaphthylene	ND	0.10	μg/L	1	10/9/2017 9:18:00 PM
Acenaphthene	1.5	0.10	µg/L	1	10/9/2017 9:18:00 PM
Fluorene	0.24	0.10	µg/∟	1	10/9/2017 9:18:00 PM
Phenanthrene	ND	0.073	μg/L	1	10/9/2017 9:18:00 PM
Anthracene	0.13	0.10	μg/L	1	10/9/2017 9:18:00 PM
Fluoranthene	ND	0.10	µg/L	1	10/9/2017 9:18:00 PM
Pyrene	ND	0.10	μg/L	1	10/9/2017 9:18:00 PM
Benz(a)anthracene	ND	0.062	μg/L	1	10/9/2017 9:18:00 PM
Chrysene	ND	0.10	µg/L	1	10/9/2017 9:18:00 PM
Benzo(b)fluoranthene	ND	0.083	µg/L	1	10/9/2017 9:18:00 PM
Benzo(k)fluoranthene	ND	0.10	µg/L	1	10/9/2017 9:18:00 PM
Benzo(a)pyrene	ND	0.10	µg/L	1	10/9/2017 9:18:00 PM
Dibenz(a,h)anthracene	ND	0.10	μg/L	1	10/9/2017 9:18:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.10	μg/L	1	10/9/2017 9:18:00 PM
Benzo(g,h,i)perylene	ND	0.10	µg/L	1	10/9/2017 9:18:00 PM
Surr: Nitrobenzene-d5	74.0	33-107	%REC	1	10/9/2017 9:18:00 PM
Surr: 2-Fluoroblphenyl	66.1	39-107	%REC	1	10/9/2017 9:18:00 PM
Surr: 4-Terphenyl-d14	52.6	31-133	%REC	1	10/9/2017 9:18:00 PM

Date: 02-Nov-17

CLIENT:

GE1 Consultants, Inc.

Client Sample ID: 1700396-GE1-212

Lab Order:

1710012

Collection Date: 10/4/2017 12:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-02B

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
PAH BY EPA 8270D SIM	s	W8270D		· ·	Analyst: NS
Naphthalene	0.12	0.10	μg/L	1	10/9/2017 9:54:00 PM
2-Methylnaphthalene	ND	0.10	µg/L	1	10/9/2017 9:54:00 PM
Acenaphthylene	0.62	0.10	μg/L	1	10/9/2017 9:54:00 PM
Acenaphthene	4.6	0.10	μg/L	1	10/9/2017 9:54:00 PM
Fluorene	ND	0.10	µg/L	1	10/9/2017 9:54:00 PM
Phenanthrene	0.69	0.070	μg/L	1	10/9/2017 9:54:00 PM
Anthracene	0.40	0.10	μg/L	1	10/9/2017 9:54:00 PM
Fluoranthene	0.46	0.10	μg/L	1	10/9/2017 9:54:00 PM
Pyrene	0.39	0.10	μg/L	1	10/9/2017 9:54:00 PM
Benz(a)anthracene	0.085	0.060	μg/L	1	10/9/2017 9:54:00 PM
Chrysene	ND	0.10	µg/L	1	10/9/2017 9:54:00 PM
Benzo(b)fluoranthene	ND	0.080	µg/L	1	10/9/2017 9:54:00 PM
Benzo(k)fluoranthene	ND	0.10	μg/L	1	10/9/2017 9:54:00 PM
Benzo(a)pyrene	ND	0.10	µg/L	1	10/9/2017 9:54:00 PM
Dibenz(a,h)anthracene	ND	0.10	µg/L	1	10/9/2017 9:54:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.10	µg/L	1	10/9/2017 9:54:00 PM
Benzo(g,h,i)perylene	ND	0.10	µg/L	1	10/9/2017 9:54:00 PM
Surr: Nitrobenzene-d5	57.6	33-107	%REC	1	10/9/2017 9:54:00 PM
Surr: 2-Fluorobiphenyl	51.8	39-107	%REC	1	10/9/2017 9:54:00 PM
Surr: 4-Terphenyl-d14	91.5	31-133	%REC	1	10/9/2017 9:54:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Client Sample ID: 1700396-GE1-302(MW)

Lab Order:

1710012

Collection Date: 10/4/2017 2:30:00 PM

Project:

1700396 MPA Berth 10 Final Design

Matrix: GROUNDWATER

Lab ID:

1710012-03B

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
PAH BY EPA 8270D SIM	S	W8270D			Analyst: NS
Naphthalene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
2-Methylnaphthalene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Acenaphthylene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Acenaphthene	0.33	0.11	μg/L	1	10/9/2017 10:30:00 PM
Fluorene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Phenanthrene	ND	0.074	µg/L	1	10/9/2017 10:30:00 PM
Anthracene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Fluoranthene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Pyrene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Benz(a)anthracene	0.074	0.063	μg/L	1	10/9/2017 10:30:00 PM
Chrysene	ND	0.11	µg/L	1	10/9/2017 10:30:00 PM
Benzo(b)fluoranthene	ND	0.084	μg/L	1	10/9/2017 10:30:00 PM
Benzo(k)fluoranthene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Benzo(a)pyrene	ND	0.11	µg/L	1	10/9/2017 10:30:00 PM
Dibenz(a,h)anthracene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.11	µg/L	1	10/9/2017 10:30:00 PM
Benzo(g,h,i)perylene	ND	0.11	μg/L	1	10/9/2017 10:30:00 PM
Surr: Nitrobenzene-d5	60.2	33-107	%REC	1	10/9/2017 10:30:00 PM
Surr: 2-Fluorobiphenyl	54.4	39-107	%REC	1	10/9/2017 10:30:00 PM
Surr: 4-Terphenyl-d14	87.0	31-133	%REC	1	10/9/2017 10:30:00 PM

CLIENT:

Project:

Method Blank QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order:

	Batch ID: 27516	Test Code	Test Code: SW8270D	Units: µg/L	٦		Analysis [de: 10/9/20	Analysis Date: 10/9/2017 7:30:00 PM	Prep Date	Prep Date: 10/9/2017	
Client ID:		Run ID:	SV-4_171009A	D9A			SeqNo:	1006951	_			
	QC Sample		Ü	QC Spike Original Sample	nal Sample				Original Sample			
Analyte	Result	궏	Units	Amount	Result		%REC LowLimit HighLimit	1	or MS Result	%RPD	RPDLimit	Ö
Naphthalene	QN	0.10	hg/L									
2-Methylnaphthalene	8	0.10	hg/L									
Acenaphthylene	Q	0.10	рgЛ									
Acenaphthene	Q	0.10	rg/L									
Fluorene	8	0.10	иgи									
Phenanthrene	Q	0.070	µg√									
Anthracene	Q	0.10	µg/L									
Finoranthene	Q	0.10	рg/									
Pyrene	Q	0.10	рgЧ									
Benz(a)anthracene	Q	0.060	ъgч									
Chrysene	QN	0.10	рgЛ									
Benzo(b)fluoranthene	S	0.080	иg/L									
Benzo(k)fluoranthene	ON	0.10	иgЛ									
Benzo(a)pyrene	<u>Q</u>	0.10	μg/L									
Dibenz(a,h)anthracene	Q	0.10	µg/L									
Indeno(1,2,3-cd)pyrene	Q	0.10	µ9/L									
Benzo(g,h,i)perylene	Q	0.10	µg/L									
Surr: Nitrobenzene-d5	5.13	1.0	μg/L	5	0	51.3	33	107	0			
Surr: 2-Fluorobiphenyl	4.205	1.0	µg√	10	0	42	39	107	0			
Sur 4-Temberyld14	200 2	•		;								

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery fimits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

Laboratory Control Spike **QC SUMMARY REPORT** 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Sample ID: LCS-27516	Batch ID: 27516	Test Code	Test Code: SW8270D	Units: µg/L			Analysis D	ate: 10/9/20	Analysis Date: 10/9/2017 8:06:00 PM	Prep Date:	Prep Date: 10/9/2017	
Client ID:		Run ID:	SV-4_171009A	98A			SeqNo:	1006952				
	QC Sample		σ	QC Spike Original Sample	l Sample			Ü	Original Sample			
Analyte	Result	R	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Naphthalene	3.755	0.10	hg/L	ıΩ	0	75.1	32	113	0			
2-Methylnaphthalene	3.545	0.10	µg∕L	2	0	70.9	32	121	0			
Acenaphthylene	3.8	0.10	η ₀ γ	ស	0	9/	38	126	0			
Acenaphthene	3.705	0.10	μg/L	S	0	74.1	8	123	0			
Fluorene	4.115	0.10	₽gr[ß	0	82.3	47	127	0			
Phenanthrene	4.515	0.070	БgЧ	S.	0	90.3	ક	117	0			
Anthracene	3.645	0.10	μg/L	s.	0	72.9	25	123	0			
Fluoranthene	4.37	0.10	μg⁄L	2	0	87.4	25	125	0			
Pyrene	4.735	0.10	µg/L	κ	0	7.76	84	134	0			
Benz(a)anthracene	4.43	0900	µg/L	ß	0	98.6	51	125	0			
Chrysene	4.415	0.10	μg/L	ß	0	88.3	52	130	0			
Benzo(b)fluoranthene	4.385	0.080	µg/L	S	0	87.7	9 2	129	0			
Benzo(k)fluoranthene	4.27	0.10	hg/L	ις.	0	85.4	51	13	0			
Benzo(a)pyrene	4.425	0.10	µg√L	2	0	88.5	23	129	0			
Dibenz(a,h)anthracene	4.27	0.10	ъgг	9	0	85.4	25	127	0			
Indeno(1,2,3-cd)pyrene	4.3	0.10	μg/L	9	0	98	83	124	0			
Benzo(g,h,i)perylene	4.425	0.10	η ₀ η	ιΩ	0	88.5	23	126	0			
Surr: Nitrobenzene-d5	96:0	0.50	иg/L	7	0	48	33	107	0			
Surr: 2-Fluorobiphenyl	0.865	0.50	µg/L	8	0	43.2	39	107	0			
Surr: 4-Terphenyl-d14	1.405	0.50	ъgЛ	2	0	70.2	31	133	0			

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank

GEI Consultants, Inc.

1710012

Work Order:

Project:

CLIENT:

1700396 MPA Berth 10 Final Design

Date: 02-Nov-17

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID: LCSD-27516	Batch ID: 27516	Test Code	Test Code: SW8270D	Units: µg/L			Analysis D	ate: 10/9/20	Analysis Date: 10/9/2017 8:42:00 PM	Prep Date	Prep Date: 10/9/2017	
Client iD:		Run ID:	SV-4_171009A	99A			SeqNo:	1006953	m			
	QC Sample		O	QC Spike Original Sample	Il Sample				Original Sample			
Analyte	Result	교	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Our
Naphthalene	3.53	0.10	µg/L	ß	0	70.6	32	113	3.755	6.18	25	
2-Methylnaphthalene	3.335	0.10	рgЧ	ĸ	0	66.7	32	121	3.545	6.1	25	
Acenaphthylene	3.775	0.10	µg/L	S	0	75.5	38	126	3.8	99.0	52	
Acenaphthene	3.675	0.10	µg∕L	vo.	0	73.5	38	123	3.705	0.813	25	
Fluorene	4.18	0.10	иgЛ	ហ	0	83.6	47	127	4.115	1.57	25	
Phenanthrene	4.635	0.070	µg/L	s,	0	92.7	51	117	4.515	2.62	52	
Anthracene	3.72	0.10	µg√	ß	0	74.4	52	123	3.645	2.04	25	
Fluoranthene	4.56	0.10	µg∕L	S	0	91.2	25	125	4.37	4.26	25	
Pyrene	4.965	0.10	µg∕L	40	0	99.3	48	5	4.735	4.74	52	
Benz(a)anthracene	4.635	0.060	µg∕L	ro.	0	92.7	51	125	4.43	4.52	52	
Chrysene	4.68	0.10	рgЛ	S	0	93.6	52	130	4.415	5.83	25	
Benzo(b)fluoranthene	4.675	0.080	рgЧ	S	0	93.5	2 6	129	4.385	6.4	52	
Benzo(k)fluoranthene	4.425	0.10	рgЛ	S	0	88.5	51	1 34	4.27	3.57	25	
Benzo(a)pyrene	4.63	0.10	µ9∕L	2	0	97.6	53	129	4.425	4.53	22	
Dibenz(a,h)anthracene	4.505	0.10	µg∕L	10	0	90.1	25	127	4.27	5.36	52	
Indeno(1,2,3-cd)pyrene	4.53	0.10	pg/L	ß	0	90.6	23	124	4.3	5.21	52	
Benzo(g,h,i)perylene	4.625	0.10	µg/L	5	0	92.5	53	126	4.425	4.45	52	
Surr: Nitrobenzene-d5	0.895	0.50	µg/L	8	0	44.8	83	107	0	0	0	
Surr. 2-Fluorobiphenyl	0.82	0.50	µg/L	7	0	4	33	107	0	0	0	
Surr: 4-Terphenyl-d14	1.47	0.50	µg∕L	7	0	73.5	3	133	0	0	0	

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1710012

Lab ID:

1710012-01

Collection Date: 10/4/2017 11:30:00 AM

Collection Time:

Client Sample ID: 1700396-WE-10

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PCBS BY EPA8082	s	W8082A				Analyst: NS
Arocior 1016	ND	0.21		µg/L	1	10/20/2017 8:36:00 PM
Aroclor 1221	ND	0.21		μg/L	1	10/20/2017 8:36:00 PM
Aroclor 1232	ND	0.21		μg/L	1	10/20/2017 8:36:00 PM
Aroclor 1242	ND	0.21		μg/L	1	10/20/2017 8:36:00 PM
Aroclor 1248	ND	0.21		μg/L	1	10/20/2017 8:36:00 PM
Arocior 1254	ND	0.21		μg/L	1	10/20/2017 8:36:00 PM
Aroclor 1260	ND	0.21		μg/L	1	10/20/2017 8:36:00 PM
Surr: Decachlorobiphenyl	69.5	27-131		%REC	1	10/20/2017 8:36:00 PM
Surr: Tetrachloro-m-xylene	79.8	37-130		%REC	1	10/20/2017 8:36:00 PM

Lab ID:

1710012-02

Collection Date: 10/4/2017 12:30:00 PM

Collection Time:

Client Sample ID: 1700396-GEI-212

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PCBS BY EPA8082	s	W8082A				Analyst: NS
Aroclor 1016	ND	0.21		μg/L	1	10/24/2017 1:51:00 PM
Aroclor 1221	ND	0.21		µg/L	1	10/24/2017 1:51:00 PM
Aroclar 1232	ND	0.21		µg/L	1	10/24/2017 1:51:00 PM
Aroclor 1242	ND	0.21		µg/L	1	10/24/2017 1:51:00 PM
Aroclor 1248	ND	0.21		μg/L	1	10/24/2017 1:51:00 PM
Aroclor 1254	ND	0.21		μg/L	1	10/24/2017 1:51:00 PM
Aroclor 1260	ND	0.21		µg/L	1	10/24/2017 1:51:00 PM
Surr: Decachlorobiphenyl	60.4	27-131		%REC	1	10/24/2017 1:51:00 PM
Surr: Tetrachloro-m-xylene	74.2	37-130		%REC	1	10/24/2017 1:51:00 PM

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1710012

Lab ID:

1710012-03

Collection Date: 10/4/2017 2:30:00 PM

Collection Time:

Client Sample ID: 1700396-GE1-302(MW)

Matrix: GROUNDWATER

Analyses	Result	RL	Qual Uni	s DF	Date Analyzed
PCBS BY EPA8082	S	W8082A			Analyst: NS
Arocior 1016	ND	0.20	µg/L	1	10/24/2017 2:18:00 PM
Aroclor 1221	ND	0.20	µg/L	1	10/24/2017 2:18:00 PM
Aroclor 1232	ND	0.20	µg/L	1	10/24/2017 2:18:00 PM
Aroclor 1242	ND	0.20	μg/L	1	10/24/2017 2:18:00 PM
Aroclor 1248	ND	0.20	µg/L	1	10/24/2017 2:18:00 PM
Aroclor 1254	ND	0.20	µg/L	1	10/24/2017 2:18:00 PM
Aroclor 1260	ND	0.20	μg/L	1	10/24/2017 2:18:00 PM
Surr: Decechlorobiphenyl	54.9	27-131	%RE	C 1	10/24/2017 2:18:00 PM
Surr: Tetrachloro-m-xviene	66.9	37-130	%RE	C 1	10/24/2017 2:18:00 PM

AMRO Environmental Laboratories Corp.

CLIENT:	GEI Consultants, Inc.	Tapara Varammis 20
Work Order:	1710012	O SOMETHING OF
Project:	1700396 MPA Berth 10 Final Design	Method Blank

Sample ID: MB-27528	Batch ID: 27528	Test Code:	Test Code: SW8082A	Units: µg/L	7		Analysis D	ate: 10/20/2	Analysis Date: 10/20/2017 12:56:00 P	Prep Date	Prep Date: 10/10/2017	
Client ID:		Run ID:	GC-ELVIS_171020A	_171020A			SeqNo:	1008270				
Analyte	QC Sample Result	a	Units	QC Spike Original Sample Amount Result	nat Sample Result	%REC	LowLimit	HighLimit	Sample Original Sample Result %REC LowLimit HighLimit or MS Result	%RPD	%RPD RPDLimit Que	ð
Aroclor 1016	9	0.20	μg/L									
Aroclor 1221	2	0.20	μg/L									
Aroclar 1232	2	0.20	рg/L									
Aroclor 1242	2	0.20	иg/L									
Aroclor 1248	2	0.20	µg∕L									
Arodor 1254	2	0.20	рg/L									
Aroclor 1260	2	0.20	иg/L									
Sur: Decachlorobiphenyl	0.04065	0	рgЛ	0.064	٥	63.5	27	131	0			
Surr: Tetrachloro-m-xylene	0.05258	0	μg/L	0.064	0	82.2	37	130	0			

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

AMRO Environmental Laboratories Corp.

GEI Consultants, Inc. CLIENT:

1710012 Work Order:

QC SUMMARY REPORT

Laboratory Control Spike

Project: 1700396	1700396 MPA Berth 10 Final Design	Design							Lab	oratory C	Laboratory Control Spike	ike
Sample ID: LCS-27528 Client ID:	Batch ID: 27528	Test Code: Run ID:	Test Code: SW8082A Units Run ID: GC-ELVIS_171020A	Units: µg/L 171020A			Anafysis Da SeqNo:	ate: 10/20/20 1008271	Analysis Date: 10/20/2017 1:23:00 PM SeqNo: 1008271	Prep Date	Prep Date: 10/10/2017	
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result		REC	%REC LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ö
Aroclor 1016 Aroclor 1260	3.533	0.20	pg/L pg/L	4 4	00	88.3	4 4	119	00			
Surr: Decachlorobiphenyl Surr: Tetrachloro-m-xylene	0.04374	0 0	197L	0.064	o o	68.4 84.8	27	131 130	00			
Sample ID: LCSD-27528 Client ID:	Batch ID: 27528	Test Code: Run ID:	Test Code: SW8082A Units Run ID: GC-ELVIS_171020A	Units: µg/L 171020A			Analysis Da SeqNo:	ate: 10/20/20 1008272	Analysis Date: 10/20/2017 1:50:00 PM SeqNo: 1008272	Prep Date	Prep Date: 10/10/2017	
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Aroclar 1016	3.678	0.20	иg/L	4	0	91.9	4	119	3.533	4.02	20	
Aroclor 1260	3.612	0.20	μg/L	4	0	90.3	48	123	3.443	4.8	20	
Surr. Decachlorobiphenyl	0.04457	0	μg/L	0.064	0	9.69	27	131	0	0	0	
Surr: Tetrachloro-m-xylene	0.05747	0	µg/L	0.064	0	86.8	37	130	0	0	0	

ND - Not Detected at the Reporting Limit Qualifiers:

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

RL - Reporting Limit; defined as the lowest concentration the faboratory can accurately quantitate.

R - RPD outside accepted recovery limits

NA - Not applicable where J values or ND results occur

B - Analyte detected in the associated Method Blank

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1710012

Lab ID:

1710012-01

Collection Date: 10/4/2017 11:30:00 AM

Collection Time:

Client Sample ID: 1700396-WE-10

Matrix: GROUNDWATER

Cheff Sample 1D. 1700330-WE-10			1726	IIIX. GICOU	TID WITTER
Analyses	Result	RL Q	ual Units	DF	Date Analyzed
ICP- TOTAL METALS BY 200.7	E	200.7			Analyst: AL
Cadmium	ND	4.0	μg/L	1	10/16/2017 4:47:34 PM
Chromium	ND	10	μg/L	1	10/16/2017 4:47:34 PM
Copper	ND	25	μg/L	1	10/16/2017 4:47:34 PM
Iron	21,000	100	μg/L	1	10/18/2017 2:47:17 PM
Nickel	ND	40	µg/L	1	10/16/2017 4:47:34 PM
Silver	ND	7.0	µg/L	1	10/16/2017 4:47:34 PM
Zinc	ND	20	µg/L	1	10/16/2017 4:47:34 PM
ARSENIC, TOTAL	E	200.9_AS			Analyst: REB
Arsenic	ND	2.0	µg/L	1	10/20/2017 11:04:34 AM
LEAD, TOTAL	E	200.9_PB			Analyst: REB
Lead	ND	2.0	µg/L	1	10/19/2017 11:14:53 AM
ANTIMONY, TOTAL	E	200.9_SB			Analyst: REB
Antimony	ND	5.0	µg/L	1	10/18/2017 11:28:36 AM
SELENIUM, TOTAL	E	200.9_SE			Analyst: REB
Selenium	ND	5.0	µg/L	1	10/19/2017 12:25:46 PM
MERCURY, TOTAL	E	245.1			Analyst: AL
Mercury	ND	0.20	μg/L	1	10/6/2017 4:48:50 PM

Date: 02-Nov-17

CLIENT: GEI Consultants, Inc.

Project: 1700396 MPA Berth 10 Final Design

Lab Order: 1710012

1700570 MITA DOING TO I MAI Design

Lab ID: 1710012-02 Collection Date: 10/4/2017 12:30:00 PM

Collection Time:

Client Sample ID: 1700396-GEI-212 Matrix: GROUNDWATER

Client Sample ID: 1700396-GEI-21	2				Matrix: GROUP	NDWATER
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP- TOTAL METALS BY 200.7		E200.7				Analyst: AL
Cadmlum	ND	4.0		µg/L	1	10/16/2017 5:20:45 PM
Chromium	ND	10		μg/L	1	10/16/2017 5:20:45 PM
Copper	ND	25		µg/L	1	10/16/2017 5:20:45 PM
Iron	170	100		µg/L	1	10/18/2017 3:20:33 PM
Nickel	ND	40		µg/L	1	10/16/2017 5:20:45 PM
Silver	ND	7.0		µg/L	1	10/16/2017 5:20:45 PM
Zinc	ND	20		µg/L	1	10/16/2017 5:20:45 PM
ARSENIC, TOTAL		E200.9_AS				Analyst: REB
Arsenic	ND	2.0		µg/L	1	10/20/2017 11:19:01 AM
LEAD, TOTAL		E200.9_PB				Analyst: REB
Lead	ND	2.0		µg/L	1	10/17/2017 5:30:50 PM
ANTIMONY, TOTAL		E200.9_SB				Analyst: REB
Antimony	ND	5.0		µg/L	1	10/18/2017 11:42:39 AM
SELENIUM, TOTAL		E200.9_SE				Analyst: REB
Selenium	ND	5.0	PS	μg/L	1	10/19/2017 12:40:44 PM
MERCURY, TOTAL		E245.1				Analyst: AL
Mercury	ND	0.20		µg/L	1	10/6/2017 4:52:40 PM

Date: 02-Nov-17

CLIENT: Project:

GE1 Consultants, Inc.

1700396 MPA Berth 10 Final Design

Lab Order:

1710012

Lab ID:

1710012-03

Collection Date: 10/4/2017 2:30:00 PM

Collection Time:

Client Sample ID: 1700396-GE1-302(MW)

Matrix: GROUNDWATER

Cilent Sample ID: 1/00390-0E1-30	2(101 00)			IVIA	IIIX. GROC	NDWAILK
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP- TOTAL METALS BY 200.7		≣200.7				Analyst: AL
Cadmium	ND	4.0		μg/L	1	10/18/2017 3:27:13 PM
Chromium	ND	10		µg/L	1	10/18/2017 3:27:13 PM
Copper	ND	25		µg/L	1	10/18/2017 3:27:13 PM
Iron	100	100		µg/L	1	10/18/2017 3:27:13 PM
Nickel	ND	40		µg/L	1	10/18/2017 3:27:13 PM
Silver	ND	7.0		μg/L	1	10/18/2017 3:27:13 PM
Zinc	ND	20		μg/L	1	10/18/2017 3:27:13 PM
ARSENIC, TOTAL	E	E200.9_AS				Analyst: REB
Arsenic	ND	2.0		μg/L	1	10/20/2017 11:24:45 AM
LEAD, TOTAL	(E200.9_PB				Analyst: REB
Lead	ND	2.0		µg/L	1	10/17/2017 5:36:56 PM
ANTIMONY, TOTAL	E	E200.9_SB				Analyst: REB
Antimony	ND	5.0		µg/L	1	10/18/2017 11:48:21 AM
SELENIUM, TOTAL	E	E200.9_SE				Analyst: REB
Selenium	ND	5.0	PS	µg/L	1	10/19/2017 12:58:56 PM
MERCURY, TOTAL		E245.1				Analyst: AL
Mercury	ND	0.20		μg/L	1	10/6/2017 4:56:32 PM

Date: 02-Nov-17

Lab Order:

GEl Consultants, Inc. CLIENT:

Chlorine, Total Residual

AMMONIA AS NITROGEN

Project: 1700396 MPA Berth 10 Final Design

1710012-01

1710012

10/5/2017 11:05:00 AM

Lab ID: **Collection Time:**

1

Collection Date: 10/4/2017 11:30:00 AM

Matrix: GROUNDWATER Client Sample ID: 1700396-WE-10 **RL Qual Units** DF **Date Analyzed** Result Analyses **HEXAVALENT CHROMIUM** SW7196A Analyst: AL 10/5/2017 10:15:00 AM Chromium, Hexavalent ND 0.010 mg/L Analyst: AL **HEXAVALENT CHROMIUM, DISSOLVED** SW7196A 10/5/2017 10:15:00 AM Chromium, Hexavalent ND 0.010 mg/L Analyst: AL OIL & GREASE, TPH (NON-POLAR MATERIAL) E1664 10/24/2017 ND 5.0 1 SGT-Hexane Extractable Material mg/L **TOTAL SUSPENDED SOLIDS** Analyst: JK SM2540 D 10/10/2017 Suspended Solids (Residue, Non-45 4.0 mg/L 1 Filterable)

M4500-CL G Analyst: AL CHLORINE, TOTAL RESIDUAL (MODIFIED)

ND

Analyst: AL CYANIDE, TOTAL SM4500-CN C,E

0.10

mg/L

ND 0.010 mg/L 10/18/2017 Cyanide Analyst: AL

SM4500-NH3, C

10/25/2017 2.4 1.0 ma/L Nitrogen, Ammonia (As N)

57 of 80

Date: 02-Nov-17

Lab Order:

1710012

CLIENT: GEI Consultants, Inc.

Project: 1700396 MPA Berth 10 Final Design

Lab ID: i710012-02 Collection Date: 10/4/2017 12:30:00 PM

Collection Time:

Client Sample ID: 1700396-GEI-212 Matrix: GROUNDWATER

Client Sample ID: 1700396-GE1-212					Matrix: GRO	UNDWATER
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM		SW7196A				Analyst: AL
Chromium, Hexavalent	ND	0.010		mg/L	1	10/5/2017 10:15:00 AM
HEXAVALENT CHROMIUM, DISSOLVED	•	SW7196A				Analyst: AL
Chromium, Hexavalent	ND	0.010		mg/L	1	10/5/2017 10:15:00 AM
OIL & GREASE, TPH (NON-POLAR MAT	ERIAL)	E1664				Analyst: AL
SGT-Hexane Extractable Material	14	5.0		mg/L	1	10/24/2017
TOTAL SUSPENDED SOLIDS		SM2540 D				Analyst: JK
Suspended Solids (Residue, Non- Filterable)	12	4.0		mg/L	1	10/10/2017
CHLORINE, TOTAL RESIDUAL (MODIFIE	ED)	M4500-CL	3			Analyst: AL
Chlorine, Total Residual	ND	0.10	н	mg/L	1	10/5/2017 11:05:00 AM
CYANIDE, TOTAL		SM4500-CN	I C,E			Analyst: AL
Cyanide	ND	0.010		mg/L	1	10/18/2017
AMMONIA AS NITROGEN		SM4500-NH	13, C			Analyst: AL
Nitrogen, Ammonia (As N)	ND	1.0		mg/L	1	10/25/2017

Date: 02-Nov-17

CLIENT:

GEI Consultants, Inc.

Project:

1700396 MPA Berth 10 Final Design

Lab Order:

1710012

Lab ID:

1710012-03

Collection Date: 10/4/2017 2:30:00 PM

Collection Time:

Client Sample ID: 1700396-GEI-302(MV	V)			Ma	atrix: GROU	NDWATER
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM		SW7196A				Analyst: AL
Chromium, Hexavalent	ND	0.010		mg/L	1	10/5/2017 10:15:00 AM
HEXAVALENT CHROMIUM, DISSOLVED		SW7196A				Analyst: AL
Chromium, Hexavalent	ND	0.010		mg/L	1	10/5/2017 10:15:00 AM
OIL & GREASE, TPH (NON-POLAR MATE	RIAL)	E1664				Analyst: AL
SGT-Hexane Extractable Material	ND	5.0		mg/L	1	10/24/2017
TOTAL SUSPENDED SOLIDS		SM2540 D				Analyst: JK
Suspended Solids (Residue, Non- Filterable)	17	4.0		mg/L	1	10/10/2017
CHLORINE, TOTAL RESIDUAL (MODIFIED))	M4500-CL G				Analyst: AL
Chlorine, Total Residual	ND	0.10	н	mg/L	1	10/5/2017 11:05:00 AM
CYANIDE, TOTAL		SM4500-CN	C,E			Analyst: AL
Cyanide	ND	0.010		mg/L	1	10/18/2017
AMMONIA AS NITROGEN		SM4500-NH3	3, C			Analyst: AL
Nitrogen, Ammonia (As N)	ND	1.0		mg/L	1	10/25/2017

QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Method Blank

Date: 31-Oct-17

Sample ID mb-27525	Batch ID: 27525	Test Code: E200.7	E200.7	Units: µg/L			Analysis [)ate 10/16/2	Analysis Date 10/16/2017 4:29:49 PM	Prep Date	Prep Date 10/16/2017	
Client ID:		Run ID:	ICP-OPTIN	ICP-OPTIMA_171016A			SeqNo:	1007444				
	QC Sample		J	QC Spike Original Sample	Sample			•	Original Sample			
Analyte	Result	교	Units	Amount	Result %REC	%REC	LowLimit	LowLimit HighLimit	or MS Result	%RPD	RPDLimit	Ö
Cadmium	QN	0.4	μg/L									
Chromium	QN	0	ьgч									
Copper	Q	25	rig/L									
Nickel	Q	40	hgy									
Silver	9	7.0	hg/L									
Zinc	Q	20	hg/L									
Sample ID mb-27525	Batch ID: 27525	Test Code: E200.7	E200.7	Units: µg/L			Analysis (Jate 10/18/2	Analysis Date 10/18/2017 2:36:07 PM	Prep Date	Prep Date 10/16/2017	
Client ID:		Run ID:	ICP-OPTIN	ICP-OPTIMA_171018A			SeqNo:	1007795	10			
	QC Sample		Ü	QC Spike Original Sample	Sample			•	Original Sample			
Analyte	Result	교	Units	Amount	Result %REC	%REC	LowLimit	LowLimit HighLimit	or MS Result	%RPD	RPDLimit	Ö
Iron	QV	100	h9∕L									
Sample ID MB-27525	Batch (D: 27525	Test Code	Test Code: E200.9_As	Units: µg/L			Analysis I)ate 10/20/2	Analysis Date 10/20/2017 10:58:57 A	Prep Date	Prep Date 10/16/2017	ĺ
Client ID:		Run ID:	AANALYS.	AANALYST 600_171020	3		SeqNo:	1008024	-			
	QC Sample	i		QC Spike Original Sample			:	:	Original Sample		;	(
Analyte	Result	뒫	Chills	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%KPD	KPDLimit	ğ
Arsenic	QN	2.0	μg/L									

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation fimits ND - Not Detected at the Reporting Limit Qualifters:

Method Blank **QC SUMMARY REPORT** 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Date: 31-Oct-17

Sample ID MB-27525 Client ID:	Batch ID: 27525	Test Code: Run ID:	Test Code: E200.9_Pb Run ID: AANALYST	E200.9_Pb Units: µg/L AANALYST 600_171017			Analysis D SeqNo:	ate 10/17/20 1007766	Analysis Date 10/17/2017 5:08:20 PM SeqNo: 1007766		Prep Date 10/16/2017	
Analyte	QC Sample Result	7.	Or Units	OC Spike Original Sample Amount Result	Sample Resuft	%REC	LowLimit	Sample Result %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Lead	QN	2.0	μg/L									
Sample ID MB-27525 Client ID:	Batch ID: 27525	Test Code: Run ID:	Test Code: E200.9_Sb Run ID: AANALYST	E200.9_Sb Units: µg/L AANALYST 600_171018			Analysis D SeqNo:	late 10/18/20 1007926	Analysis Date 10/18/2017 11:22:59 A SeqNo: 1007926	Prep Date	Prep Date 10/16/2017	
Analyte	QC Sample Result	z	Units	AC Spike Original Sample Amount Result	l Sample Result	Sample Result %REC	LowLimit	LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ő
Antimony	QN	5.0	рgЛ.									
Sample ID MB-27525 Client ID:	Batch ID: 27525	Test Code Run ID:	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se Units: µg/l. AANALYST 600_171019			Analysis D SeqNo:)ate 10/19/2/ 1007977	Analysis Date 10/19/2017 12:19:47 P SeqNo: 1007977	Prep Date	Prep Date 10/16/2017	
Analyte	QC Sample Result	쿈	Onits	QC Spike Original Sample Amount Result	d Sample Result	Sample Result %REC	LowLimit	LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Selenium	QN	5.0	рgЛ									

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

Date: 31-Oct-17

Öű ŏ ö ð Method Blank QC SUMMARY REPORT **RPDLimit** %RPD RPDLimit %RPD RPDLimit %RPD RPDLimit Prep Date Prep Date Prep Date Prep Date %RPD Analysis Date 10/5/2017 10:15:00 AM Analysis Date 10/5/2017 10:15:00 AM Analysis Date 10/5/2017 10:15:00 AM Analysis Date 10/5/2017 10:15:00 AM or MS Result or MS Result Original Sample or MS Result Original Sample or MS Result Original Sample Original Sample 1008514 1008514 1008514 LowLimit HighLimit HighLimit LowLimit HighLimit HighLimit LowLimit LowLimit SeqNo: SeqNo: SeqNo: SeqNo: Result %REC Result %REC Result %REC Result %REC QC Spike Original Sample QC Spike Original Sample QC Spike Original Sample QC Spike Original Sample Units: mg/L Units: mg/L Units: mg/L Units: mg/L ING-WET_171005B ING-WET_171005B ING-WET_171005B ING-WET_171005B Amount Amount Amount **Amount** Test Code: SW7196A Test Code: SW7196A Test Code: SW7196A Test Code: SW7196A Units Units mg/L Units Units mg/L mg/L mg/L Run 1D: Run (D: Run ID: Run ID: 0.010 0.010 0.010 0.010 럾 ح 뭅 딦 700396 MPA Berth 10 Final Design Batch ID: R60120 Batch ID: R60120 Batch ID: R60120 Batch ID: R60120 Result 2 Resuft 身 Result 9 QC Sample 2 QC Sample QC Sample QC Sample Result GEI Consultants, Inc. 1710012 Sample ID MB-R60120 Sample 1D MB-R60120 Sample ID MB-R60120 Sample ID MB-R60120 Chromium, Hexavalent Chromium, Hexavalent Chromium, Hexavalent Chromium, Hexavalent Work Order: CLIENT: Project: Client ID: Client ID: Client 10: Client ID: Analyte Analyte Analyte Analyte

B - Analyte detected in the associated Method Blank NA - Not applicable where J values or ND results occur

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

Qualifiers:

62 of 80

Date: 31-Oct-17

Method Blank QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Sample in MR-B60413	Batch ID: R60113	Test Code: E1664	E1664	Units: ma/L	a/L		Analysis D	Analysis Date 10/24/2017	710	Prep Date		
		Run ID:	ING-WET 171024D	171024D			SeaNo:	1008464				
	QC Sample		J	QC Spike Original Sample				_	Original Sample			
Analyte	Result	2	Chits	Amount	Result	%REC	%REC LowLimit HighLimit	HighLimit	or MS Result	%RPD	RPDLimit	ő
SGT-Hexane Extractable Material	riai ND	5.0	mg/L				ļ					
Sample ID mb-27512	Batch ID: 27512	Test Code: E245.1	E245.1	Units: pg/L	% 		Analysis D	ate 10/6/20	Analysis Date 10/6/2017 4:03:16 PM	Prep Date	Prep Date 10/6/2017	
Client ID:		Run ID:	HG-FIMS_171006A	171006A			SeqNo:	1006985				
	QC Sample		5	QC Spike Original Sample	inal Sample				Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Mercury	QN	0.20	hg/L									
Sample ID MB-R60034	Batch ID: R60034	Test Code	Test Code: SM2540 D	Units: mg/L	ig/L		Analysis D	Analysis Date 10/10/2017	017	Prep Date		
Client ID:		Run 10:	ING-WET_171016A	171016A			SeqNo:	1007002				
	QC Sample	ā	40	OC Spike Original Sample	jinal Sample	J=0%	žei Pie	High imit	Original Sample	CGR%	RPD! imit	ä
Analyte	אמאטוו	2	310		incari	AINE C						5
Suspended Solids (Residue, Non	lon ND	4.0	mg/L									
Sample ID MB-R60122	Batch ID: R60122	Test Code	Test Code: M4500-CI G	G Units: mg/L	1g/L		Analysis E	late 10/5/20	Analysis Date 10/5/2017 11:05:00 AM	Prep Date	,	
Client ID:		Run ID:	ING-WET_171005C	171005C			SeqNo:	1008568	•		K	
	QC Sample		•	QC Spike Original Sample	jinal Sample			•	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	õ
Chlorine Total Residual	S	0.10	ma/l									

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

B - Analyte detected in the associated Method Blank
NA - Not applicable where J values or ND results occur

CLIENT: Work Order: Project:	GEI Con 1710012 1700396	GEl Consultants, Inc. 1710012 1700396 MPA Berth 10 Final Design	Design							QC SUMMARY REPORT Method Blank	MARY	Y REPORT Method Blank	は対し
Sample ID MB-R60123 Client ID:	50123	Batch ID: R60123	Test Code: Run ID:	SM4500-CN Units ING-WET_171018A	Test Code: SM4500-CN Units: mg/L Run ID: ING-WET_171018A		:	Analysis D SeqNo:	Analysis Date 10/18/2017 SeqNo: 1008575	217	Prep Date		
Analyte		QC Sample Result	쩐	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	Sample Casult %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	%RPD RPDLimit	Qui
Cyanide		Q	0.010	mg/L									
Sample ID MB-R60102 Client ID:	30102	Batch ID: R60102	Test Code Run ID:	: SM4500-NH3, Unit	Test Code: SM4500-NH3, Units: mg/L Run ID: ING-WET_171025A			Analysis D SeqNo:	Analysis Date 10/25/2017 SeqNo: 1008407	017	Prep Date		
Analyte		QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	l Sample Result	%REC	LowLimit	Sample CResult %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Qui

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Biank
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	NA - Not applicable where J values or ND results occur
RL - Reporting Limit; defined as the lowest concentrat	concentration the laboratory can accurately quantitate.	

Qualifiers:

Nitrogen, Ammonia (As N)

Units mg/L

1.0 പ

2

Laboratory Control Spike QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Sample ID LCS-27525	Batch ID: 27525	Test Code: E200.7	E200.7	Units: µg/L			Analysis D.	ate 10/16/20	Analysis Date 10/16/2017 4:40:58 PM	Prep Date	Prep Date 10/16/2017	
Client ID:		Run ID:	ICP-OPTIR	ICP-OPTIMA_171016A			SeqNo:	1007445				
	QC Sample		•	QC Spike Original Sample	Sample			0	Original Sample			
Analyte	Result	귐	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Qui
Cadmium	764.5	4.0	hg/L	800	0	92.6	82	115	0			
Chromium	4057	10	hg/L	3976	0	102	82	115	0			
Copper	1935	22	µg/L	2004	0	96.6	88	115	0			
Nickel	4003	40	µg/L	3984	0	100	82	115	0			
Silver	375.5	7.0	µg/L	400	0	93.9	82	115	0			
Zinc	3923	20	hg/L	3984	0	98.5	82	115	0			
Sample ID LCS-27525	Batch ID: 27525	Test Code: E200.7	E200.7	Units: µg/L			Analysis D	ate 10/18/20	Analysis Date 10/18/2017 2:40:41 PM	Prep Date	Prep Date 10/16/2017	
Client ID:		Run ID:	ICP-OPTII	ICP-OPTIMA_171018A			SeqNo:	1007796				
	QC Sample		_	QC Spike Original Sample	Sample				Original Sample		:	(
Analyte	Result	귙	Units	Amount	Result	Result %REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Iron	4513	100	hg/L	4004	0	113	82	115	0			1
Sample ID LCS-27525	Batch ID: 27525	Test Code	Test Code: E200.9 As	s Units: µg/L			Analysis D	late 10/20/2(Analysis Date 10/20/2017 11:01:45 A	Prep Date	Prep Date 10/16/2017	7
Client ID:		Run ID:	AANALYS	AANALYST 600_171020			SedNo:	1008025				
	QC Sample		-	QC Spike Original Sample	Sample			U	Original Sample			
Analyte	Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPOLimit	ő
Arsenic	20.37	2.0	μg/L	50	0	102	82	115	0			

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where I values or ND results occur

Laboratory Control Spike **QC SUMMARY REPORT** 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Date: 31-Oct-17

												ıl
Sample ID LCS-27525	Batch ID: 27525	Test Code	Test Code: E200.9_Pb	Units: µg/L			Analysis D	ate 10/17/2	Analysis Date 10/17/2017 5:11:29 PM	Prep Date	Prep Date 10/16/2017	
Client ID:		Run ID:	AANALYST	AANALYST 600_171017			SeqNo:	1007767				
Analyte	QC Sample Result	궚	Onits	QC Spike Original Sample Amount Result	Sample Result	%REC	Sample Result %REC LowLimit HighLimit	C HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Lead	21.05	2.0	µg∕L	20	0	105	82	115	0			
Sample ID LCS-27525 Client ID:	Batch ID: 27525	Test Code Run ID:	Test Code: E200.9_Sb Run ID: AANALYST	E200.9_Sb Units: µg/L AANALYST 600_171018			Analysis D SeqNo:	late 10/18/20 1007927	Analysis Date 10/18/2017 11:25:47 A SeqNo: 1007927	Prep Date	Prep Date 10/16/2017	
Analyte	QC Sample Result	귵	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	Sample Result %REC LowLimit HighLimit		Original Sample or MS Result	%RPD	RPDLimit	ő
Antimony	20.5	5.0	µg/L	50	0	103	85	115	O	į		
Sample ID LCS-27525 Client ID:	Batch ID: 27525	Test Code Run ID:	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se Units: µg/L AANALYST 600_171019		1	Analysis E SeqNo:	hate 10/19/20 1007978	Analysis Date 10/19/2017 12:22:47 P SeqNo: 1007978	Prep Date	Prep Date 10/16/2017	
Analyte	QC Sample Result	귙	Units	QC Spike Original Sample Amount Result	Sample Result	Sample Result %REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ő
Selenium	19.25	5.0	µg∕L	70	0	96.2	85	115	0			

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

Date: 31-Oct-17

QC SUMMARY REPORT

AMRO Environmental Laboratories Corp.

GEI Consultants, Inc. CLIENT:

1710012

Ö Ö Ö ő Laboratory Control Spike **RPDLimit** %RPD RPDLimit **RPDLimit RPDLimit** ឧ 2 Prep Date Prep Date Prep Date Prep Date %RPD %RPD %RPD 926.0 0.976 Analysis Date 10/5/2017 10:15:00 AM Analysis Date 10/5/2017 10:15:00 AM Analysis Date 10/5/2017 10:15:00 AM 0.103 Analysis Date 10/5/2017 10:15:00 AM 0.103 0 0 or MS Result Original Sample or MS Result or MS Result Original Sample or MS Result Original Sample Original Sample 1008527 1008515 1008515 1008527 120 LowLimit HighLimit 120 Result %REC LowLimit HighLimit 120 120 **HighLimit** LowLimit HighLimit LowLimit 8 용 SeqNo: 8 路 SeqNo: SeqNo: SeqNo: Result %REC Result %REC Result %REC 102 103 102 103 QC Spike Original Sample QC Spike Original Sample QC Spike Original Sample 0 QC Spike Original Sample 0 mg/L Units: mg/L Units: mg/L Units: mg/L Units: ING-WET_171005B Amount ING-WET_171005B ING-WET_171005B 0.1 ING-WET_171005B 0.1 0.1 Amount 9 Amount Amount Test Code: SW7196A Test Code: SW7196A Test Code: SW7196A Test Code: SW7196A mg/L Units Units щgЛ Units mg/L Units mg/L Run ID: Run 1D: Run ID: Run ID: 0.010 0.010 0.010 뭅 0.010 ح 귣 പ 1700396 MPA Berth 10 Final Design Batch ID: R60120 Batch ID: R60120 Batch ID: R60120 Batch ID: R60120 0.102 Result 0.103 Result 0.102 0.103 QC Sample Result QC Sample QC Sample QC Sample Sample ID LCSD-R60120 Sample ID LCSD-R60120 Sample ID LCS-R60120 Sample ID LCS-R60120 Chromium, Hexavalent Chromium, Hexavalent Chromium, Hexavalent Chromium, Hexavalent Work Order: Project: Client ID: Client 1D: Client ID: Client ID Analyte Analyte Analyte Analyte

R - RPD outside accepted recovery limits RI. - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

NA - Not applicable where J values or ND results occur

1710012 1700396 MPA Berth 10 Final Design Run ID: Record: E1664 Units: mg/L Analysis Date 10124/2017 Prep Date		GEI Consultants, Inc.	nts, Inc.								QC SUMMARY REPORT	IMARY	REPOI	Z
Comparison	rder:	1710012 1700396 MPA	A Berth 10 Final L)esign							La	boratory C	Control Sp	ike
Complete Complete	OS SO I OI olamos		ofch ID: D60143	Test Code:	E1664	thits: mo	N.		Analysis D	ate 10/24/2	017	Prep Date		
Cac Sample Result RL Units Amount Result WREC LowLinit HighLimit or MS Result	Client ID:			Run 10:	ING-WET	171024D			SeqNo:	1008465		i		
Caractable Material 18.6 5.0 mg/L 20 93 42.4 144 0			QC Sample	i	:	ac Spike Origi	nal Sample			-	Original Sample	2002	##. F.	Č
1cs-27512 Batch ID: 27512 Test Code: E245.1 Units: pg/L Analysis Date 10/6/2017 4:07:00 PM	Analyte SGT-Hexane Extract:	able Material	Result	5.0	Units mg/L	Amount 20	Kesult 0	93		144	O NI NI PERON			5
Run ID: HG-FIMS_171006A SeqNo: 1006986 Original Sample Au-177 O.20 µg/L A O 104 Bot ID: 27512 Run ID: HG-FIMS_171006A SeqNo: 1006986 Original Sample	Sample ID Ics-2751		atch ID: 27512	Test Code:	E245.1	Units: µg	4		Anatysis D	ate 10/6/20	17 4:07:00 PM	Prep Date	10/6/2017	
Carample Result Rt. Units Amount Result %REC LowLimit HighLimit or MS Result Amount Result %REC LowLimit HighLimit or MS Result Original Sample Run D: 27512 Test Code: E245.1 Units: µg/L Amount Result %REC LowLimit HighLimit or MS Result Run D: HG-FIMS_1771006A SeqNo: 1006987	Client ID:			Run ID:	HG-FIMS	171006A			SeqNo:	1006986				
D CS-G-27512 Batch D: 27512 Test Code: E245.1 Units: pg/L A 0 104 80 120 0 0 0 0 0 0 0 0 0	Analyte		QC Sample Result	굺	Units	QC Spike Origi Amount	nal Sample Result		LowLimit		Original Sample or MS Result	%RPD	RPDLimit	ő
Batch ID: 27512 Test Code: E245.1 Units: pg/L Analysis Date 10/6/2017 4:10:47 PM	Mercury		4.177	0.20	rg/L	4	0	104	8	120	0			
CC Sample	Sample ID Icsd-275		atch ID: 27512	Test Code:	E245.1	Units: µg	١		Analysis D	ate 10/6/20	17 4:10:47 PM	Prep Date	10/6/2017	
CC Sample Result RL Units Amount Result %REC LowLimit HighLimit or MS Result %RPD	Client ID:			Run ID:	HG-FIMS	171006A			SeqNo:	100698				
### Solids (Residue No. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	Analyte		QC Sample Result	꿆	Units	QC Spike Origi Amount	inal Sample Result		LowLimit		Original Sample or MS Result	%RPD	RPDLimit	ğ
ID LCS-R60034 Batch ID: R60034 Test Code: SM2540 D Units: mg/L Analysis Date 10/10/2017 Prep Date Prep Date 10/10/2017 D: Run ID: ING-WET_171016A SeqNo: 1007003 1007003 OC Sample Result Annount Result WREC LowLimit HighLimit or MS Result WRPD MS Result WRPD	Mercury		4.174	0.20	µg∕î.	4	0	5	80	120	4.177	0.0568	20	
Oc Sample OC Spike Original Sample Original Sample Result Result Result Result Result Result Result Result Result Result Result Result Result Result Result Result Result Result Result Original Sample Result Result Result Result Original Sample Result Result Result Result Original Sample Original Sample Result Result Result Result Original Sample Or	Sample ID LCS-R6(atch ID: R60034	Test Code:	SM2540 I	5	J/g		Analysis E SeqNo:	ate 10/10/2	:017 3	Prep Date	an an	
965 4.0 ma/l. 951 0 101 97 103	Analyte		QC Sample Result		Units	QC Spike Origi	inal Sample Result		LowLimit		Original Sample or MS Result	%RPD	RPDLimit	ğ
	Suspended Solids (R	Residue, Non	965	4.0	mg/L	951	0	10	97	103	0			

B - Analyte detected in the associated Method Blank
NA - Not applicable where J values or ND results occur

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

Qualifiers:

AMRO Environmental Laboratories Corp.

OC SUMMARY REPORT	Policy Control California Control California	Labolatory Collect Spin	
GEI Consultants, Inc.	1710012	1700396 MPA Berth 10 Final Design	
CLIENT:	Work Order:	Project:	

	Sample ID LCS-R60122	Batch ID: R60122	Test Code:	M4500-CI G	Test Code: M4500-CI G Units: mg/L	ر ا		Analysis D.	ate 10/5/201	Analysis Date 10/5/2017 11:05:00 AM	Prep Date		
	Client ID:		Run 1D:	ING-WET_171005C	1005C			SeqNo:	1008569				
	Analyte	QC Sample Result	RL	QC Units A	QC Spike Original Sample Amount Result	al Sample Result	%REC	Sample Result %REC LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Öñ
	Chlorine, Total Residual	0.998	0.10	mg/L	-	0	8.66	06	110	0			
	Sample ID LCS-R60123	Batch ID: R60123	Test Code:	SM4500-CN	Test Code: SM4500-CN Units: mg/L	ا		Analysis D	Analysis Date 10/18/2017	717	Prep Date		
	Client ID:		Run ID:	ING-WET_171018A	71018A			SeqNo:	1008576				
69	Analyte	QC Sample Result	R	QC Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	Sample Result %REC LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Öű
of 8	Cyanide	0.224	0.010	mg/L	0.2	0	112	\$	121	0			
0	Sample ID LCS-R60102	Batch ID: R60102	Test Code:	SM4500-NH3, Unit	Test Code: SM4500-NH3, Units: mg/L	2	:	Analysis D	Analysis Date 10/25/2017	017	Prep Date		
	Crient ID. Analyte	QC Sample Result	표 권	Oc Units	QC Spike Original Sample Amount Result	al Sample Result	%REC	Sample Result %REC LowLimit HighLimit		Original Sample or MS Result	%RPD	RPDLimit	Öű
	Nitrogen, Ammonia (As N)	9.1	1.0	mg/L	10	0	94	88	92	0			

NA - Not applicable where I values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

Sample Duplicate QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Sample ID 1710012-01HD	Batch ID: 27525	Test Code: E200.7	E200.7	Units: µg/L			Analysis D.	ate 10/16/20	Analysis Date 10/16/2017 5:00:47 PM	Prep Date	Prep Date 10/16/2017	
Client ID: 1700396-WE-10		Run ID:	ICP-OPTIN	ICP-OPTIMA_171016A			SedNo:	1007448				
	QC Sample		J	QC Spike Original Sample	Sample			0	Original Sample			
Analyte	Result	RL	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ŏ
Cadmin	2	4.0	µg/L	0	0	0	0	0	0	0	20	
Сргопіцт	2	10	rg/	0	0	0	0	0	0.5761	0	20	
Copper	5.55	25	ьgЛ	0	0	0	0	0	15.05	0	20	7
Nickel	3.318	4	Jøj	0	0	0	0	0	3.305	0	20	7
Silver	2	7.0	rg/L	0	0	0	0	0	0	0	20	
Zinc	Q	20	hg/L	0	0	0	0	0	9.586	0	20	
Sample ID 1710012-01HD	Batch ID: 27525	Test Code: E200.7	E200.7	Units: pg/L			Analysis D	ate 10/18/20	Analysis Date 10/18/2017 3:00:31 PM	Prep Date	Prep Date 10/16/2017	
Client ID: 1700396-WE-10		Run ID:	ICP-OPTI	ICP-OPTIMA_171018A			SeqNo:	1007799				
Analyte	QC Sample Result	꿃	Units	QC Spike Original Sample Amount Result	Sample Result %REC	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ö
Iron	20570	100	иgЛ	0	0	0	0	0	20820	1.17	20	
Sample ID 1710012-01HD Client ID: 1700396-WE-10	Batch ID: 27525	Test Code Run ID:	Test Code: E200.9_As Run ID: AANALYST	E200.9_As Units: µg/L AANALYST 600_171020	:		Analysis E SeqNo:	ate 10/20/20 1008028	Analysis Date 10/20/2017 11:10:39 A SeqNo: 1008028	Prep Date	Prep Date 10/16/2017	
Analyte	QC Sample Result	귙	Onits	QC Spike Original Sample Amount Result		%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Arsenic	0.629	2.0	hĝ/L	0	0	0	Ö	0	0.608	3.4	20	7

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

Date: 31-0ct-17

AMRO Environmental Laboratories Corp.

CLIENT:		GEI Consultants, Inc.								QC SUMMARY REPORT	MARY	REPO	Ħ
work Order: Project:		1700396 MPA Berth 10 Final Design	esign		:						Samp	Sample Duplicate	ate
Sample 1D	Sample 1D 1710012-01HD	Batch ID: 27525	Test Code:	Test Code: E200.9_Pb	E200.9_Pb Units: µg/L			Analysis D SeoNo:	ate 10/19/20	Analysis Date 10/19/2017 11:20:59 A SedNo: 1007968	Prep Date	Prep Date 10/16/2017	1
Analyte	1700386-44E-10	QC Sample Result	교	On Units	QC Spike Original Sample Amount Result		%REC	LowLimit	CowLimit HighLimit	Original Sample or MS Result	%RPD	%RPD RPDLimit	Q
Lead		1.373	2.0	µg∕L	0	0	0	0	0	1.392	1.37	20	7
Sample ID Client ID:	Sample ID 1710012-01HD Client ID: 1700396-WE-10	Batch ID: 27525	Test Code: Run ID:	e: E200.9_Sb AANALYST	E200.9_Sb Units: µg/L AANALYST 600_171018			Analysis D SeqNo:	ate 10/18/20 1007930	Analysis Date 10/18/2017 11:34:17 A SeqNo: 1007930	Prep Date	Prep Date 10/16/2017	
Analyte		QC Sample Result	꿉	Onits A	QC Spike Original Sample Amount Result	Sample Resutt	%REC	LowLimit	Sample Result %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	%RPD RPDLimit	Ö
Antimony	400 mm	0.418	5.0	μg/L	0	0	0	0	0	0	200	70	뚝
Sample ID Client ID:	Sample ID 1710012-01HD Client ID: 1700396-WE-10	Batch ID: 27525	Test Code: Run ID:	Test Code: E200.9_Se Run ID: AANALYST	E200.9_Se Units: µg/L AANALYST 600_171019			Analysis D SeqNo:	late 10/19/2	Analysis Date 10/19/2017 12:31:50 P SeqNo: 1007981	Prep Date	Prep Date 10/16/2017	
Analyte		QC Sample Result	곱	Units	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	Sample Result %REC LowLimit HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Öñ

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

B - Analyte detected in the associated Method Blank NA - Not applicable where J values or ND results occur

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Selenium

Sample ID 1710012-02ED		1700396 MPA Berth 10 Final Design							ı	Sample Duplicate	Sample Duplicate	ate
Sample ID 1710012-02ED												ıl
	Batch ID: R60120	Test Code:	le: SW7196A	Units: mg/L	_		Analysis D	ate 10/5/20	Analysis Date 10/5/2017 10:15:00 AM	Prep Date		
Client ID: 1700396-GEI-212	12	Run ID:	ING-WET_171005B	71005B			SeqNo:	1008520				
Analyte	QC Sample Result	굲	Onits	QC Spike Original Sample Amount Result	al Sample Result	%REC	LowLimit	C HighLimit	Original Sample or MS Result	%RPD	%RPD RPDLimit	Quí
Chromium, Hexavalent	0.007	0.010	mg/L	0	0	0	0	0	0	200	20	я,
Sample ID 1710012-02ED	Batch ID: R60120	Test Code:	le: SW7196A	Units: mg/L	ر ا		Analysis D	ate 10/5/20	Analysis Date 10/5/2017 10:15:00 AM	Prep Date		
Client ID: 1700396-GEI-212	12	Run 1D:	ING-WET_171005B	171005B			SeqNo:	1008520				
	QC Sample			QC Spike Original Sample				_	Original Sample			
Analyte	Result	됩	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Chromium, Hexavalent	0.007	0.010	mg/L	0	0	0	0	0	0	200	20	뜻
Sample ID 1710012-02ED	Batch ID: R60120	Test Code:	Test Code: SW7196A	Units: mg/L	٠		Analysis D	ate 10/5/20	Analysis Date 10/5/2017 10:15:00 AM	Prep Date		
Client ID: 1700396-GEI-212	12	Run ID:	ING-WET_171005B	171005B			SeqNo:	1008521				
	QC Sample		σ	QC Spike Original Sample				9	Original Sample			
Analyte	Result	교	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Chromium, Hexavalent	9000	0.010	mg/L	0	0	0	0	0	0.005	18.2	20	۵ ا
Sample ID 1710012-02ED	Batch ID: R60120	Test Code	Test Code: SW7196A	Units: mg/L	_ ا		Analysis D	ate 10/5/20	Analysis Date 10/5/2017 10:15:00 AM	Prep Date		
Client ID: 1700396-GEI-212	:12	Ruu ID:	ING-WET_171005B	171005B			SeqNo:	1008521	_			
	QC Sample		0	QC Spike Original Sample	al Sample			7	Original Sample			
Analyte	Result	귙	Units	Amount	Result %REC	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.006	0.010	mg/L	0	0	0	0	0	0.005	18.2	20	7

B - Analyte detected in the associated Method Blank
NA - Not applicable where J values or ND results occur

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

72 of 80

Sample Duplicate QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Sample ID 1710012-02ED	Batch ID: R60120	Test Code:	Test Code: SW7196A	Units: mg/L			Analysis D	ate 10/5/20:	Analysis Date 10/5/2017 10:15:00 AM	Prep Date		
Client ID: 1700396-GEI-212		Run iD:	ING-WET_171005B	171005B			SeqNo:	1008520				
Analyte	QC Sample Result	궚	Units	QC Spike Original Sample Amount Result	Sample Result %REC	%REC	LowLimit HighLimit		Original Sample or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.007	0.010	mg/L	0	0	0	0	0	0	200	20	롰
Sample ID 1710012-02ED Client ID: 1700396-GEI-212	Batch ID: R60120	Test Code: Run ID:	Test Code: SW7196A Unit	Units: mg/L 171005B			Analysis D SeqNo:	ate 10/5/201 1008520	Analysis Date 10/5/2017 10:15:00 AM SeqNo: 1008520	Prep Date		
Analyte	QC Sample Result	귒	C	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	C HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.007	0.010	mg/L	0	0	0	0	0	0	200	20	띡
Sample ID 1710012-02ED Client ID: 1700396-GEI-212	Batch ID: R60120	Test Code: Run ID:	Test Code: SW7196A Unit Run ID: ING-WET_171005B	Units: mg/L 171005B			Anatysis C SeqNo:	ate 10/5/20 ⁻ 1008521	Analysis Date 10/5/2017 10:15:00 AM SeqNo: 1008521	Prep Date		
Analyte	QC Sample Result	귊	Units	QC Spike Original Sample Amount Result	Sample Result %REC	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Chromium, Hexavalent	0.006	0.010	mgA	0	0	0	0	0	0.005	18.2	20	7
Sample ID 1710012-02ED Client ID: 1700396-GEI-212	Batch ID: R60120	Test Code Run ID:	Test Code: SW7196A Unit Run ID: ING-WET_171005B	Units: mg/L 1710058			Analysis E SeqNo:	Jate 10/5/20 1008521	Analysis Date 10/5/2017 10:15:00 AM SeqNo: 1008521	Prep Date		
Analyte	QC Sample Result	起	Cuits	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ő
Chmmism Hexavalent	9000	010	ľom	-	c	c	_	c	0.005	18.2	20	•

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

NA - Not applicable where J values or ND results occur

CLIENT:		GEI Consultants, Inc.								QC SUMMARY REPORT	MARY	REPO	
Work Order:	ler: 1710012										Came	Sample Dunlicate	ate
Project:	1700396	1700396 MPA Berth 10 Final Design	Design								Jumpo	ardno on	}
Sample ID	Sample ID 1710012-01DD	Batch ID: R60122	Test Code	Test Code: M4500-Cl G	Units: mg/L			Analysis D	ate 10/5/201	Analysis Date 10/5/2017 11:05:00 AM	Prep Date		
Client ID:	Client ID: 1700396-WE-10		Run ID:	ING-WET_171005C	171005C			SeqNo:	1008573				
Analyte		QC Sample Result	궚	Ouits	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	õ
Chlorine, Total Residual	tal Residual	2	0.10	mg/L	0	0	0	0	0	0	0	20	I
Sample 1D	Sample ID 1710012-01GD	Batch ID: R60123	Test Code	SM4500-CA	Test Code: SM4500-CN Units: mg/L			Analysis D	Analysis Date 10/18/2017	117	Prep Date		
Client ID: '	1700396-WE-10		Run ID:	ING-WET_171018A	171018A			SeqNo:	1008580				
Analyte		QC Sample Result	귙	Q Units	QC Spike Original Sample Amount Result	I Sample Result	%REC	Sample Result %REC LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ä
Cyanide		0.004	0.010	mg/L	0	0	0	0	0	0.004	0	20	7
Sample ID Client ID:	Sample ID 1710012-01ID Client ID: 1700396-WE-10	Batch ID: R60102	Test Code Run ID:	: SM4500-NH3, Unit ING-WET_171025A	Test Code: SM4500-NH3, Units: mg/L Run ID: ING-WET_171025A			Analysis D SeqNo:	Analysis Date 10/25/2017 SeqNo: 1008412	112	Prep Date		
Analyte		QC Sample Result	굾	Units	QC Spike Original Sample Amount Result	l Sample Result	Sample Result %REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Nitrogen, An	Nitrogen, Ammonia (As N)	2.52	1.0	mg/L	0	0	0	0	0	2.38	5.71	70	

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

AMRO Environmental Laboratories Corp.

CLIENT:	GEI Consultants, Inc.
Work Order:	1710012
Project:	1700396 MPA Berth 10 Final Design

Project:	1700396	1700396 MPA Berth 10 Final Design	sign								Sample	Sample Maura Spike	E E
Sample ID	Sample ID 1710012-01HMS	Batch ID: 27525	Test Code: E200.7	E200.7	Units: pg/L			Analysis D	ate 10/16/2	Analysis Date 10/16/2017 5:07:24 PM	Prep Date	Prep Date 10/16/2017	
Client ID:	1700396-WE-10		Run ID:	ICP-OPT	ICP-OPTIMA_171016A			SeqNo:	1007449				
		QC Sample			QC Spike Original Sample	af Sample			J	Original Sample			
Analyte		Result	귣	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ő
Cadmium		710.9	4.0	µg∕L	800	0	88.9	70	130	0			
Chromium		3851	5	µg∕L	3976	0.5761	96.9	20	130	0			
Copper		1988	52	rig/L	2004	15.05	98.4	20	130	0			
Nicket Nicket		3757	4	рgЛ	3984	3.305	94.2	20	130	0			
Silver		361.7	7.0	hg/L	400	0	90.4	2	130	0			
		3650	20	μg/L	3984	9.586	91.4	02	130	0			1
Sample ID	Sample ID 1710012-01HMSD	Batch (D: 27525	Test Code	le: E200.7	Units: µg/L	۰		Analysis D	late 10/16/2	Analysis Date 10/16/2017 5:14:03 PM	Prep Date	Prep Date 10/16/2017	
Client 1D:	1700396-WE-10		Run ID:	ICP-OPT	ICP-OPTIMA_171016A			SeqNo:	1007450	_			
		OC Samole			OC Spike Original Sample	af Sample			_	Original Sample			
Analyte		Result	귙	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
Cadmium		768.4	4.0	µg/L	800	0	8	20	130	710.9	1.77	20	
Chromium		4120	5	Lgd.	3976	0.5761	\$	70	130	3851	6.74	70	
Copper		2160	25	rg/L	2004	15.05	107	2	130	1988	8.31	20	
Nickel		4083	5	rg/L	3984	3.305	102	2	130	3757	8.32	29	
Silver		394.1	7.0	рgЛ	400	0	98.5	20	130	361.7	8.58	20	
Zinc		3990	20	ngv	3984	9.586	99.9	92	130	3650	8.88	20	•
Sample 1D	Sample ID 1710012-01HMS	Batch ID: 27525	Test Code	Test Code: E200.7	Units: µg/L	اً ا		Analysis C)ate 10/18/2	Analysis Date 10/18/2017 3:07:10 PM	Prep Date	Prep Date 10/16/2017	
Client ID:	1700396-WE-10		Run ID:	ICP-OP1	ICP-OPTIMA_171018A			SeqNo:	1007800				
		QC Sample			QC Spike Original Sample	al Sample			7	Original Sample			
Analyte		Result	귐	Units	Amount	Result	%REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	Ö
lon		23520	100	µg/L	4004	20820	67.6	70	130	0			o
Qualifiers:		ND - Not Detected at the Reporting Limit	S	- Spike Rec	S - Spike Recovery outside accepted recovery limits	led recovery	' limits	B - Analy	te detected in	B - Analyte detected in the associated Method Blank	nod Blank		
	J - Analyte detecta	J - Analyte detected below quantitation limits	~	- RPD outsi	R - RPD outside accepted recovery limits	y limits		NA - Not	applicable w	NA - Not applicable where J values or ND results occur	results occur		

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

CLIENT:		GEI Consultants, Inc.								QC SUMMARY REPORT	MARY	REPOR	Σ
Work Order:		1710012 1700396 MPA Berth 10 Final Design	Design							Sample Matrix Spike Duplicate	latrix Spil	ke Duplic	ate
													Ιl
Sample ID	Sample ID 1710012-01HMSD	Batch ID: 27525	Test Code:	e: E200.7	Units: µg/L			Analysis Da	ate 10/18/20	Analysis Date 10/18/2017 3:13:51 PM	Prep Date	Prep Date 10/16/2017	
Client ID:	1700396-WE-10		Run ID:	ICP-OPTI	ICP-OPTIMA_171018A			SeqNo:	1007801				
Analyte		QC Sample Result	꿉	Units	QC Spike Original Sample Amount Result		%REC	LowLimit HighLimit		Original Sample or MS Result	%RPD	RPDLimit	ð
lron		24370	100	µ9/L	4004	20820	88.7	70	130	23520	3.52	20	
Sample 1D	Sample ID 1710012-01HMSF	Batch ID: 27525	Test Code: E200.9_As	E200.9_A	s Units: pg/L			Analysis D.	ate 10/20/20	Analysis Date 10/20/2017 11:13:27 A	Prep Date	Prep Date 10/16/2017	
Client ID:	1700396-WE-10		Run ID:	AANALYS	AANALYST 600_171020			SeqNo:	1008029				
Analyte		QC Sample Result	చ	Units	QC Spike Original Sample Amount Result	Sample Result %REC	%REC	LowLimit	O	Original Sample or MS Result	%RPD	RPDLimit	Ö
Arsenic	ī	22.08	2.0	hg/L	20	0.608	107	70	130	0			
Sample iD	Sample iD 1710012-01HMSD	Batch ID: 27525	Test Code:	Test Code: E200.9_As	ls Units: µg/L			Analysis D	ate 10/20/20	Analysis Date 10/20/2017 11:16:14 A	Prep Date	Prep Date 10/16/2017	
Client ID:	1700396-WE-10		Run ID:	AANALY	AANALYST 600_171020			SeqNo:	1008030				
Analyte		QC Sample Result	꿉	Units	QC Spike Original Sample Amount Result	il Sample Result	%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Arsenic		22.48	2.0	µg/L	20	0.608	109	22	130	22.08	1.8	0	
Sample ID Client ID:	Sample ID 1710012-01HMSF Client ID: 1700396-WE-10	Batch ID: 27525	Test Code: Run ID:	Test Code: E200.9_Pb Run ID: AANALYST	E200.9_Pb Units: µg/L AANALYST 600_171017			Analysis D SeqNo:	Jate 10/17/20	Analysis Date 10/17/2017 5:24:24 PM SeqNo: 1007771	Prep Date	Prep Date 10/16/2017	
Analyte		QC Sample Result	占	Caits	QC Spike Original Sample Amount Resutt	of Sample Result	%REC	LowLimit	C HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Lead		18.45	2.0	µ∂√	50	1.392	85.3	22	130	0			

B - Analyte detected in the associated Method Blank NA - Not applicable where J values or ND results occur

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

Sample Matrix Spike Duplicate QC SUMMARY REPORT 1700396 MPA Berth 10 Final Design GEI Consultants, Inc. 1710012 Work Order: CLIENT: Project:

Date: 31-Oct-17

Sample ID	Sample ID 1710012-01HMSD	Batch ID: 27525	Test Code:	Test Code: E200.9_Pb	Units: µg/L			Analysis D	ate 10/17/20	Analysis Date 10/17/2017 5:27:37 PM	Prep Date	Prep Date 10/16/2017	
Client ID:	Client ID: 1700396-WE-10		Run ID:	AANALYST 600_171017	500_171017			SeqNo:	1007772				
Analyte		QC Sample Result	꿉	QC Units A	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Lead		18.5	2.0	μg/L	20	1.392	85.5	2	130	18.45	0.271	20	
Sample ID	Sample ID 1710012-01HMSF	Batch ID: 27525	Test Code:	e: E200.9_Sb	Units: µg/L			Analysis D	ate 10/18/20	Analysis Date 10/18/2017 11:37:04 A	Prep Date	Prep Date 10/16/2017	
Client ID:	1700396-WE-10		Run ID:	AANALYST 600_171018	600_171018			SedNo:	1007931				
Analyte		QC Sample Result	굺	Oc Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Antimony		22.84	5.0	µ9/L	20	0	114	2	130	0			
Sample ID	Sample ID 1710012-01HMSD	Batch ID: 27525	Test Code:	le: E200.9_Sb	E200.9_Sb Units: µg/L			Analysis D	late 10/18/20 1007932	Analysis Date 10/18/2017 11:39:52 A SeaNo: 1007932	Prep Date	Prep Date 10/16/2017	
	01-244-0650071	QC Sample	ā	00 1	QC Spike Original Sample	Sample	%BEC		Highl imit	Original Sample	%RPD	RPDLimit	ð
Analyte		22.83	5.0		20	0	41	0,	130	22.84	0.0438	20	
Sample 1D	Sample ID 1710012-01HMSF	Batch ID: 27525	Test Code:	Test Code: E200.9_Se	Units: µg/L			Analysis D	late 10/19/20	Analysis Date 10/19/2017 12:34:48 P	Prep Date	Prep Date 10/16/2017	
Client ID:	Client ID: 1700396-WE-10		Run ID:	AANALYST	AANALYST 600_171019			SeqNo:	1007982				
Analyte		QC Sample Result	굺	OC Units	QC Spike Original Sample Amount Result		%REC	LowLimit	O HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Ö
Selenium		21.16	5.0	µg/L	50	0	106	20	130	0			

NA - Not applicable where J values or ND results occur B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

CLIENT:		GEI Consultants, Inc.								OC STIMMARY REPORT	MARY	REPOR	E
Work Order:	rder: 1710012												, ,
Project:	17003961	1700396 MPA Berth 10 Final Design	Design							Sample Maurix Spike Duplicate	ade xinai	ke Dupiic	arc
Sample 1D	Sample ID 1710012-01HMSD	Batch ID: 27525	Test Code	Test Code: E200.9_Se	Units: µg/L			Analysis D	ate 10/19/2(Analysis Date 10/19/2017 12:37:46 P	Prep Date	Prep Date 10/16/2017	
Client ID:	1700396-WE-10		Run ID:	AANALYST	AANALYST 600_171019			SeqNo:	1007983				
		QC Sample		ā	QC Spike Original Sample	Sample			0	Original Sample			
Analyte		Result	교	Units	Amount	Result	%REC	LowLimit HighLimit	HighLimit	or MS Result	%RPD	RPDLimit	ð
Selenium		21.05	5.0	µg/L	20	0	105	20	130	21.16	0.521	20	
Sample ID	Sample ID 1710012-02EMS	Batch ID: R60120	Test Code	Test Code: SW7196A	Units: mg/L			Analysis D	ate 10/5/20	Analysis Date 10/5/2017 10:15:00 AM	Prep Date		
Client ID:	1700396-GEI-212		Run ID:	ING-WET_171005B	171005B			SeqNo:	1008522				
		QC Sample		ø	QC Spike Original Sample	Sample			J	Original Sample			
Analyte		Result	귐	Units	Amount	Result	Result %REC	LowLimit	HighLimit	or MS Result	%RPD	RPDLimit	ő
Chomium	Chromium, Hexavalent	0.022	0.010	mg/L	0.1	0	22	75	125	0			S
Sample ID	Sample ID 1710012-02EMS	Batch ID: R60120	Test Code	Test Code: SW7196A	Units: mg/L			Analysis E)ate 10/5/20	Analysis Date 10/5/2017 10:15:00 AM	Prep Date		
Client ID:	Client ID: 1700396-GEI-212		Run ID:	ING-WET_171005B	171005B			SeqNo:	1008522				
		QC Sample		ð	QC Spike Original Sample	l Sample				Original Sample		; ;	
Analyte		Result	R	Units	Amount	Result	Result %REC	LowLimit	LowLimit HighLimit	or MS Result	%RPD	RPDLimit	Ö
Chromium	Chromium, Hexavalent	0.022	0.010	mg/L	0.1	0	Ø	75	125	0			ဟ

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate. J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

B - Analyte detected in the associated Method Blank
NA - Not applicable where J values or ND results occur

Work Order: Project:	1710012 1700396 MPA Berth	1710012 1700396 MPA Berth 10 Final Design	Design		,					Sample Matrix Spike	Sample 1	Sample Matrix Spike	oike
Sample ID 1710012-02EMS	1710012-02EMS	Batch ID: R60120	Test Code:	e: SW7196A Unit	Units: mg/L			Analysis Da SeqNo:	ate 10/5/201	Analysis Date 10/5/2017 10:15:00 AM SeqNo: 1008523	Prep Date		
Analyte		QC Sample Result	굾	OC Units A	QC Spike Original Sample Amount Result		%REC	ايو	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Öñ
Chromium, Kexavalent	alent	0.025	0.010	mg/L	0.1	0.005	20	75	125	0			တ
Sample ID 1710012-02EMS	112-02EMS	Batch ID: R60120	Test Code:	Test Code: SW7196A	Units: mg/l.			Analysis D	ate 10/5/20	Analysis Date 10/5/2017 10:15:00 AM	Prep Date		
Client ID: 17003	1700396-GEI-212		Run ID:	ING-WET_171005B	71005B			SeqNo:	1008523				
Analyte		QC Sample Result	굺	QC Units A	QC Spike Original Sample Amount Result	Sample Result	%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	ð
Chromium, Hexavalent	ralent	0.025	0.010	mg/L	0.1	0.005	20	75	125	0			S
Sample ID 1710012-01DMS	012-01DMS	Batch ID: R60122	Test Code:	Test Code: M4500-CI G	Units: mg/L			Analysis D	ate 10/5/20	Analysis Date 10/5/2017 11:05:00 AM	Prep Date		
Client ID: 1700396-WE-10	396-WE-10		Run ID:	ING-WET_171005C	71005C			SedNo:	1008574	_			
Analyte		QC Sample Result	굾	Units	QC Spike Original Sample Amount Result		%REC	LowLimit	HighLimit	Original Sample or MS Resutt	%RPD	RPDLimit	ð
Chlorine, Total Residual	sidual	0.879	0.10	mg/L	-	0	87.9	68	118	0			S.
Sample ID 1710012-01GMS Clent ID: 1700396-WE-10	012-01GMS	Batch ID: R60123	Test Code: Run ID:	Test Code: SM4500-CN Units	Units: mg/L 71018A			Analysis D SeqNo:	Analysis Date 10/18/2017 SeqNo: 1008581	:017 1	Prep Date	at.	
Analyte		QC Sample Result	귵	OC Units A	QC Spike Original Sample Amount Result		%REC	LowLimit	HighLimit	Original Sample or MS Result	%RPD	RPDLimit	Qui
Cyanide		0.218	0.010	mg/L	0.2	0.004	107	89	119	0			

B - Analyte detected in the associated Method Blank

NA - Not applicable where J values or ND results occur

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

Qualifiers:

CLIENT:	GEI Con	GEI Consultants, Inc.				OC SUM	OC SUMMARY REPORT
Work Order:	er: 1710012	2				ļ	Comple Matrix Snike
Project:	1700396	700396 MPA Berth 10 Final Design)esign				Sample Iviation Spine
Sample ID 1	Sample ID 1710012-01IMS	Batch ID: R60102	Test Code: SA	Test Code: SM4500-NH3, Units: mg/L	Analysis Date	Analysis Date 10/25/2017	Prep Date
Client ID: 1	Slient ID: 1700396-WE-10		Run ID: IN	ING-WET_171025A	SeqNo:	1008413	
		QC Sample		QC Spike Original Sample		Original Sample	,

ð

%RPD RPDLimit

0

107

78

8

2.38

Amount 10

Units mg/L

QC Sample Result

되

12.18

Nitrogen, Ammonia (As N)

Analyte

Result %REC LowLimit HighLimit or MS Result

B - Analyte detected in the associated Method Blank NA - Not applicable where J values or ND results occur	B - Analyte detected in the associated Method Blank NA - Not applicable where J values or ND results occur
S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits ation the laboratory can accurately quantitate.	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits
ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits R - RPD outside accepted recovery limit R - RPD outside accepted recovery limit RL - Reporting Limit, defined as the lowest concentration the laboratory can accurately quantitate.	
Qualifiers:	Qualifiers:



317 Elm Street Milford, NH 03055 (603) 673-5440

Fax (603) 673-0366 Sales@chemservelab.com

Lab ID: 17100085

Thursday, October 19, 2017 Nancy Stewart **AMRO** 111 Herrick Street Merrimack NH 03054

Project Name: MPA Berth 10 Final Design

Project #: 1700396 **Date Received:** 10/6/2017

Project Location: MA Control #: 17100085

Dear Nancy Stewart

Enclosed please find the laboratory results for the above referenced samples that were received by the Chem Serve sample custodian on the above referenced date. Any abnormalities to the samples upon receipt would be noted on the enclosed chain of custody document. This report is not valid without a completed chain of custody with the corresponding control number, attached.

All samples analyzed by ChemServe are subject to quality standards. These standards are as stringent or more stringent than those established under NELAC, 40 CFR Part 136, state certification programs, and corresponding methodologies. ChemServe has a written QA/QC Procedures Manual that outlines these standards, and is available for your reference, upon request. Unless otherwise stated on the Chain of Custody or within the report, all holding times, preservation techniques, container types, and analytical methods are analogous with those outlined by NELAC. All units are based on "as received" weight unless denoted "dry".

Residual chlorine, sulfite and pH are intended to be performed as an immediate field analysis. Should any of these analyses be performed in the lab instead of in the field it will result in those analyses being performed out of holding time.

I certify that I have reviewed the above referenced analytical data and state forms, and I have found this report within compliance with the procedures outlined within NELAC. ChemServe's certified parameter list can be found at http://www.chemservelab.com/Laboratory-Informationand-Documentation.aspx

Jay Chrystal - President/Laboratory Director





317 Elm Street Milford, NH 03055 (603) 673-5440

Sales@chemservelab.com

AMRO Lab ID: 17100085

Nancy Stewart Control #: 17100085 **Date:** 10/19/2017

111 Herrick Street Project Number: 1700396

Merrimack NH 03054 Project Name: MPA Berth 10 Final Design

Project Location: MA

Lab ID: 17100085

Sample Receiving and Comment Summary

Were samples submitted with a chain of custody?	Yes
Do all samples received match the chain of custody?	Yes
Were all samples received within applicable holding times?	Yes
Were all containers intact when received?	Yes
Were samples for volatile organic analysis free of headspace (per method)?	N/A
Was there evidence of cooling or were samples received on the same day as collection?	Yes
If the sample pH was not correct was it adjusted where applicable?	Yes
Were samples for dissolved metals already filtered by the client or field sampling?	N/A
Were Samples for O-phos filtered in the field?	N/A
Were samples received in the appropriate containers?	Yes
Were samples submitted with a chain of custody?	Yes

Sample	Method	Client Identity	Matrix	Analyst
17100085-001	SW 9056	1700396-WE-10	Groundwater	BenN

Comment: no comment

^{*} Blank comment sections denote "No Comment"



317 Elm Street Milford, NH 03055 (603) 673-5440 Sales@chemservelab.com

AMRO Analytical Results

Nancy Stewart Control #: 17100085 Lab ID: 17100085 Project Number: 111 Herrick Street 1700396 10/19/2017 Date:

Project Name: Merrimack NH 03054 MPA Berth 10 Final Design

Project Location: MA

Sample Client Sample Identity Start Date/Time Sampled: Matrix 17100085-001 1700396-WE-10 10/4/2017 11:30:00 AM Groundwater

Composite Start Date and Time Composite End Date and Time 10/4/2017 11:30:00 AM

Date/Time Dilution Qualifier **Parameter** Method Result Analyzed **Factor RDL** 1

10/17/2017 8:11:00 PM Chloride SW 9056 242 mg/L 1



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Sales@chemservelab.com

AMRO

Analytical Results

Nancy Stewart

Control #: 17100085 Project Number: 1700396

17100085

111 Herrick Street NH

Project Name:

Date:

Lab ID:

10/19/2017

Merrimack

03054

MPA Berth 10 Final Design

Project Location: MA

Sample Client Sample Identity Start Date/Time Sampled:

Matrix

17100085-002

1700396-GEI-12

10/4/2017 12:30:00 PM

Groundwater

Composite Start Date and Time 10/4/2017 12:30:00 PM **Composite End Date and Time**

Qualifier

Date/Time Dilution

Parameter

Method

Result

Analyzed **Factor** **RDL**

1

Chloride

SW 9056

5950 mg/L

10/17/2017 8:11:00 PM 1



317 Elm Street Milford, NH 03055 (603) 673-5440

Sales@chemservelab.com

AMRO

Analytical Results

Dete/Time

 Nancy Stewart
 Control #:
 17100085
 Lab ID:
 17100085

 111 Herrick Street
 Project Number:
 1700396
 Date:
 10/19/2017

Merrimack NH 03054 Project Name: MPA Berth 10 Final Design

Project Location: MA

 Sample
 Client Sample Identity
 Start Date/Time Sampled:
 Matrix

 17100085-003
 1700396-GEI-302 (MW)
 10/4/2017 2:30:00 PM
 Groundwater

Composite Start Date and Time 10/4/2017 2:30:00 PM

Composite End Date and Time

Groundwale

D:1..4! - --

Parameter	Method	Result	Qualifier	Analyzed	Factor	RDL
Chloride	SW 9056	10500 mg/L		10/17/2017 8:11:00 PM	1	1

Qualifier. Description.	Qualifier:	Description:
-------------------------	------------	--------------

B-	Method blank contaminated with target analyte.
B1-	BOD had total oxygen loss. Result reported as ">"the highest dilution.
B2-	BOD had no oxygen loss. Result reported as "<" the lowest dilution.
G-	Reporting limit elevated due to matrix interference.
H-	Method prescribed holding time exceeded.

J- Indicates an estimated value. Value is less than the quantitation limit.

IL- Internal Standard(s) recovery was low due to matrix. Result may be biased high. Internal Standard(s) recovery was high due to matrix. Result may be biased low.

LHLaboratory control spike(s) was high. Results may be biased high.
LLLaboratory control spike(s) was low. Results may be biased low.
MHMatrix spike recovery high due to matrix. Results may be biased high.
MLMatrix spike recovery low due to matrix. Results may be biased low.

N- Non-target compound. Reported as a TIC.

NC- Spike recovery was not calculated due to the concentration of the analyte being >4 times the concentration of the spike added.

RRPD outside acceptable recovery limits.
ROSample received out of holding time.
SHSurrogate recovery high due to matrix
SLSurrogate recovery low due to matrix

U- BOD/CBOD blank had an oxygen depletion greater than the suggested amount of 0.200.

V- Sample pH for volatile analysis was not <2 when checked at time of analysis.

Z Too numerous to count (TNTC)

An "A" in the result column on the report indicates absent for presence/absent bacteria and a "P" indicates present for presence/absent bacteria.

AMRO Environmental Laboratories Corporation 111 Herrick Street Merrimack, NH 03054 / 7/00085 10/23

CHAIN-OF-CUSTODY RECORD

NO: 67507

Office: (603) 424-2022 Fax: (603) 429-8496

web: www.amrolabs.com

	O1' 1 AMROCOC2004, Rev.3 08/18/04	l'aduc		1	
	3.ال	l man l		Yellow: Client Copy	White: Lab Copy
KNOWN SITE CONTAMINATION:	AMRO policy requires notification in writing to the laboratory in cases where the samples were	Samples arriving after 12:00 noon will be tracked and billed as received on the following day.	received on the following day.	be logged in and the turnaround time clock will not start until any ambiguities are resolved.	be logged in and the turnarou any ambiguities are resolved.
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,	200.7 Other Metals:	Method: 6	Before submitting samples for expedited TAT, you must		ANDO
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Damarks	REOUESTED ANALYSES	REQUEST		Results Needed by:	r.O.#;
1710012			UESIGN State: NOTT	11 .	PO#.
AMRO Project No.:	Samplers (Signature):	Project Manager:	Project A	ح.	Project No.:

Appendix D

Endangered Species Act Eligibility Documentation



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Ecological Services Field Office 70 Commercial Street, Suite 300 Concord, NH 03301-5094 Phone: (603) 223-2541 Fax: (603) 223-0104

http://www.fws.gov/newengland



In Reply Refer To: March 30, 2018

Consultation Code: 05E1NE00-2018-SLI-1442

Event Code: 05E1NE00-2018-E-03270

Project Name: Berth 10

Subject: List of threatened and endangered species that may occur in your proposed project

location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office 70 Commercial Street, Suite 300 Concord, NH 03301-5094 (603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2018-SLI-1442

Event Code: 05E1NE00-2018-E-03270

Project Name: Berth 10

Project Type: DREDGE / EXCAVATION

Project Description: Berth redesign in South Boston, approx. 4 acres, excavation, dredging and

ISS, approx. construction timeframe of 2018-2020.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.34153157815548N71.02735464143421W



Counties: Suffolk, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME STATUS

Roseate Tern Sterna dougallii dougallii

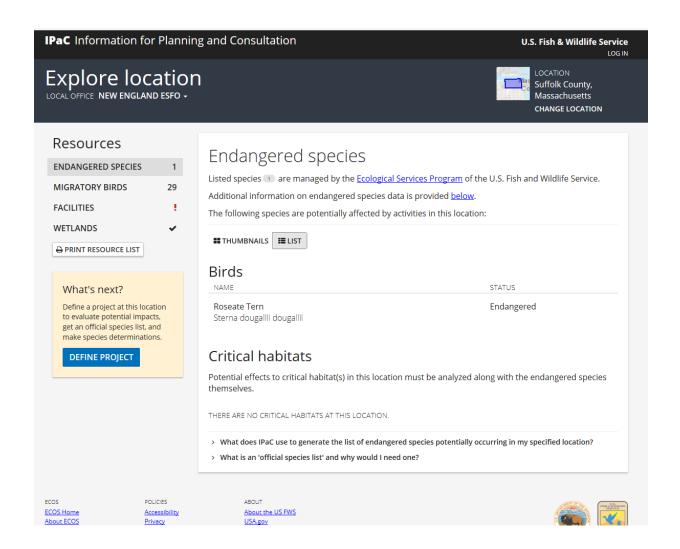
Endangered

Population: northeast U.S. nesting pop.

No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083

Critical habitats

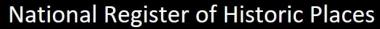
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



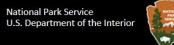
https://ecos.fws.gov/ipac/location/2YYK2NCRYZBQ5BV4DRYJZIGUXA/resources

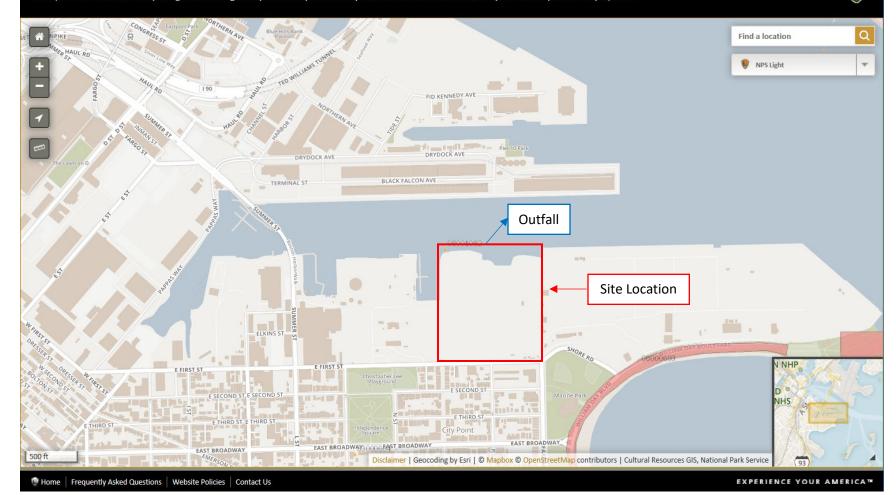
Appendix E

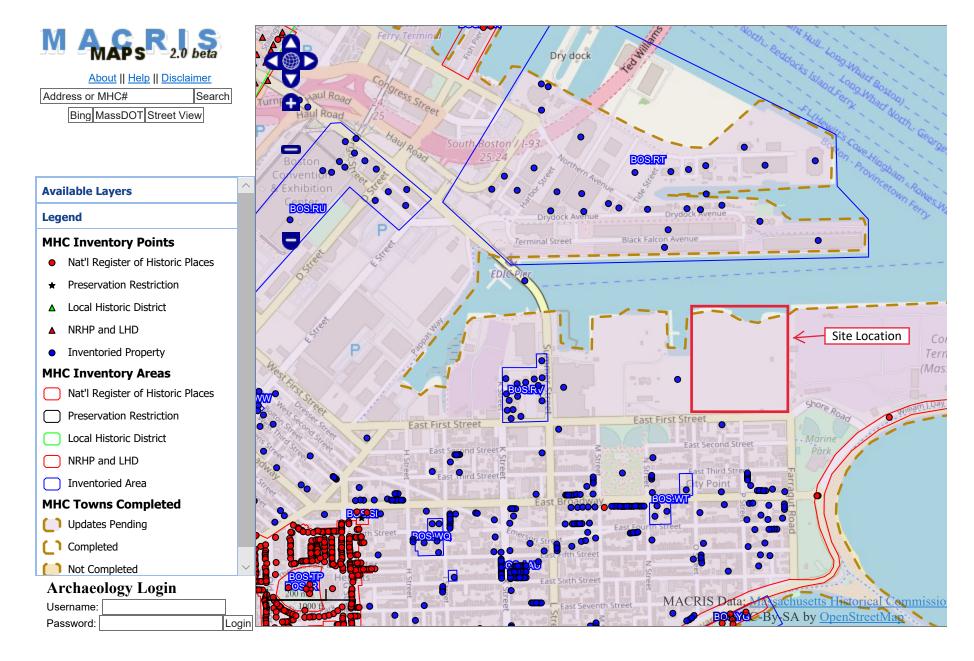
Historic Preservation Documentation



Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. Data last updated in April, 2014.







Massachusetts Cultural Resource Information System MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: South Boston; Resource Type(s): Area, Building, Object, Burial Ground, Structure;

Inv. No.	Property Name	Street	Town	Year
BOS.CX	Fort Point Channel District		Boston	
BOS.IQ	Old Harbor Village		Boston	
BOS.IR	Dorchester Heights National Historic Site		Boston	
BOS.IU	Saint Augustine Chapel and Cemetery		Boston	
BOS.IV	South Boston Waterfront District		Boston	
BOS.RT	Boston Army Supply Base		Boston	
BOS.RU	C Street Industrial Area		Boston	
BOS.RV	King Terminal		Boston	
BOS.SI	Cathedral of Saint George Historic District		Boston	
BOS.TP	Dorchester Heights Historic District		Boston	
BOS.WQ	Gate of Heaven Roman Catholic Church Complex		Boston	
BOS.WR	Our Lady of Czestochowa Roman Catholic Church		Boston	
BOS.WS	Saint Augustine Roman Catholic Church Complex		Boston	
BOS.WT	Saint Brigid Roman Catholic Church Complex		Boston	
BOS.WU	Saint Peter (Lithuanian) Roman Catholic Church		Boston	
BOS.WV	Saints Peter and Paul Roman Catholic Church		Boston	
BOS.WW	Saint Vincent de Paul Roman Catholic Church		Boston	
BOS.WZ	Fort Point Channel Historic District		Boston	
BOS.YG	South Boston Boat Clubs Historic District		Boston	
BOS.ZD	Old Harbor Reservation Parkways		Boston	
BOS.ZG	Fort Point Channel Landmark District		Boston	
BOS.AAU	Beckler Avenue, 1-16		Boston	
BOS.ADN	Boston Fish Pier Historic District		Boston	
BOS.6815	Dahlquist Coppersmiths Manufacturing Company	87-97 A St	Boston	r 1895
BOS.6816	United States Post Office Garage	135 A St	Boston	1941
Monday, April	16, 2018			Page 1 of 29

Inv. No.	Property Name	Street	Town	Year
BOS.5498	Boston Wharf Company Warehouse	168-170 A St	Boston	1897
BOS.5499	Boston Wharf Company Warehouse	169 A St	Boston	1919
BOS.5500	Boston Wharf Company Warehouse	172-174 A St	Boston	1897
BOS.5501	Boston Wharf Company Warehouse	176-178 A St	Boston	1897
BOS.5502	Boston Wharf Company Warehouse	191-205 A St	Boston	1919
BOS.5503	Boston Wharf Company Building	207-209 A St	Boston	1916
BOS.5504	Boston Wharf Company Building	211-213 A St	Boston	1915
BOS.5505	Boston Wharf Company Warehouse	215-225 A St	Boston	1922
BOS.5506	Boston Wharf Company Warehouse	227-229 A St	Boston	1903
BOS.5507	Barlow, Frederick Building	239-241 A St	Boston	c 1895
BOS.5508	Factory Buildings Trust Industrial Building #5	249-255 A St	Boston	c 1895
BOS.5509	Keith, George E. Shoe Factory	288-304 A St	Boston	1912
BOS.5510	Boston Wharf Company Warehouse	289-293 A St	Boston	1893
BOS.5511	Boston Wharf Company Warehouse	319-321 A St	Boston	1913
BOS.15340	Dwinell - Wright Company Warehouse	319R A St	Boston	1923
BOS.15342	A Street Deli	324 A St	Boston	1945
BOS.15343	Boston Button Company Warehouse	326 A St	Boston	1889
BOS.12944	McDonald, Matt J. Company Special Steel Company	3 Anchor Way	Boston	c 1980
BOS.6817	Pike, Jacob - Abbott, Timothy Double House	92-94 B St	Boston	c 1834
BOS.6818	Boston Fire Department Hose Company #9	116 B St	Boston	1860
BOS.6819	Lawrence School	125 B St	Boston	1856
BOS.9652	Old Harbor Parkway - Babe Ruth Park Drive	Babe Ruth Park Dr	Boston	1924
BOS.6828	Beckler Avenue Rowhouse	1 Beckler Ave	Boston	c 1872
BOS.6820	Beckler Avenue Rowhouse	2 Beckler Ave	Boston	c 1872
BOS.6829	Beckler Avenue Rowhouse	3 Beckler Ave	Boston	c 1872
BOS.6821	Beckler Avenue Rowhouse	4 Beckler Ave	Boston	c 1872
BOS.6830	Beckler Avenue Rowhouse	5 Beckler Ave	Boston	c 1872
BOS.6822	Beckler Avenue Rowhouse	6 Beckler Ave	Boston	c 1872
BOS.6831	Beckler Avenue Rowhouse	7 Beckler Ave	Boston	c 1872
BOS.6823	Beckler Avenue Rowhouse	8 Beckler Ave	Boston	c 1872
BOS.6832	Beckler Avenue Rowhouse	9 Beckler Ave	Boston	c 1872
BOS.6824	Beckler Avenue Rowhouse	10 Beckler Ave	Boston	c 1872
BOS.6833	Beckler Avenue Rowhouse	11 Beckler Ave	Boston	c 1872
BOS.6825	Beckler Avenue Rowhouse	12 Beckler Ave	Boston	c 1872
BOS.6834	Beckler Avenue Rowhouse	13 Beckler Ave	Boston	c 1872
BOS.6826	Beckler Avenue Rowhouse	14 Beckler Ave	Boston	c 1872
BOS.6835	Beckler Avenue Rowhouse	15 Beckler Ave	Boston	c 1872

Monday, April 16, 2018 Page 2 of 29

Inv. No.	Property Name	Street	Town	Year
BOS.6827	Beckler Avenue Rowhouse	16 Beckler Ave	Boston	c 1872
BOS.5512	Factory Buildings Trust Industrial Building #1	14-18 Binford St	Boston	1895
BOS.5513	Factory Buildings Trust Industrial Building #2	22-30 Binford St	Boston	1895
BOS.5514	Factory Buildings Trust Industrial Building #3	32-40 Binford St	Boston	1895
BOS.5515	Factory Buildings Trust Industrial Building #4	42-48 Binford St	Boston	1895
BOS.12945	Boston Army Supply Base - Wharf Shed	1 Black Falcon Dr	Boston	1918
BOS.15332	Saint Vincent de Paul Roman Catholic Rectory	201 Bolton St	Boston	r 1870
BOS.9243	Boston Street Bridge over MBTA	Boston St	Boston	1925
BOS.15322	Saint Mary's Roman Catholic Parochial School	46 Boston St	Boston	1911
BOS.6836	Broadway Streetcar - Broadway Bus Staton	Broadway Ave	Boston	1919
BOS.9247	Broadway Bridge over Fort Point Channel	Broadway Ave	Boston	1914
BOS.9249	Broadway Subway Station	Broadway Ave	Boston	1917
BOS.6837		450-454 Broadway Ave	Boston	r 1895
BOS.12973	Gahm, Joseph and Son Bottling Plant	340 C St	Boston	1908
BOS.12974	Brooklyn Cooperage Co. Kiln Building & Cooper Shop	352 C St	Boston	1904
BOS.12975	Brooklyn Cooperage Co. Storage & Shipping Building	360-366 C St	Boston	c 1904
BOS.12976	Standard Sanitary Manufacturing Company Building	365 C St	Boston	1924
BOS.12977		445 C St	Boston	1924
BOS.12978		475 C St	Boston	1919
BOS.12979	Brown and Wales Steel and Iron Company Warehouse	489-493 C St	Boston	c 1910
BOS.6838	Fort Independence	Castle Island	Boston	1809
BOS.5546	Boston Wharf Company Warehouse	1-5 Channel Center St	Boston	1916
BOS.5547	Boston Wharf Company Warehouse	1-5 Channel Center St	Boston	1914
BOS.5548	Abbott, W. Herbert, Inc. Building	1-5 Channel Center St	Boston	1913
BOS.5543	Boston Wharf Company Warehouse	15 Channel Center St	Boston	c 1914
BOS.5544	Boston Wharf Company Warehouse	15 Channel Center St	Boston	1911
BOS.5545	Boston Wharf Company Warehouse	15 Channel Center St	Boston	1912
BOS.5541	Boston Wharf Company Warehouse	35 Channel Center St	Boston	1902
BOS.12946	Boston Army Supply Base - Building 17	7 Channel St	Boston	c 1940
BOS.8062	Boston Army Supply Base Steam Locomotive Shop	11 Channel St	Boston	1918
BOS.12947	Boston Army Supply Base - Building 32	12 Channel St	Boston	c 1940
BOS.9648	Old Harbor Reservation Parkway - Columbia Road	Columbia Rd	Boston	1897
BOS.9649	Old Harbor Parkway - Columbia Road Median Strip	Columbia Rd	Boston	1897

Monday, April 16, 2018 Page 3 of 29

nv. No.	Property Name	Street	Town	Year
3OS.9650	Old Harbor Parkway - Laporte, Joseph E. Monument	Columbia Rd	Boston	1965
3OS.9653	Old Harbor Reservation Parkway - Preble Circle	Columbia Rd	Boston	c 1941
3OS.9656	Old Harbor Reservation Parkway - Columbia Circle	Columbia Rd	Boston	1924
3OS.9657	Old Harbor Parkway - Kosciuszko, Tadeusz Monument	Columbia Rd	Boston	1951
3OS.9651	Old Harbor Parkway - Columbus Park Headworks	1305 Columbia Rd	Boston	1967
3OS.6839	Johnson, Samuel W. Three Decker	1650 Columbia Rd	Boston	1913
3OS.6840	Johnson, Samuel W. Three Decker	1654 Columbia Rd	Boston	1913
3OS.6841	Johnson, Samuel W. Three Decker	1658 Columbia Rd	Boston	1913
3OS.6842	Johnson, Samuel W. Three Decker	1662 Columbia Rd	Boston	1913
3OS.6843	Johnson, Samuel W. Two-Family House	1736 Columbia Rd	Boston	1911
3OS.6844	Johnson, Samuel W. Three Decker	1788 Columbia Rd	Boston	1904
3OS.6845	Johnson, Samuel W. Three Decker	1790 Columbia Rd	Boston	1904
3OS.6846	Johnson, Samuel W. Three Decker	1792 Columbia Rd	Boston	1904
3OS.6855	Boston Yacht Club	1793-1805 Columbia Rd	Boston	1874
3OS.6847	Johnson, Samuel W. Three Decker	1794 Columbia Rd	Boston	1904
OS.6852	Puritan Canoe Club	1819 Columbia Rd	Boston	1899
3OS.6853	Columbia Yacht Club	1825-1829 Columbia Rd	Boston	1899
3OS.6854	South Boston Yacht Club	1839-1849 Columbia Rd	Boston	1899
OS.9002	Congress Street Bridge over Fort Point Channel	Congress St	Boston	1930
3OS.9510	The Beaver	Congress St	Boston	
3OS.15344	Congress Street Bridge Tenders House	Congress St	Boston	1930
3OS.15345		305 Congress St	Boston	1983
OS.5516	New Haven Terminal Stores	308-316 Congress St	Boston	c 1890
3OS.15346	Hood, H. P. Milk Bottle	308 Congress St	Boston	1934
3OS.15347	Lombard's Congress Street Stores	313 Congress St	Boston	1886
3OS.5517	Boston Wharf Company Building	320-324 Congress St	Boston	1888
3OS.5518	Boston Wharf Company Warehouse	326-330 Congress St	Boston	1888
3OS.5519	Boston Wharf Company Warehouse	332-336 Congress St	Boston	1892
3OS.5520	American Railway Express Company Stable	343 Congress St	Boston	1888
BOS.5521	Congress Street Fire Station	344-346 Congress St	Boston	1891
3OS.5522	Chase and Company Candy Company Factory	347-351 Congress St	Boston	1887
3OS.5523	Boston Wharf Company Warehouse	348-352 Congress St	Boston	1894
3OS.5524	Boston Wharf Company Warehouse	354-358 Congress St	Boston	1900
3OS.5525	Tremont Electric Lighting Company	355-359 Congress St	Boston	c 1905
3OS.5526	Boston Wharf Company Building	364-372 Congress St	Boston	1901

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lnv. No.	Property Name	Street	Town	Year
BOS.5527	Boston Wharf Company Wool Warehouse	369-375 Congress St	Boston	1918
BOS.5528	Boston Wharf Company Building	374-384 Congress St	Boston	c 1903
BOS.5529	Boston Wharf Company Building	381-389 Congress St	Boston	1907
BOS.9775	Schooner Roseway	Courthouse Pier	Boston	1925
BOS.12980	Burnett, Joseph Company Extract Building	437 D St	Boston	1921
BOS.12981		451 D St	Boston	1910
BOS.6849	Woods, S. A. Woodworking Machinery Company Stable	27-37 Damrell St	Boston	c 1886
BOS.6850	Woods, S. A. Woodworking Machinery Company	28 Damrell St	Boston	1886
BOS.9647	Old Harbor Reservation Parkway - Farragut Rotary	Day, William J. Blvd	Boston	1893
3OS.6856	Gogin, Thomas House	7 Dexter St	Boston	r 1860
BOS.6857	Roers, R. House	9 Dexter St	Boston	r 1860
BOS.6859	Clough, Joseph H. House	15 Dexter St	Boston	r 1860
BOS.6858	Clough, Joseph H. House	19 Dexter St	Boston	r 1860
3OS.6860	Ellis, Charles H. House	23 Dexter St	Boston	r 1860
OS.6861	Wadleigh, Dexter - Sharp, William Double House	27-29 Dexter St	Boston	c 1852
3OS.13275	Stetson, Alpheus M. House	12 Dixfield St	Boston	c 1869
3OS.13276	Stetson, Alpheus M. House	14 Dixfield St	Boston	c 1869
3OS.13277		15 Dixfield St	Boston	r 1880
3OS.13278	Rich, Reuben House	16 Dixfield St	Boston	c 1869
3OS.6862	Kent, Barker B. House	17 Dixfield St	Boston	c 1849
3OS.13279	Stetson, Alpheus M. House	18 Dixfield St	Boston	c 1869
3OS.13280		19 Dixfield St	Boston	
OS.13281		21 Dixfield St	Boston	
OS.13282		24 Dixfield St	Boston	
3OS.13283		26 Dixfield St	Boston	
3OS.12948	Boston Army Supply Base - Building 31	3 Dolphin Way	Boston	c 1940
3OS.6864	Andrew Street Car Transfer Station	Dorchester Ave	Boston	1918
3OS.9242	Dorchester Avenue Bridge over MBTA	Dorchester Ave	Boston	1925
3OS.9244	NY, NH and H Railroad Bridge #1.08	Dorchester Ave	Boston	
3OS.9248	Andrew Subway Station	Dorchester Ave	Boston	1918
OS.9513	Dorchester Avenue Sea Wall	Dorchester Ave	Boston	
3OS.6863	MacAllen Electric Railway Material Co. Building	135-137 Dorchester Ave	Boston	r 1905
3OS.6865	Norway Iron Works Machine Shop	383 Dorchester Ave	Boston	c 1845
BOS.15319	Our Lady of Czestochowa Roman Catholic Church	655 Dorchester Ave	Boston	1894
BOS.15320	Our Lady of Czestochowa Roman Catholic Rectory	655 Dorchester Ave	Boston	1900

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Inv. No.	Property Name	Street	Town	Year
BOS.15321	Our Lady of Czestochowa Roman Catholic Convent	666 Dorchester Ave	Boston	c 1900
BOS.9240	N.Y., N.H. and H. Railroad Bridge (Milepost #1.19)	Dorchester Brook	Boston	1961
BOS.6872	South Boston Gas Light Company	3-5 Dorchester St	Boston	c 1852
BOS.6873	Boston Engine House #1 & Municipal District Court	119-121 Dorchester St	Boston	1868
BOS.13284	White, Amos T. Three Decker	124 Dorchester St	Boston	1891
BOS.13285	Marion Manor	130 Dorchester St	Boston	1965
BOS.6866	Briggs, James Edwin House	142 Dorchester St	Boston	r 1856
BOS.6867	Sears, Jabez H Woods, Solomon A. House	146 Dorchester St	Boston	1859
BOS.13286	Morse, Albert House	149 Dorchester St	Boston	r 1860
BOS.13287	Whitcher, Martin C. House	151 Dorchester St	Boston	r 1860
BOS.13288		153 Dorchester St	Boston	r 1860
BOS.13289	Hall, Daniel Double House	154 Dorchester St	Boston	c 1852
BOS.13290	Silsby, Thomas J. House	155 Dorchester St	Boston	c 1852
BOS.13291	Adams, Orison Double House	156 Dorchester St	Boston	c 1852
BOS.13292	Orcutt, William K. House	158 Dorchester St	Boston	r 1860
BOS.13293	Pearson, E. House	159 Dorchester St	Boston	r 1860
BOS.13294	Giles, S. House	160 Dorchester St	Boston	r 1860
BOS.13295		161 Dorchester St	Boston	r 1860
BOS.6868	Lincoln, Charles House	162 Dorchester St	Boston	1858
BOS.13296	Bail, William V. House	164 Dorchester St	Boston	r 1860
BOS.6875	Rose, George Double House	165-169 Dorchester St	Boston	r 1855
BOS.13297	Collins, Jeremiah House	170 Dorchester St	Boston	r 1860
BOS.13298	Thayer, Samuel J. F. House	172 Dorchester St	Boston	c 1865
BOS.811	Saint Augustine Cemetery	181 Dorchester St	Boston	1819
BOS.7180	Saint Augustine Roman Catholic Chapel	181 Dorchester St	Boston	1819
BOS.6869	Mason, William H. House	200 Dorchester St	Boston	r 1855
BOS.6876	Saint Augustine Roman Catholic Church and Rectory	225 Dorchester St	Boston	c 1870
BOS.6870	Boston Fire House Horse Hose Company #10	330 Dorchester St	Boston	1861
BOS.6871	Dorchester Street Methodist Episcopal Church	340 Dorchester St	Boston	c 1889
BOS.6877	Richmond, Augustus C. House	351 Dorchester St	Boston	c 1873
BOS.6878	Hussey, Robert House	381 Dorchester St	Boston	c 1866
BOS.6879	Unity Unitarian Chapel - Washington Village Chapel	385 Dorchester St	Boston	c 1860
BOS.6880		397-403 Dorchester St	Boston	c 1910
BOS.9427	Boston Army Supply Base - Dry Dock #3	Dry Dock Ave	Boston	c 1914

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Inv. No.	Property Name	Street	Town	Year
BOS.12949	Boston Army Supply Base - Building 114	Dry Dock Ave	Boston	1918
BOS.12952	Boston Army Supply Base - Parking Garage	Dry Dock Ave	Boston	c 1980
BOS.12957	Boston Army Supply Base - Building 22	Dry Dock Ave	Boston	c 1918
BOS.12958	Boston Army Supply Base - Building 23	Dry Dock Ave	Boston	c 1918
BOS.12961	Boston Army Supply Base - Building 40	Dry Dock Ave	Boston	c 1918
BOS.12962	Boston Army Supply Base - Buildings 117 and 113	Dry Dock Ave	Boston	1918
BOS.12950	Boston Army Supply Base - Building 15	10 Dry Dock Ave	Boston	c 1940
BOS.12951	British Airways World Cargo Building	15 Dry Dock Ave	Boston	c 1980
BOS.12953	Boston Army Supply Base - Building 20	20 Dry Dock Ave	Boston	c 1940
BOS.12954	Boston Army Supply Base - Public Works Building	22 Dry Dock Ave	Boston	c 1940
BOS.12955	Boston Army Supply Base - Building 21	24-26 Dry Dock Ave	Boston	c 1940
BOS.12959	Boston Army Supply Base - Building 1	32 Dry Dock Ave	Boston	c 1918
BOS.12960	Coastal Cement Corporation	39 Dry Dock Ave	Boston	c 1980
BOS.6881	Saint Augustine Roman Catholic Parochial School	201 E St	Boston	1893
BOS.15324	Saint Augustine Roman Catholic Church Convent	207 E St	Boston	1926
BOS.7119	Glynn, Martin T. and William Apartment Building	313 E St	Boston	1897
BOS.7115	Greene, Gardiner Row House	318 E St	Boston	c 1824
BOS.7116	Greene, Gardiner Row House	320 E St	Boston	c 1824
BOS.6882	Fletcher, Henry W. Double House	336-338 E St	Boston	c 1852
BOS.6883	Harris, James W. Double House	368-370 E St	Boston	c 1852
BOS.9257	Farragut, Adm. David Glasgow Statue	East Broadway	Boston	1893
BOS.9259	Independence Square	East Broadway	Boston	1855
BOS.6952	James, Francis Row House	495 East Broadway	Boston	1860
BOS.6918	Monks, John P Howes, Osborn Double House	512-514 East Broadway	Boston	1845
BOS.6919	Kenney, John - Hersey, Francis C. Double House	516 East Broadway	Boston	1874
BOS.14295	James, George B. House	517 East Broadway	Boston	c 1868
BOS.6921	Bill, Abner D. House	520 East Broadway	Boston	c 1868
BOS.6884	Cathedral of Saint George	523 East Broadway	Boston	1872
BOS.14296	Jenney, Bernard House	525 East Broadway	Boston	1868
BOS.6922	Stover, Theophilus - Jenkins, Joshua House	534 East Broadway	Boston	c 1856
BOS.6885	South Boston Municipal Building	535 East Broadway	Boston	1913
BOS.6923	Souther, Henry - Gavin, Dr. Michael Freeborn House	546 East Broadway	Boston	1868
BOS.6924	Meins, Walter R. Row House	548 East Broadway	Boston	1871
BOS.6925	Vance, Samuel Row House	550 East Broadway	Boston	1871
BOS.6926		552 East Broadway	Boston	1871

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nv. No.	Property Name	Street	Town	Year
BOS.6927		554 East Broadway	Boston	1871
BOS.6928		556 East Broadway	Boston	1871
BOS.6929	Warner, William D. Row House	558 East Broadway	Boston	1871
BOS.6930		560 East Broadway	Boston	1871
BOS.6931	Warner, William D. Row House	562 East Broadway	Boston	1871
BOS.6886	Driscoll, Mitchell J. House	585 East Broadway	Boston	1892
BOS.6887		705 East Broadway	Boston	1859
BOS.6888		707 East Broadway	Boston	1859
BOS.6889		709 East Broadway	Boston	1859
BOS.6890		711 East Broadway	Boston	1859
BOS.6932	Pilgrim Hall	732-734 East Broadway	Boston	1890
BOS.6933	Handy, Lottie G. Row House	766 East Broadway	Boston	1874
BOS.6891	Warner, William H. House	767 East Broadway	Boston	c 1858
BOS.6934	Cobb Lime Company Row House	768 East Broadway	Boston	1874
BOS.6935	Cobb Lime Company Row House	770 East Broadway	Boston	1874
BOS.6892	Scott, John M Bixby, Sampson L. Double House	771-773 East Broadway	Boston	c 1867
3OS.6936	Cobb Lime Company Row House	772 East Broadway	Boston	1874
BOS.6937	Cobb Lime Company Row House	774 East Broadway	Boston	1874
BOS.6893	Scott, John M. Double House	775-777 East Broadway	Boston	1868
BOS.6938	Whitney, William A. House	776 East Broadway	Boston	1875
BOS.6939	Whitney, William A. House	778 East Broadway	Boston	1873
BOS.6894	Scott, John M. Double House	779-781 East Broadway	Boston	1868
BOS.6940	Hawes, Walter E. House	780 East Broadway	Boston	1870
BOS.6941	Gray, Solomon S Dana, Otis D. Stable	786 East Broadway	Boston	r 1870
BOS.6895	Scott, John M. House	787 East Broadway	Boston	c 1862
BOS.6942	Gray, Solomon S Dana, Otis D. House	788 East Broadway	Boston	c 1866
BOS.6896	Loring, Harrison House	789 East Broadway	Boston	1865
BOS.6897	Clark, William H. Row House	797 East Broadway	Boston	1868
BOS.6898	Moore, Alexander Row House	799 East Broadway	Boston	1868
BOS.6899	Souther, Joaquim Row House	801 East Broadway	Boston	1868
3OS.6900	Souther, John T. Row House	803 East Broadway	Boston	1868
3OS.6901	Brown, Albert Row House	805 East Broadway	Boston	1868
3OS.6902	Brown, Albert Row House	807 East Broadway	Boston	1868
3OS.6903	Hall, Leonard Row House	809 East Broadway	Boston	1868
3OS.6904	Canfield, Rev. C. T. Row House	811 East Broadway	Boston	1868
BOS.6905	Murray, Mary E. T. Row House	813 East Broadway	Boston	c 1870
BOS.6906	Tay, Rodney S. Row House	815 East Broadway	Boston	c 1870

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Inv. No.	Property Name	Street	Town	Year
BOS.6907	Gibbs, Horace G. Row House	817 East Broadway	Boston	c 1870
BOS.6908	Baker, Mary Row House	819 East Broadway	Boston	c 1870
BOS.6909	Baker, Charles H. Row House	821 East Broadway	Boston	c 1870
BOS.6910	Bemis, Emily Row House	823 East Broadway	Boston	c 1870
BOS.6911	Hall, Francis D. Row House	825 East Broadway	Boston	c 1870
BOS.6912	Scott, John M. Row House	827 East Broadway	Boston	c 1870
BOS.6943	Whiton, Lewis C. House	838 East Broadway	Boston	c 1869
BOS.15326	Saint Brigid Roman Catholic Church Rectory	845 East Broadway	Boston	c 1917
BOS.15327	Saint Brigid Roman Catholic Church School	866 East Broadway	Boston	1964
BOS.6944		898-904 East Broadway	Boston	1886
BOS.6914	Gleeson, James A. Double House	901-903 East Broadway	Boston	c 1865
BOS.6915	Clark, Henry S. Three Decker	925 East Broadway	Boston	1907
BOS.6916	Blake, Samuel House	927-931R East Broadway	Boston	1835
BOS.6945	Collins, James Mansion	928 East Broadway	Boston	1867
BOS.6946	Collins, James Row House	934 East Broadway	Boston	1884
BOS.6947	Collins, James Row House	936 East Broadway	Boston	1884
BOS.6948	Collins, James Row House	938 East Broadway	Boston	1884
BOS.6949	Collins, James Row House	940 East Broadway	Boston	1884
BOS.6950	Collins, James Row House	942 East Broadway	Boston	1884
BOS.6917	Taylor, William H. House	945 East Broadway	Boston	1939
BOS.6951	Falvey, J. H. House	948 East Broadway	Boston	r 1900
BOS.13299		344 East Eighth St	Boston	c 1884
BOS.13300	Graf, Emily House	348 East Eighth St	Boston	r 1885
BOS.13301	Stapleton, B. J. and E. House	350 East Eighth St	Boston	r 1885
BOS.13302	Towle, A. J. and William House	352 East Eighth St	Boston	r 1885
BOS.13303	Devine - Wenzler House	354 East Eighth St	Boston	r 1885
BOS.13304	McCarthy - Clark House	356 East Eighth St	Boston	r 1885
BOS.13305	Grafter, William House	358 East Eighth St	Boston	r 1885
BOS.13306	Barth, Sophie A. House	360 East Eighth St	Boston	r 1885
BOS.13307		362 East Eighth St	Boston	r 1980
BOS.13308		364 East Eighth St	Boston	r 1980
BOS.13309		366 East Eighth St	Boston	r 1885
BOS.6966	Arion Hall - German-American Singing Society	367 East Eighth St	Boston	1892
BOS.13310		368 East Eighth St	Boston	r 1885
BOS.13311		370 East Eighth St	Boston	r 1885
BOS.13312		372 East Eighth St	Boston	r 1885
BOS.13313		374 East Eighth St	Boston	r 1885
BOS.13314		412 East Eighth St	Boston	r 1890
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Inv. No.	Property Name	Street	Town	Year
BOS.13315		413 East Eighth St	Boston	r 1890
BOS.13316		414 East Eighth St	Boston	r 1890
BOS.13317		415 East Eighth St	Boston	r 1890
BOS.13318		417 East Eighth St	Boston	r 1865
BOS.13319		419 East Eighth St	Boston	r 1865
BOS.13320		421 East Eighth St	Boston	r 1865
BOS.13321		428 East Eighth St	Boston	r 1880
BOS.6963	Ellis, Albert House	582 1/2 East Eighth St	Boston	c 1845
BOS.6967	Spinney, Samuel R. House	601 East Eighth St	Boston	1853
BOS.7087	Sharp, John H. House	673 East Eighth St	Boston	1858
BOS.7088	Sharp, John H. House	675 East Eighth St	Boston	1858
BOS.7089	Sharp, John H. House	679 East Eighth St	Boston	1858
BOS.6964	Johnson, Samuel W. Three Decker	690 East Eighth St	Boston	1909
BOS.6965	Perry, Oliver Hazard Grammar School	770 East Eighth St	Boston	1904
BOS.13322		390 East Fifth St	Boston	r 1865
BOS.13323	Thompson, A. D. House	391 East Fifth St	Boston	r 1865
BOS.13324		392 East Fifth St	Boston	r 1865
BOS.13325	Manson, George H. House	393 East Fifth St	Boston	r 1865
BOS.13326		395 East Fifth St	Boston	r 1865
BOS.13327		397 East Fifth St	Boston	r 1865
BOS.6793	Perkins Institute for the Blind Rental Housing	422-424 East Fifth St	Boston	1893
BOS.6794	Emerson, Jacob House	562 East Fifth St	Boston	1847
BOS.6795	Hawes, John House	568 East Fifth St	Boston	c 1805
BOS.6796	Hathaway, Hiram F. House	611 East Fifth St	Boston	c 1852
BOS.6797	Masury, Joseph Double House	620-622 East Fifth St	Boston	1848
BOS.6798	Wheaton, Timothy Building	779 East Fifth St	Boston	1886
BOS.6800	Collins, James Apartment Block	828-834 East Fifth St	Boston	c 1880
BOS.6801	Harriss, John A. House	847 East Fifth St	Boston	c 1852
BOS.6802	Griffith, Mary A Butler, N. House	848 East Fifth St	Boston	c 1870
BOS.6803	Gleason, Michael House	855 East Fifth St	Boston	c 1856
BOS.12994		East First St	Boston	r 1950
BOS.12991		564 East First St	Boston	1919
BOS.12992	Grueby Faience Company Work Shop	566 East First St	Boston	c 1899
BOS.12993		570 East First St	Boston	r 1920
BOS.6752	Condit Electrical Company Building	603-609 East First St	Boston	1915
BOS.6753	Boston Elevated Railway South Boston Power Station	696 East First St	Boston	1911
BOS.6754	Walworth Radiator Manufacturing Company	881 East First St	Boston	1904

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Inv. No.	Property Name	Street	Town	Year
	Warehouse			_
BOS.9258	Lincoln Park	East Fourth St	Boston	c 1860
BOS.13328	Bird - Lord House	469 East Fourth St	Boston	c 1852
BOS.13329		470 East Fourth St	Boston	r 1865
BOS.13330	Bird - Barstow House	471 East Fourth St	Boston	c 1852
BOS.13331		472 East Fourth St	Boston	r 1865
BOS.13332		474 East Fourth St	Boston	r 1865
BOS.13333		476 East Fourth St	Boston	r 1890
BOS.13334		478 East Fourth St	Boston	r 1890
BOS.6763	Bird, John Hawes House	480-482 East Fourth St	Boston	1830
BOS.6764	Mount Washington Female Institute	484 East Fourth St	Boston	c 1874
BOS.13335	Burton, H. J. and R. A. House	491 East Fourth St	Boston	r 1865
BOS.13336		493 East Fourth St	Boston	r 1865
BOS.13337		494 East Fourth St	Boston	r 1980
BOS.13338		495 East Fourth St	Boston	r 1865
BOS.13339		496 East Fourth St	Boston	r 1980
BOS.13340		497 East Fourth St	Boston	r 1865
BOS.13341	Gerrish, Thomas P. Double House	498 East Fourth St	Boston	c 1852
BOS.13342	Pierce, William P. Double House	500 East Fourth St	Boston	c 1852
BOS.13343	Bowen, H. B. House	502 East Fourth St	Boston	c 1852
BOS.13344	Spaulding, Ira D. Double House	504 East Fourth St	Boston	r 1855
BOS.13345	Kingman, George W. Double House	506 East Fourth St	Boston	r 1865
BOS.13346	Lutted, William House	508 East Fourth St	Boston	c 1852
BOS.13347	Cole - Lewis House	510 East Fourth St	Boston	c 1852
BOS.13348	Wright, Albert J. Jr. House	512 East Fourth St	Boston	c 1852
BOS.13349	Leonard, Isaac M. House	514 East Fourth St	Boston	c 1852
BOS.13350	Clapp, Howard House	523 East Fourth St	Boston	r 1865
BOS.13351	Greely, Phillip House	525 East Fourth St	Boston	r 1865
BOS.13352	Clapp, Howard House	527 East Fourth St	Boston	r 1865
BOS.13353		528 East Fourth St	Boston	c 1852
BOS.13354		529 East Fourth St	Boston	r 1865
BOS.13355		530 East Fourth St	Boston	c 1852
BOS.13356		531 East Fourth St	Boston	r 1865
BOS.15317	Gate of Heaven Roman Catholic Church Rectory	606 East Fourth St	Boston	1958
BOS.15318	Gate of Heaven Roman Catholic Church School	609 East Fourth St	Boston	1922
BOS.6766	Gate of Heaven Roman Catholic Church	615 East Fourth St	Boston	c 1896
BOS.6765	Gate of Heaven Roman Catholic Church	616 East Fourth St	Boston	1862
BOS.6775	Boston Police Station #12 and Jail	675 East Fourth St	Boston	1874
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Inv. No.	Property Name	Street	Town	Year
BOS.6776	Boston Fire Station Engine #2 - Ladder #19	680 East Fourth St	Boston	1932
BOS.9230	Boston Fire Station #2 Hose Drying Tower	680 East Fourth St	Boston	1932
BOS.6767	Sawyer, Oliver T. House	742 East Fourth St	Boston	1860
BOS.6768	Scanlon, Mary A. Row House	746 East Fourth St	Boston	c 1871
BOS.6769	Pollard, Rev. Andrew Row House	748 East Fourth St	Boston	c 1871
BOS.6770	Miller, Ellen S. Row House	750 East Fourth St	Boston	c 1871
BOS.6771	Becker, J. M. Row House	752 East Fourth St	Boston	c 1871
BOS.6772	Round, Julius S. Row House	754 East Fourth St	Boston	c 1871
BOS.6773	Ring, James - Underwood, Frank H. Double House	756-758 East Fourth St	Boston	c 1865
BOS.6774	Harding, William H Bowles, Hiram Double House	760-762 East Fourth St	Boston	c 1865
BOS.6777	Webb Row House	789 East Fourth St	Boston	c 1871
BOS.6778	Flanders - Crawford Row House	791 East Fourth St	Boston	c 1871
BOS.6779	Wilson, Joseph F. Row House	793 East Fourth St	Boston	c 1871
BOS.6780	Jessop, H. H. Row House	795 East Fourth St	Boston	c 1871
BOS.6781	Bird, Lewis J. Row House	797 East Fourth St	Boston	c 1871
BOS.6782	Marous, A. A. Row House	799 East Fourth St	Boston	c 1871
BOS.6783	McCouson, Ansel Three Decker	908 East Fourth St	Boston	1905
BOS.6784	Boyle, Patrick House	913 East Fourth St	Boston	1856
BOS.6785	Simpson, Daniel House	918-920 East Fourth St	Boston	1856
BOS.6791	Simpson, Daniel House	924 East Fourth St	Boston	c 1848
BOS.6787	Johnson, Samuel W. Three Decker	925 East Fourth St	Boston	1909
BOS.6788	Johnson, Samuel W. Three Decker	927 East Fourth St	Boston	1909
BOS.6789	Carmoody, Elizabeth G. Three Decker	929 East Fourth St	Boston	1909
BOS.6790	Johnson, Samuel W. Three Decker	931 East Fourth St	Boston	1909
BOS.6792	Connolly, Mary C. Three Decker	936 East Fourth St	Boston	1892
BOS.6756	Bay State Iron Company Worker Housing	591 East Second St	Boston	c 1852
BOS.6757	Bay State Iron Company Worker Housing	593 East Second St	Boston	c 1852
BOS.6758	Bay State Iron Company Worker Housing	595 East Second St	Boston	c 1852
BOS.6759	Bay State Iron Company Worker Housing	597 East Second St	Boston	c 1852
BOS.6755	Leeds, Samuel House	687 East Second St	Boston	1834
BOS.13357		399 East Seventh St	Boston	1897
BOS.13358		401 East Seventh St	Boston	1897
BOS.13360		403 East Seventh St	Boston	1897
BOS.13359		404 East Seventh St	Boston	r 1865
BOS.13362		405 East Seventh St	Boston	1897
BOS.13361		406 East Seventh St	Boston	r 1865

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Inv. No.	Property Name	Street	Town	Year
BOS.6953	Howard, Thomas and Henry Three Decker	447 East Seventh St	Boston	1903
BOS.6954	Meyer, Conrad Double Three Decker	448-450 East Seventh St	Boston	1892
BOS.6955	Lappen, James House	492 East Seventh St	Boston	c 1852
BOS.6956	Hatch, Converse R. Row House	602 East Seventh St	Boston	1869
BOS.6957	Ham, Alonzo G. Row House	604 East Seventh St	Boston	1869
BOS.6958	Whitridge, Thomas Row House	606 East Seventh St	Boston	1869
BOS.6959	Lewis, Albert G. Row House	608 East Seventh St	Boston	1869
BOS.6960	Kimball, Frank H. Row House	610 East Seventh St	Boston	1869
BOS.6961	Small, Maria A. Row House	612 East Seventh St	Boston	1869
BOS.6962	Spofford, Charles Row House	614 East Seventh St	Boston	1869
BOS.6804	Capen Primary School	518 East Sixth St	Boston	1871
BOS.6805	Higgins, William R. Row House	586 East Sixth St	Boston	c 1872
BOS.6806	Wright, Fred S. Row House	588 East Sixth St	Boston	c 1872
BOS.6807	Woodward, Elliot W. Row House	590 East Sixth St	Boston	c 1872
BOS.6808	Shaw, Jeremiah Row House	592 East Sixth St	Boston	c 1872
BOS.6809	Tufts, C. Row House	594 East Sixth St	Boston	c 1872
BOS.6810	Hersey, Francis C. Row House	596 East Sixth St	Boston	c 1872
BOS.6811	Hersey, Francis C. Row House	598 East Sixth St	Boston	c 1872
BOS.6812	Hersey, Francis C. Row House	600 East Sixth St	Boston	c 1872
BOS.6813	Wheaton, Timothy House	814 East Sixth St	Boston	1871
BOS.6814	Atlantic House Hotel	868 East Sixth St	Boston	c 1870
BOS.6760	Locke, Richard House	411R East Third St	Boston	c 1828
BOS.6761	Burnham, Choate Elementary School	486 East Third St	Boston	1892
BOS.6762	Wade, Ellen M. House	512 East Third St	Boston	r 1895
BOS.12996	King Terminal Pump House - Electrical Cabinet	Elkins St	Boston	r 1920
BOS.12995	Puritan Wine - Northern Industrial Chemical Co.	7 Elkins St	Boston	1916
BOS.12997	King Terminal No. 11 - Kohnstamm, H. and Company	11 Elkins St	Boston	1915
BOS.12998	Shaw, John and Company Chemical Works	15 Elkins St	Boston	r 1920
BOS.12999		21 Elkins St	Boston	r 1920
BOS.13000	King Terminal No. 7	22 Elkins St	Boston	1927
BOS.810	Hawes Cemetery	Emerson St	Boston	1817
BOS.6971		133 Emerson St	Boston	r 1905
BOS.6968		172 Emerson St	Boston	c 1830
BOS.6969		176 Emerson St	Boston	r 1850
BOS.6970		204 Emerson St	Boston	r 1830
BOS.6972	Furbush, Milo House	249 Emerson St	Boston	1844
BOS.6973	Hotel Eaton	309-311 Emerson St	Boston	1887

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Inv. No.	Property Name	Street	Town	Year
BOS.6974	Pierce, Samuel H. L. House	313 Emerson St	Boston	1862
BOS.15323	Blessed Sacrament Roman Catholic Chapel	9 F St	Boston	1886
BOS.6975	Kent, Barker B. Double House	92-96 F St	Boston	c 1868
BOS.6976	Kent, Barker B. Double House	98-100 F St	Boston	c 1852
BOS.6977	Pond, Adams and Basco Row House	114 F St	Boston	r 1870
BOS.6978	Pond, Adams and Basco Row House	116 F St	Boston	r 1870
BOS.6979	Gifford, Moses S Goodwin, Nathaniel Row House	118 F St	Boston	r 1870
BOS.6980	Gifford, Moses S Goodwin, Nathaniel Row House	120 F St	Boston	r 1870
BOS.6981	Gifford, Goodwin and Baker Row House	122 F St	Boston	r 1870
BOS.6982	Gifford, Goodwin and Baker Row House	124 F St	Boston	r 1870
BOS.12982	Boston Market Terminal Freight House #12	31 Fargo St	Boston	1928
BOS.12983		51-53 Fargo St	Boston	1920
BOS.12984		80 Fargo St	Boston	1917
BOS.5530	Boston Wharf Company Wool Warehouse	11-15 Farnsworth St	Boston	1893
BOS.5531	Boston Wharf Company Building	12-22 Farnsworth St	Boston	1917
BOS.15348	Farnsworth Street Garage	17-31 Farnsworth St	Boston	1987
BOS.5532	Boston Wharf Company Building	24-32 Farnsworth St	Boston	c 1895
BOS.5533	Boston Wharf Company Building	33-39 Farnsworth St	Boston	1909
BOS.5534	Boston Wharf Company Building	34-36 Farnsworth St	Boston	1909
BOS.5535	Boston Wharf Company Building	41-45 Farnsworth St	Boston	1908
BOS.5536	Boston Wharf Company Building	44-54 Farnsworth St	Boston	1915
BOS.5537	Boston Wharf Company Warehouse	47-53 Farnsworth St	Boston	1895
BOS.9256	Marine Park	Farragut Rd	Boston	c 1883
BOS.6983		65 Farragut Rd	Boston	r 1905
BOS.6984	Higgins, William J. Three Decker	73 Farragut Rd	Boston	1908
BOS.6985	Higgins, William J. Three Decker	75 Farragut Rd	Boston	1908
BOS.6986	Higgins, William J. Three Decker	77 Farragut Rd	Boston	1908
BOS.12964	Subaru Distributors Dealership	FID Kennedy Way	Boston	c 1980
BOS.12963	Au Bon Pain Offices	19 FID Kennedy Way	Boston	c 1980
BOS.12965	Boston Army Supply Base - Building 16	25 FID Kennedy Way	Boston	c 1940
BOS.6987	Saint Peter Lithuanian Roman Catholic Church	75 Flaherty Way	Boston	1901
BOS.9152	Fort Point Channel	Fort Point Channel	Boston	r 1850
BOS.9153	Fort Point Channel Bulkheads	Fort Point Channel	Boston	r 1850
BOS.9241	Fort Point Channel Bridge	Fort Point Channel	Boston	1898
BOS.9514	South Boston Sea Wall	Fort Point Channel	Boston	
BOS.13363		1 Fourth St Place	Boston	r 1865

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Inv. No.	Property Name	Street	Town	Year		
BOS.13364		2 Fourth St Place	Boston	r 1865		
BOS.13365		3 Fourth St Place	Boston	r 1865		
BOS.13366		31 G St	Boston	c 1852		
BOS.13367		33 G St	Boston	c 1852		
BOS.13368		34 G St	Boston	c 1852		
BOS.13369		35 G St	Boston	c 1852		
BOS.13370		36 G St	Boston	c 1852		
BOS.13371		37 G St	Boston	r 1865		
BOS.13372	Cook, Samuel House	39 G St	Boston	r 1865		
BOS.13373	Kent, Barker B. House	41 G St	Boston	r 1865		
BOS.13374	Jenkins, Reuben Y. Double House	43 G St	Boston	r 1865		
BOS.13375	Jenkins, Reuben Y. Double House	45 G St	Boston	r 1865		
BOS.13376		46 G St	Boston	1834		
BOS.13377	Elms, James C. Double House	47 G St	Boston	r 1865		
BOS.13378		48 G St	Boston	1834		
BOS.13379	Whitman - Tucker Double House	49 G St	Boston	r 1865		
BOS.13380		50 G St	Boston	r 1865		
BOS.13381	Standish - Burnham Double House	51 G St	Boston	r 1865		
BOS.6988	Briggs, Harrison O. House	52 G St	Boston	c 1852		
BOS.13382	Fraught, George N. Double House	53 G St	Boston	r 1865		
BOS.13383	Peterson, Capt. Peter House	54 G St	Boston	c 1861		
BOS.13384	Smith, George P. Double House	55 G St	Boston	r 1865		
BOS.13385		56 G St	Boston	c 1861		
BOS.13386	Ellis, George W. Double House	57 G St	Boston	r 1865		
BOS.13387		58 G St	Boston	c 1861		
BOS.13388	Neilson, William House	59 G St	Boston	r 1865		
BOS.13389		60 G St	Boston	r 1865		
BOS.13390		60A G St	Boston	r 1865		
BOS.13391	Johson - Hills Double House	61 G St	Boston	r 1865		
BOS.13392		62 G St	Boston	r 1865		
BOS.13393	Noyes, Elisha Double House	63 G St	Boston	r 1865		
BOS.13394		64 G St	Boston	r 1865		
BOS.13395	Wilson, Harvey Double House	65 G St	Boston	r 1865		
BOS.13396		66 G St	Boston	r 1865		
BOS.13397		67 G St	Boston	r 1890		
BOS.13398		68 G St	Boston	r 1865		
BOS.13399		69 G St	Boston	r 1890		
BOS.13400		70 G St	Boston	r 1865		
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Inv. No.	Property Name	Street	Town	Year		
BOS.13401		72 G St	Boston	r 1865		
BOS.13402		73 G St	Boston	r 1880		
BOS.13403	Wallackas Meats	73A G St	Boston	r 1905		
BOS.13404		74 G St	Boston	r 1865		
BOS.13405	Copeland, Joseph House	75 G St	Boston	c 1860		
BOS.13407		76 G St	Boston	r 1865		
BOS.6989	Harding, Lemon P. House	80 G St	Boston	c 1868		
BOS.6990	Harding, Lemon P. House	82 G St	Boston	c 1853		
BOS.13408		84 G St	Boston	r 1880		
BOS.6991	Connor, James Row House	88 G St	Boston	c 1865		
BOS.6992	Connor, James Row House	90 G St	Boston	c 1865		
BOS.6993	Connor, James Row House	92 G St	Boston	c 1865		
BOS.6994	Connor, James Row House	94 G St	Boston	c 1874		
BOS.6995	South Boston High School	95 G St	Boston	1901		
BOS.13409		96 G St	Boston	r 1865		
BOS.13410		98 G St	Boston	r 1880		
BOS.13411		100 G St	Boston	r 1890		
BOS.13412		102 G St	Boston	r 1890		
BOS.13413		104 G St	Boston	r 1865		
BOS.13414		106 G St	Boston	r 1865		
BOS.13415		108 G St	Boston	r 1865		
BOS.6996	Johnson, Samuel W. Two-Family House	111 G St	Boston	1911		
BOS.13416	Johnson, J. L. and S. J. Three Decker	115 G St	Boston	r 1895		
BOS.13417		116 G St	Boston	r 1865		
BOS.13418		118 G St	Boston	r 1865		
BOS.13419	Johnson, J. L. and S. J. Three Decker	119 G St	Boston	r 1895		
BOS.13420		120 G St	Boston	r 1865		
BOS.13421	James, Francis Double House	121 G St	Boston	r 1880		
BOS.13422		122 G St	Boston	r 1880		
BOS.13423	Wyman, Charles F. Double House	123 G St	Boston	r 1880		
BOS.13424		124 G St	Boston	r 1880		
BOS.13425	Reardon, John A. Double House	125 G St	Boston	r 1880		
BOS.13426		126 G St	Boston	r 1880		
BOS.13427	McGrath, Mary E. Double House	127 G St	Boston	r 1880		
BOS.13428		128 G St	Boston	r 1880		
BOS.13429		129 G St	Boston	r 1880		
BOS.13430		130 G St	Boston	r 1880		
BOS.13431		131 G St	Boston	r 1890		
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Inv. No.	Property Name	Street	Town	Year
BOS.13432		Gates St	Boston	r 1925
BOS.13433		4 Gates St	Boston	r 1865
3OS.13434	Gleason, Alpheus House	5 Gates St	Boston	r 1865
3OS.13435		6 Gates St	Boston	r 1865
3OS.13436		7 Gates St	Boston	r 1865
3OS.13437	Carlton - Dean Double House	8 Gates St	Boston	c 1852
3OS.13438	Webber, William C. Double House	9 Gates St	Boston	r 1865
BOS.13439	Whiton - Sears Double House	10 Gates St	Boston	c 1852
3OS.13440		11 Gates St	Boston	r 1865
3OS.13441		12 Gates St	Boston	r 1865
3OS.13442		13 Gates St	Boston	r 1865
3OS.13443		14 Gates St	Boston	r 1865
BOS.13444		15 Gates St	Boston	r 1865
3OS.13445		16 Gates St	Boston	r 1865
3OS.13446		17 Gates St	Boston	r 1865
3OS.13447		18 Gates St	Boston	r 1865
3OS.13448		19 Gates St	Boston	r 1865
3OS.13449		20 Gates St	Boston	r 1865
3OS.13450		21 Gates St	Boston	r 1880
3OS.6997	Smith, James House	22 Gates St	Boston	c 1875
3OS.13451		23 Gates St	Boston	r 1880
3OS.13452		26 Gates St	Boston	r 1865
3OS.15227	Saint Monica's Roman Catholic Church Rectory	70 Gen. Wm. Devine Way	Boston	1955
3OS.6998	Power, Jacob P. House	98 H St	Boston	r 1880
3OS.6999	Power, Jacob P. House	100 H St	Boston	r 1880
3OS.7000	Stetson, Alpheus M. Three Decker	174 H St	Boston	c 1885
3OS.7001	Souther, Henry Row House	1 H Street PI	Boston	r 1880
3OS.7002	Souther, Henry Row House	2 H Street PI	Boston	r 1880
3OS.7003	Souther, Henry Row House	3 H Street PI	Boston	r 1880
3OS.12966	Boston Army Supply Base - Building 19	6 Harbor St	Boston	c 1940
3OS.7004	-	36 I St	Boston	1905
3OS.7005	Gray, Solomon S. Row House	86 I St	Boston	c 1874
3OS.7006	Gray, Solomon S. Row House	88 I St	Boston	c 1874
OS.7007	Gray, Solomon S. Row House	90 I St	Boston	c 1874
3OS.7008	Stark, Hannah Row House	92 I St	Boston	c 1884
3OS.7009	Stark, Hannah Row House	94 I St	Boston	c 1884
3OS.7010	Stark, Hannah Row House	96 I St	Boston	c 1884
OS.7011	Stark, Hannah Row House	98 I St	Boston	c 1884
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Inv. No.	Property Name	Street	Town	Year
BOS.7012	Stark, Hannah Row House	100 I St	Boston	c 1884
BOS.7013	Stark, Hannah Row House	102 I St	Boston	c 1884
BOS.7014	Saint Agnes Convent - Gate of Heaven Church	127 I St	Boston	1879
BOS.7015	Griffin Brothers Row House	151 I St	Boston	c 1874
BOS.7016	Griffin Brothers Row House	153 I St	Boston	c 1874
BOS.7017	Griffin Brothers Row House	155 I St	Boston	c 1874
BOS.7018	Griffin Brothers Row House	157 I St	Boston	c 1874
BOS.13453		1 Jason Terr	Boston	r 1865
BOS.13454		2 Jason Terr	Boston	r 1865
BOS.13455		3 Jason Terr	Boston	r 1865
BOS.13456		4 Jason Terr	Boston	r 1865
BOS.7019		10-12 Jenkins St	Boston	c 1852
BOS.13002	Goller, Allen Shoe Factory	60 K St	Boston	r 1920
BOS.13003	Dimes, Richard Silversmith Company	72 K St	Boston	r 1920
BOS.13004	New England Annealing and Tool Company Building	80 K St	Boston	r 1920
BOS.7020	Hawes, The	278 K St	Boston	r 1895
BOS.7032	Beckler, Daniel W. Row House	283 K St	Boston	1870
BOS.7033	Beckler, Daniel W. Row House	285 K St	Boston	1870
BOS.7034	Beckler, Daniel W. Row House	287 K St	Boston	1870
BOS.7035	Beckler, Daniel W. Row House	289 K St	Boston	1870
BOS.7036	Beckler, Daniel W. Row House	291 K St	Boston	1870
BOS.7037	Beckler, Daniel W. Row House	293 K St	Boston	1870
BOS.7038	Beckler, Daniel W. Row House	295 K St	Boston	1870
BOS.7039	Beckler, Daniel W. Row House	297 K St	Boston	1870
BOS.7021	James, Benjamin - James, George B. Row House	298 K St	Boston	1872
BOS.7040	Beckler, Daniel W. Row House	299 K St	Boston	1870
BOS.7022	James, Benjamin - James, George B. Row House	300 K St	Boston	1872
BOS.7041	Beckler, Daniel W. Row House	301 K St	Boston	1870
BOS.7023	James, Benjamin - James, George B. Row House	302 K St	Boston	1872
BOS.7042	Beckler, Daniel W. Row House	303 K St	Boston	1870
BOS.7024	James, Benjamin - James, George B. Row House	304 K St	Boston	1872
BOS.7043	Beckler, Daniel W. Row House	305 K St	Boston	1870
BOS.7025	James, Benjamin - James, George B. Row House	306 K St	Boston	1872
BOS.7026	Beckler, Daniel W. Row House	308 K St	Boston	1872
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Inv. No.	Property Name	Street	Town	Year
BOS.7027	Berry, David A. House	318 K St	Boston	c 1870
BOS.7028	Berry, David A. Row House	354 K St	Boston	c 1871
BOS.7029	Russell, Sheppard Row House	356 K St	Boston	c 1871
BOS.7030	Berry, David A. Row House	358 K St	Boston	c 1871
BOS.7031	Rodgers, Josephine W. Row House	360 K St	Boston	c 1871
BOS.7044	O'Brien, Thomas House	372 K St	Boston	1853
BOS.7045	Goodnow, Jane H. House	384 K St	Boston	c 1858
BOS.7046	Mullay, John House	390 K St	Boston	1859
BOS.7047	Johnson, Samuel W. Three Decker	415 K St	Boston	1911
BOS.7054	Reardon, John W. House	7 Knowlton St	Boston	1909
BOS.7048	Eaton, William T. Apartment Building	92-96 L St	Boston	1884
BOS.7050	Eaton, William T. Row House	98 L St	Boston	1884
BOS.7051	Eaton, William T. Row House	100 L St	Boston	1884
BOS.7052	Eaton, William T. Apartment Building	102-108 L St	Boston	1884
BOS.7055	Flint, H. G. Three Decker	206 L St	Boston	1902
BOS.7056	Flint, H. G. Three Decker	208 L St	Boston	1902
BOS.7057		2 Leeds St	Boston	c 1863
BOS.7058		4 Leeds St	Boston	c 1863
BOS.7059		6 Leeds St	Boston	c 1863
BOS.13457	Wright, Frederick S. Double House	1 Linden St	Boston	c 1860
BOS.13458	James, Elisha F. Double House	2 Linden St	Boston	c 1860
BOS.13459	Wright, Frederick S. Double House	3 Linden St	Boston	c 1860
BOS.13460	Pettingill Double House	4 Linden St	Boston	c 1860
BOS.13461	James, Benjamin Double House	5 Linden St	Boston	c 1860
BOS.13462	Bowen, Hosea B. Double House	6 Linden St	Boston	c 1860
BOS.13463	Neale, Mary A. Double House	7 Linden St	Boston	c 1860
BOS.13464	James, Edward P. Double House	8 Linden St	Boston	c 1860
BOS.13465	Shales, Daniel House	9 Linden St	Boston	1863
BOS.13466	Hasting, Zorilda House	10 Linden St	Boston	1863
BOS.13467	Covington, Leonard House	11 Linden St	Boston	1863
BOS.13468	Richardson, Mary A. House	12 Linden St	Boston	1863
BOS.13469	Davis, Mary D. House	13 Linden St	Boston	1863
BOS.13470	Jenkins, Isaac N. House	14 Linden St	Boston	1863
BOS.13471	Patch, Charles F. House	15 Linden St	Boston	1863
BOS.13472	James, Benjamin House	16 Linden St	Boston	1863
BOS.13473	Hoyt, Anna M. House	17 Linden St	Boston	1863
BOS.13474	Foster, Dara S. House	18 Linden St	Boston	1863
BOS.13475	Kemp House	19 Linden St	Boston	1863
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Inv. No.	Property Name	Street	Town	Year
BOS.13476	Knapp, H. C. House	20 Linden St	Boston	1863
BOS.7060	Winchester, William W. House	21 Linden St	Boston	c 1863
BOS.13477		23 Linden St	Boston	1863
BOS.7061	Burrell, Adoniram Row House	47 M St	Boston	1872
BOS.7062	Burrell, Adoniram Row House	49 M St	Boston	1872
BOS.7063	Burrell, Adoniram Row House	51 M St	Boston	1872
BOS.7064	Burrell, Adoniram Row House	53 M St	Boston	1872
BOS.7065	Ford, Catherine House	99-101 M St	Boston	c 1862
BOS.7066	Carmody, Mary J. Three Decker	177 M St	Boston	1910
BOS.7067	Carmody, Mary J. Three Decker	179 M St	Boston	1910
BOS.7068	Carmody, Mary J. Three Decker	181 M St	Boston	1910
BOS.5576	Boston Wharf Company Wool Warehouse	10 Melcher St	Boston	c 1903
BOS.9511	Boston Wharf Company Roof Sign	10 Melcher St	Boston	
BOS.15349	Boston Wharf Company Offices	10 Melcher St	Boston	1905
BOS.15350	New England Confectionary Company	11-17 Melcher St	Boston	1902
BOS.15351	New England Confectionary Company	19-27 Melcher St	Boston	1902
BOS.15352	New England Confectionary Company	29-37 Melcher St	Boston	1902
BOS.5538	Boston Wharf Company Building	49 Melcher St	Boston	1910
BOS.5539	Boston Wharf Company Building	51-61 Melcher St	Boston	1916
BOS.5540	French, Shriner and Urner Shoe Manufacturing Co.	63 Melcher St	Boston	1909
BOS.5542	Boston Wharf Company Warehouse	18-22 Midway St	Boston	c 1912
BOS.5549	Boston Wharf Company Warehouse	76-82 Midway St	Boston	1905
BOS.7069	Hemmen, Herman Double House	46-48 N St	Boston	1896
BOS.7071	Beckler, Daniel W. Row House	58 N St	Boston	1887
BOS.7072	Beckler, Daniel W. Row House	60 N St	Boston	1887
BOS.7073	Beckler, Daniel W. Row House	62 N St	Boston	1887
BOS.6913	Saint Brigid Roman Catholic Church	96 N St	Boston	1933
BOS.15328	Saint Brigid Roman Catholic Church Convent	100 N St	Boston	1966
BOS.7074	Stratton, Henry B. House	110-112 N St	Boston	1882
BOS.13478	Hayes, E. House	2 National St	Boston	r 1880
BOS.13479	Leonard, N. House	4 National St	Boston	r 1865
BOS.13480	Tappan, F. House	6 National St	Boston	r 1880
BOS.13481	Romosky, Anna House	8 National St	Boston	r 1865
BOS.13482	Sturtevant, George W. House	10 National St	Boston	r 1865
BOS.13483	Tripp, Abner L. House	12 National St	Boston	r 1865
BOS.13484	Stratton, Henry B. House	14 National St	Boston	r 1865
BOS.13485	Stratton, Henry B Roche House	18 National St	Boston	r 1890

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Inv. No.	Property Name	Street	Town	Year
BOS.5550	Boston Wharf Company Building	1 Necco Ct	Boston	1907
BOS.5551	Boston Wharf Company Building	3 Necco Ct	Boston	1907
BOS.15353	New England Confectionary Company	5 Necco Ct	Boston	1907
BOS.15354	New England Confectionary Company	6 Necco Ct	Boston	1907
BOS.15355	Necco Street Garage	10 Necco St	Boston	1992
BOS.9000	Northern Avenue Draw Bridge	Northern Ave	Boston	c 1907
BOS.12967	Boston Army Supply Base - Refrigeration Plant	Northern Ave	Boston	c 1980
BOS.12968	Boston Army Supply Base - Building 38	Northern Ave	Boston	c 1940
BOS.12971	Boston Army Supply Base - Building 18	Northern Ave	Boston	c 1940
BOS.15356	Northern Avenue Draw Bridge Tenders House	Northern Ave	Boston	1908
BOS.15229	Chapel of Our Lady of Good Voyage	65 Northern Ave	Boston	1952
BOS.9252	South Boston Fish Pier	212-234 Northern Ave	Boston	c 1910
BOS.16589	South Boston Fish Pier - East Building	212-234 Northern Ave	Boston	c 1910
BOS.16590	South Boston Fish Pier - West Building	212-234 Northern Ave	Boston	c 1910
BOS.16591	South Boston Fish Pier - Fish Exchange Building	212-234 Northern Ave	Boston	c 1910
BOS.12969	Boston Army Supply Base - Building 56	300 Northern Ave	Boston	c 1940
BOS.12970	Boston Army Supply Base - Building 53	306 Northern Ave	Boston	c 1940
BOS.7075	Judkins, Charles S Robinson, L. Double House	84-86 O St	Boston	r 1880
BOS.6799	Pope, Benjamin Primary School	114 O St	Boston	1883
BOS.7076	Johnson, Samuel W. Three Decker	124 O St	Boston	1912
BOS.7077	Johnson, Samuel W. Three Decker	126 O St	Boston	1912
BOS.7078	Johnson, Samuel W. Three Decker	128 O St	Boston	1912
BOS.7079	Johnson, Samuel W. Three Decker	130 O St	Boston	1912
BOS.9654	Old Harbor Parkway - Old Colony Avenue	Old Colony Ave	Boston	1898
BOS.9655	Old Harbor Parkway - Old Harbor Village Footbridge	Old Colony Ave	Boston	1941
BOS.15226	Saint Monica's Roman Catholic Church	333 Old Colony Ave	Boston	1955
BOS.9645	Old Harbor Reservation Parkways	Old Harbor Pkwy	Boston	1883
BOS.9646	Old Harbor Reservation Parkway - Gardner Way	Old Harbor Pkwy	Boston	1883
BOS.9484		Old Harbor St	Boston	
BOS.7080	Carney Hospital Outpatient Building	4 Old Harbor St	Boston	1901
BOS.13486	Hatch - Powell House	17 Old Harbor St	Boston	r 1865
BOS.13487	Hatch - Stickney Double House	19 Old Harbor St	Boston	r 1880
BOS.13488	Hersey - Mosely Double House	23 Old Harbor St	Boston	r 1880
BOS.13489	Hersey, Charles H. Double House	25 Old Harbor St	Boston	r 1880
BOS.13490	Nickerson - Stapleton Double House	27 Old Harbor St	Boston	r 1880
BOS.13491	Moore, Nicholas F. House	37 Old Harbor St	Boston	r 1865
BOS.13492	Adamson - Crosby House	39 Old Harbor St	Boston	r 1865

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Inv. No.	Property Name	Street	Town	Year
BOS.7081	Carney Hospital Nurses Residence	40 Old Harbor St	Boston	1925
BOS.13493	Bassett - Moore House	41 Old Harbor St	Boston	r 1865
BOS.13494	Bassett - Kellum House	43 Old Harbor St	Boston	r 1865
BOS.13495	Bassett - Lucas House	45 Old Harbor St	Boston	r 1865
BOS.13496	Wilson - Stout Double House	47 Old Harbor St	Boston	r 1865
BOS.13497	Thompson, William Double House	49 Old Harbor St	Boston	r 1865
BOS.13498	Bassett - Lockwood House	51 Old Harbor St	Boston	r 1865
BOS.13499	Bedlington, S. M. Double House	53 Old Harbor St	Boston	r 1865
BOS.13500		61 Old Harbor St	Boston	r 1880
BOS.13501	Bond, G. H. Double House	63 Old Harbor St	Boston	r 1880
BOS.13502	Simonds, J. F. Double House	65 Old Harbor St	Boston	r 1890
BOS.13503	Arnold, Jonathan M. Double House	67 Old Harbor St	Boston	r 1865
BOS.13504	Payson, Mary Double House	69 Old Harbor St	Boston	r 1865
BOS.13505	Morston, Frances E. House	71 Old Harbor St	Boston	r 1865
BOS.13506	Gill, Charles H. Double House	73 Old Harbor St	Boston	r 1865
BOS.13507	Pond, George F. Double House	75 Old Harbor St	Boston	r 1865
BOS.13508	Pond - Molloy Double House	77 Old Harbor St	Boston	r 1880
BOS.13509	Berry - Carroll Double House	79 Old Harbor St	Boston	r 1865
BOS.13510	Stetson, Alpheus M. House	80 Old Harbor St	Boston	r 1880
BOS.13511	Barstow, M. H. House	81 Old Harbor St	Boston	r 1880
BOS.13512	Suck, G. Frederick House	82 Old Harbor St	Boston	r 1865
BOS.13513	Fuller, C. House	83 Old Harbor St	Boston	r 1895
BOS.13514	Howard, T. and H. Three Decker	85 Old Harbor St	Boston	r 1895
BOS.13515	Boyson, William House	86 Old Harbor St	Boston	c 1852
BOS.13516	Howard, T. and H. Three Decker	87 Old Harbor St	Boston	r 1895
BOS.13517	Smith, Delia Three Decker	89 Old Harbor St	Boston	r 1895
BOS.13518	Kelly, James H. Three Decker	91 Old Harbor St	Boston	r 1895
BOS.13519	Plett, Chris F. Three Decker	93 Old Harbor St	Boston	r 1895
BOS.13520	Megan - Bowen House	99 Old Harbor St	Boston	r 1865
BOS.13521		100 Old Harbor St	Boston	r 1880
BOS.13522		101 Old Harbor St	Boston	r 1890
BOS.13523		102 Old Harbor St	Boston	r 1880
BOS.13524		103 Old Harbor St	Boston	r 1890
BOS.13525		104 Old Harbor St	Boston	r 1880
BOS.13526		106 Old Harbor St	Boston	r 1880
BOS.15330	Saint Peter Roman Catholic Church Rectory	50 Orton Marotta Way	Boston	1913
BOS.7082	Collins, James Row House	50 P St	Boston	1868
BOS.7083	Collins, James Row House	52 P St	Boston	1868
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Inv. No.	Property Name	Street	Town	Year
BOS.7084	Collins, James Row House	54 P St	Boston	1868
BOS.7085	Collins, James Row House	56 P St	Boston	1868
BOS.7086	Collins, James Row House	58 P St	Boston	1868
BOS.13527		1 Pacific St	Boston	r 1865
BOS.13528	Tuckerman, W. I. House	2 Pacific St	Boston	r 1865
BOS.13529		3 Pacific St	Boston	r 1865
BOS.13530	Brown, Maria House	4 Pacific St	Boston	r 1865
BOS.13531		5 Pacific St	Boston	r 1865
BOS.13532	Wilson, Henry W. House	6 Pacific St	Boston	r 1865
BOS.13533		7 Pacific St	Boston	r 1865
BOS.13534	Wilson, Henry W. House	8 Pacific St	Boston	r 1865
BOS.13535		9 Pacific St	Boston	r 1880
BOS.13536	Wilson, Henry W. House	10 Pacific St	Boston	r 1865
BOS.13537		11 Pacific St	Boston	r 1880
BOS.13538	Wilson, Henry W. House	12 Pacific St	Boston	r 1865
BOS.13539		13 Pacific St	Boston	r 1865
BOS.13540	Parsons, Joseph C. House	14 Pacific St	Boston	r 1865
BOS.13541	Wilson, Henry W. House	16 Pacific St	Boston	r 1865
BOS.9512	Moakley, Evelyn Bridge	Seaport Blvd	Boston	1996
BOS.7179	Commonwealth Pier Five	162 Seaport Blvd	Boston	1914
BOS.9237	Silver Street Bridge over Conrail	Silver St	Boston	1918
BOS.5561	Boston Wharf Company Building	15-21 Sleeper St	Boston	1911
BOS.5562	Boston Wharf Company Building	29-31 Sleeper St	Boston	1915
BOS.5564	United Shoe Machine Corporation	51 Sleeper St	Boston	1929
BOS.7091	Washington Village Substation	Southampton St	Boston	1914
BOS.9236	Southampton Street Bridge over MBTA	Southampton St	Boston	1902
BOS.5565	Boston Wharf Company Iron Warehouse	5-9 Stillings St	Boston	1907
BOS.5566	Boston Wharf Company Paint Warehouse	11-15 Stillings St	Boston	1907
BOS.15364	Stillings Street Garage	11-23 Stillings St	Boston	2001
BOS.5567	Boston Wharf Company Radiator Warehouse	17-27 Stillings St	Boston	1905
BOS.5568	Boston Wharf Company Warehouse	29 Stillings St	Boston	1926
BOS.5569	Boston Wharf Company Iron Warehouse	35-37 Stillings St	Boston	1913
BOS.5570	Boston Wharf Company Warehouse	38-40 Stillings St	Boston	1913
BOS.5572	Boston Wharf Company Iron and Oil Warehouse	43 Stillings St	Boston	1904
BOS.5571	Boston Wharf Company Wholesale Grocery Warehouse	44-48 Stillings St	Boston	1914
BOS.13542		2 Story St	Boston	r 1865
BOS.13543		4 Story St	Boston	r 1865

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Inv. No.	Property Name	Street	Town	Year
BOS.13544		6 Story St	Boston	r 1865
BOS.13545		8 Story St	Boston	r 1865
BOS.13546		9 Story St	Boston	r 1880
BOS.13547		10-12 Story St	Boston	r 1880
BOS.13548		11 Story St	Boston	r 1890
BOS.13550		13 Story St	Boston	r 1890
BOS.13549		14-16 Story St	Boston	r 1890
BOS.13551		20 Story St	Boston	r 1890
BOS.13552		24 Story St	Boston	r 1890
BOS.7092	Dana, Otis D. Two-Family House	26-28 Story St	Boston	r 1885
BOS.13553		28 Story St	Boston	r 1890
BOS.13554		28 Story St	Boston	r 1890
BOS.13555		30 Story St	Boston	r 1890
BOS.9001	Summer Street Bridge over Fort Point Channel	Summer St	Boston	1899
BOS.9155	Summer Street Bridge over A Street	Summer St	Boston	c 1890
BOS.9233	Summer Street Bridge over B Street	Summer St	Boston	1900
BOS.9234	L Street Bridge	Summer St	Boston	1892
BOS.9235	Summer Street Bridge over C Street	Summer St	Boston	1900
BOS.9250	Summer Street Viaduct Bridge	Summer St	Boston	1901
BOS.5573	Boston Wharf Company Wool Warehouse	250-254 Summer St	Boston	1899
BOS.5574	New England Confectionary Company Factory	253 Summer St	Boston	1902
BOS.5575	Boston Wharf Company Wool Warehouse	256-260 Summer St	Boston	1899
BOS.5577	Boston Wharf Company Wool Warehouse	262-266 Summer St	Boston	1899
BOS.5578	Boston Wharf Company Wool Warehouse	268-272 Summer St	Boston	1898
BOS.5579	Boston Wharf Company Wool Warehouse	269-273 Summer St	Boston	1910
BOS.5580	Boston Wharf Company Wool Warehouse	274-278 Summer St	Boston	1898
BOS.5581	United States Rubber Company Warehouse	280-290 Summer St	Boston	1898
BOS.5582	Boston Wharf Company Wool Warehouse	281-283 Summer St	Boston	1904
BOS.5583	Boston Wharf Company Wool Warehouse	285-297 Summer St	Boston	1903
BOS.5584	Williams, J. and Company Wool Warehouse	292-302 Summer St	Boston	1898
BOS.5585	Dwinell-Wright Coffee Importing Company Warehouse	311-319 Summer St	Boston	1904
BOS.5586	Boston Wharf Company Wool Warehouse	312-320 Summer St	Boston	1904
BOS.5587	Howes Brothers Tanning Company	321-325 Summer St	Boston	1911
BOS.5588	Foster, F. A. Dry Goods - Puritan Drapery Fabrics	322-330 Summer St	Boston	1910
BOS.5589	Daylight Baking Supplies Factory	327-333 Summer St	Boston	1911
BOS.15357	Middleby, Joseph Jr. Warehouse	337-347 Summer St	Boston	1907
BOS.12985	Western Electric Co. Electrical Supplies Building	385 Summer St	Boston	1917

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Inv. No.	Property Name	Street	Town	Year
BOS.12986		401 Summer St	Boston	1919
BOS.12987		415 Summer St	Boston	1917
BOS.12988	Union Wool Company Wool Warehouse	425 Summer St	Boston	1917
BOS.12989	Williams, Jeremiah Wool Warehouse	495 Summer St	Boston	1910
BOS.12943	Boston Edison L Street Power Station	776 Summer St	Boston	1898
BOS.13005	Clayton, S. C. Syrup - Diamond Drug Company	803 Summer St	Boston	1923
BOS.13006	Karpp Building Supply Company	825 Summer St	Boston	r 1920
BOS.7093	Delaporte, Andrew Gustave House	5 Telegraph St	Boston	c 1870
BOS.7094	Mullin, Thomas M Willis, John E. Double House	19-21 Telegraph St	Boston	c 1875
BOS.13556	Molloy, Valentine Double House	52 Telegraph St	Boston	
BOS.13557	Giblin, Daniel C. Double House	54 Telegraph St	Boston	
BOS.13558	Staniford, Lydia E. House	56 Telegraph St	Boston	
BOS.13559		58 Telegraph St	Boston	
BOS.13560	O'Connor, Patrick House	60 Telegraph St	Boston	r 1865
BOS.13561		61 Telegraph St	Boston	r 1865
BOS.13562	Henchy, John House	62 Telegraph St	Boston	r 1865
BOS.13563		63 Telegraph St	Boston	r 1865
BOS.13564		64 Telegraph St	Boston	r 1880
BOS.13565		65 Telegraph St	Boston	r 1865
BOS.13566	Wade, Shadrach Double House	66 Telegraph St	Boston	r 1865
BOS.13567		67 Telegraph St	Boston	r 1865
BOS.13568	Shattuck, Ferdinand Double House	68 Telegraph St	Boston	r 1865
BOS.13569		69 Telegraph St	Boston	r 1865
BOS.9260	Dorchester Heights Monument	Thomas Park	Boston	1901
BOS.9261	Dorchester Heights - Knox, Henry Monument	Thomas Park	Boston	1927
BOS.9262	Dorchester Heights - 1876 Centennial Monument	Thomas Park	Boston	1877
BOS.9263	Dorchester Heights - Perimeter Fence	Thomas Park	Boston	1901
BOS.9485	South Boston Veteran's Memorial	Thomas Park	Boston	1982
BOS.9486	Thomas Park	Thomas Pk	Boston	c 1850
BOS.9795	Dorchester Heights Concrete Path System	Thomas Pk	Boston	c 1870
BOS.13570	Gray - Wadsworth House	5 Thomas Pk	Boston	r 1865
BOS.13571	Elms, Joseph D. Double House	7 Thomas Pk	Boston	r 1865
BOS.13572	James, Charles Double House	9 Thomas Pk	Boston	r 1865
BOS.13573	James, Benjamin House	11 Thomas Pk	Boston	r 1865
BOS.13574	James, Benjamin Stable	12 Thomas Pk	Boston	r 1865
BOS.7095	Whitman, Edward W Rogers, William Double House	13-14 Thomas Pk	Boston	c 1871

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Inv. No.	Property Name	Street	Town	Year
BOS.13575	Lee - Holbrook Double House	15 Thomas Pk	Boston	r 1880
BOS.13576	Beard - Connors Double House	16 Thomas Pk	Boston	r 1880
BOS.13577	Bray, Susan House	17 Thomas Pk	Boston	r 1880
BOS.13578	Lothrop House	18 Thomas Pk	Boston	r 1880
BOS.7096	Bassett, Joseph Row House	19 Thomas Pk	Boston	1874
BOS.13579	James, Benjamin Double House	21 Thomas Pk	Boston	r 1865
BOS.13580	Earl - Moulton Double House	22 Thomas Pk	Boston	r 1865
BOS.13581		23 Thomas Pk	Boston	r 1865
BOS.13582		24 Thomas Pk	Boston	r 1865
BOS.7097	Callahan, Cornelius H. Double House	25-26 Thomas Pk	Boston	1871
BOS.13583		36 Thomas Pk	Boston	r 1890
BOS.13584	Stratton, Henry J. Double House	39 Thomas Pk	Boston	1884
BOS.13585	Stratton - Kelly Double House	40 Thomas Pk	Boston	r 1880
BOS.13586	Stratton - Kelly Double House	41 Thomas Pk	Boston	r 1880
BOS.13587	Stratton - Kelly Double House	42 Thomas Pk	Boston	r 1880
BOS.13588	Goodwin - Kenney House	43 Thomas Pk	Boston	r 1880
BOS.13589	Stetson - Ormsby House	44 Thomas Pk	Boston	r 1880
BOS.13590	Stetson - Kelly House	45 Thomas Pk	Boston	r 1880
BOS.7098	Hutchins, Clement House	46 Thomas Pk	Boston	c 1875
BOS.13591	Wenners, Elizabeth Double House	47 Thomas Pk	Boston	r 1890
BOS.13592	Goodman, Walter G. Double House	48 Thomas Pk	Boston	r 1890
BOS.13593	Goodman, Walter G. Double House	49 Thomas Pk	Boston	r 1890
BOS.13594	Greene, Maria J. Double House	50 Thomas Pk	Boston	r 1890
BOS.13595	Martin, George House	51 Thomas Pk	Boston	1886
BOS.13596	Martin, George House	52 Thomas Pk	Boston	1886
BOS.13597	Hotel Marie	53 Thomas Pk	Boston	r 1890
BOS.7099	Walbridge, Frederick House	56 Thomas Pk	Boston	1876
BOS.13598	Reardon, Mary C. House	57 Thomas Pk	Boston	r 1890
BOS.13599	Curtis, Thomas C. House	58 Thomas Pk	Boston	r 1890
BOS.7100	Stetson, John A. Double House	59-60 Thomas Pk	Boston	1887
BOS.7101	Gogin, Thomas House	61 Thomas Pk	Boston	c 1873
BOS.13600		63 Thomas Pk	Boston	1927
BOS.13601		65 Thomas Pk	Boston	1927
BOS.13602		67 Thomas Pk	Boston	1927
BOS.13603		68 Thomas Pk	Boston	1927
BOS.7102	Manning, Thomas - Johnson, Samuel W. House	69 Thomas Pk	Boston	c 1867
BOS.5552	Boston Wharf Company Building	12-18 Thomson PI	Boston	1907
BOS.5553	Boston Wharf Company Paint and Varnish	19-23 Thomson PI	Boston	1907
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BOS.15358	Inv. No.	Property Name	Street	Town	Year
BOS.5554 Boston Wharf Company Warehouse 25-27 Thomson PI Boston 1908 BOS.55555 Boston Wharf Company Building 26-28 Thomson PI Boston 1908 BOS.15359 Boston Wharf Company Building 39-34 Thomson PI Boston 1916 BOS.5555 Boston Wharf Company Building 30-34 Thomson PI Boston 1913 BOS.5555 Boston Wharf Company Building 36-40 Thomson PI Boston 1990 BOS.5558 Boston Wharf Company Warehouse 41-45 Thomson PI Boston 1990 BOS.5559 Plitsbruigh Plate Glass Company Warehouse 42-56 Thomson PI Boston 1909 BOS.5563 Boston Wharf Company Harehouse 47-55 Thomson PI Boston 1992 BOS.5103 Boston Army Supply Base - Building 35-37 Thomson St Boston 1911 BOS.12972 Boston Army Supply Base - Building 54 7 Tide St Boston 1914 BOS.7104 Cardinal Cushing Central High School for Girls 50-7 tide St Boston 1844 BOS.7105 Casey, Thomas Building 26-22 West Broadway		Warehouse			
BOS.5555 Boston Wharf Company Building 26-28 Thomson PI Boston 1908 BOS.153599 Boston Wharf Company Building 29-33 Thomson PI Boston 1912 BOS.15360 Boston Wharf Company Building 30-34 Thomson PI Boston 1913 BOS.5556 Boston Wharf Company Building 36-37 Thomson PI Boston 1900 BOS.5556 Boston Wharf Company Parehouse 41-45 Thomson PI Boston 1900 BOS.5559 Pittsburgh Plate Glass Company Warehouse 41-45 Thomson PI Boston 1904 BOS.5560 Boston Wharf Company Building 35-37 Thomson PI Boston 1924 BOS.5563 Boston Wharf Company Building 35-37 Thomson PI Boston 1912 BOS.5103 Boston Army Supply Base - Building Stoton 71 Tide St Boston 1911 BOS.7113 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston 184 BOS.7104 Cardinal Cushing Central High School for Grifs 50-72 West Broadway Boston 184 BOS.7105 Cases, Thomas Building 82 West Broa	BOS.15358	Thomson Financial Offices	22-24 Thomson PI	Boston	1992
BOS.15359 Boston Wharf Company Building 29-33 Thomson PI Boston 1912 BOS.55566 Boston Wharf Company Building 30-34 Thomson PI Boston 1913 BOS.5557 Boston Wharf Company Building 36-37 Thomson PI Boston 1900 BOS.5558 Boston Wharf Company Warehouse 41-45 Thomson PI Boston 1924 BOS.55580 Boston Wharf Company Warehouse 42-56 Thomson PI Boston 1992 BOS.5563 Boston Wharf Company Building 35-37 Thomson FI Boston 1914 BOS.7103 Boston Army Supply Base - Building 54 7 Tide SI Boston 1911 BOS.7103 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston 184 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston 184 BOS.7105 Casey, Thomas Building 82 West Broadway Boston c 1868 BOS.7106 Collins, James Liquor Import and Wholesale 262-270 West Broadway Boston 1870 BOS.9251 Street Clock 342 West Broadway	BOS.5554	Boston Wharf Company Warehouse	25-27 Thomson PI	Boston	1909
BOS.5556 Boston Wharf Company Building 30-34 Thomson PI Boston 1916 BOS.15380 Boston Wharf Company Building 35-37 Thomson PI Boston 1919 BOS.5557 Boston Wharf Company Building 36-40 Thomson PI Boston 1900 BOS.5558 Boston Wharf Company Warehouse 41-45 Thomson PI Boston 1992 BOS.5559 Pittsburgh Plate Glass Company Warehouse 42-56 Thomson PI Boston 1990 BOS.5560 Boston Wharf Company Building 35-37 Thomson PI Boston 1911 BOS.26272 Boston Wharf Company Building 35-37 Thomson PI Boston 1911 BOS.71037 Boston Army Supply Base - Building 54 7 Tide St Boston 1911 BOS.7103 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston 1844 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston 1868 BOS.7105 Casey, Thomas Building 82 West Broadway Boston 1890 BOS.7106 Cisey, Thomas Building 42 West Broadway	BOS.5555	Boston Wharf Company Building	26-28 Thomson PI	Boston	1908
BOS.15360 Boston Wharf Company Building 35-37 Thomson PI Boston 1913 BOS.5557 Boston Wharf Company Building 36-40 Thomson PI Boston 1924 BOS.5559 Boston Mharf Company Warehouse 41-45 Thomson PI Boston 1924 BOS.5559 Pittsburgh Plate Glass Company Warehouse 47-55 Thomson PI Boston 1909 BOS.5560 Boston Wharf Company Building 35-37 Thomson SI Boston 1911 BOS.57103 Boston Army Supply Base - Building 54 7 Tide SI Boston c 1940 BOS.7103 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston c 1919 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7113 Devines Block 7 West Broadway Boston c 1868 BOS.7105 Casey, Thomas Building 22 West Broadway Boston c 1868 BOS.7106 Casey, Thomas Building 22 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 36-372 West Bro	BOS.15359	Boston Wharf Company Building	29-33 Thomson PI	Boston	1912
BOS.5557 Boston Wharf Company Building 36-40 Thomson PI Boston 1900 BOS.5558 Boston Wharf Company Warehouse 41-45 Thomson PI Boston 1924 BOS.5559 Pittsburgh Plate Glass Company Warehouse 42-56 Thomson PI Boston 1924 BOS.5560 Boston Wharf Company Building 35-37 Thomson St Boston 1914 BOS.12972 Boston Army Supply Base - Building 54 7 Tide St Boston c 1940 BOS.7103 Soston Army Supply Base - Building 54 7 Tide St Boston c 1940 BOS.7113 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston 1844 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.11531 Devine Block 72 West Broadway Boston c 1868 BOS.7105 Casey, Thomas Building 82 West Broadway Boston 1896 BOS.7107 Casey, Thomas Building 366 West Broadway Boston r 1860 BOS.7106 Casey, Thomas Building 366 West Broadway	BOS.5556	Boston Wharf Company Building	30-34 Thomson PI	Boston	1916
BOS.5558 Boston Wharf Company Warehouse 41-45 Thomson PI Boston 1924 BOS.5559 Pittsburgh Plate Glass Company Warehouse 42-56 Thomson PI Boston 1909 BOS.5560 Boston Wharf Company Building 35-37 Thomson St Boston 1911 BOS.12972 Boston Army Supply Base - Building 54 7 Tide St Boston c 1940 BOS.7103 Saints Peter and Paul Roman Catholic Church 48 West Broadway Boston c 1949 BOS.7113 Saints Peter and Paul Roman Catholic Church 48 West Broadway Boston c 1868 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7105 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7105 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7105 Casey, Thomas Building 82 West Broadway Boston c 1868 BOS.7106 Collins, James Liquor Import and Wholesale 262-270 West Broadway Boston c 1870 BO	BOS.15360	Boston Wharf Company Building	35-37 Thomson PI	Boston	1913
BOS.5559 Pittsburgh Plate Glass Company Warehouse 42-56 Thomson PI Boston 1909 BOS.5563 Boston Wharf Company Building 35-37 Thomson St Boston 1911 BOS.5563 Boston Army Supply Base - Building 54 7 Tide St Boston c 1940 BOS.7103 For any Supply Base - Building 54 7 Tide St Boston c 1940 BOS.7104 Carlinal Cushing Central High School for Girls 5 Vinton St Boston c 1844 BOS.7104 Carlinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7104 Cairlinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7104 Cairlinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7105 Casey, Thomas Building 82 West Broadway Boston c 1868 BOS.7106 Collens, James Liquor Import and Wholesale Dealers 26-270 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 366 West Broadway Boston c 1870 <t< td=""><td>BOS.5557</td><td>Boston Wharf Company Building</td><td>36-40 Thomson PI</td><td>Boston</td><td>1900</td></t<>	BOS.5557	Boston Wharf Company Building	36-40 Thomson PI	Boston	1900
BOS.5560 Boston Wharf Company Warehouse 47-55 Thomson PI Boston 1924 BOS.5563 Boston Wharf Company Building 35-37 Thomson St Boston 1911 BOS.12972 Boston Army Supply Base - Building 54 7 Tide St Boston c 1940 BOS.7103 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston c 1919 BOS.7113 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston c 1868 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7114 Saints Peter and Paul Roman Catholic Rectory 55-59 West Broadway Boston c 1868 BOS.7105 Casey, Thomas Building 82 West Broadway Boston c 1880 BOS.7106 Callins, James Liquor Import and Wholesale 262-270 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 366 West Broadway Boston c 1870 BOS.7108 South Boston Savings Bank 368-West Broadway Boston r 1870 BOS.7118	BOS.5558	Boston Wharf Company Warehouse	41-45 Thomson PI	Boston	1924
BOS.5663 Boston Wharf Company Building 35-37 Thomson St Boston 1911 BOS.12972 Boston Army Supply Base - Building 54 7 Tide St Boston c 1940 BOS.7103 5 Vinton St Boston c 1919 BOS.7113 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston c 1868 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7114 Saints Peter and Paul Roman Catholic Rectory 55-59 West Broadway Boston c 1868 BOS.7105 Cassey, Thomas Building 82 West Broadway Boston c 1880 BOS.7106 Collins, James Liquor Import and Wholesale Dealers 262-270 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 366 West Broadway Boston c 1870 BOS.7118 Greene, Gardiner Row House 369 West Broadway Boston c 1824 BOS.7120 Nickerson Apartment Building 397-401 West Broadway Boston c 1824 BOS.7121 Bethesda Hall - Baker Building <td< td=""><td>BOS.5559</td><td>Pittsburgh Plate Glass Company Warehouse</td><td>42-56 Thomson PI</td><td>Boston</td><td>1909</td></td<>	BOS.5559	Pittsburgh Plate Glass Company Warehouse	42-56 Thomson PI	Boston	1909
BOS.12972 Boston Army Supply Base - Building 54 7 Tide St Boston c 1940 BOS.7103 5 Vinton St Boston c 1919 BOS.7113 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston 1844 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7114 Saints Peter and Paul Roman Catholic Rectory 55-59 West Broadway Boston c 1868 BOS.7105 Casey, Thomas Building 82 West Broadway Boston c 1890 BOS.7106 Collins, James Liquor Import and Wholesale Dealers 262-270 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 362-270 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 366 West Broadway Boston c 1870 BOS.7118 Greene, Gardiner Row House 369 West Broadway Boston c 1824 BOS.7117 Greene, Gardiner Row House 371 West Broadway Boston c 1824 BOS.7121 Bethesda Hall - Baker Building	BOS.5560	Boston Wharf Company Warehouse	47-55 Thomson PI	Boston	1924
BOS.7103 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston 1844 BOS.7113 Saints Peter and Paul Roman Catholic Church 45 West Broadway Boston c 1868 BOS.7104 Cardinal Cushing Central High School for Girls 50-72 West Broadway Boston c 1868 BOS.7114 Saints Peter and Paul Roman Catholic Rectory 55-59 West Broadway Boston c 1868 BOS.7104 Casey, Thomas Building 82 West Broadway Boston c 1890 BOS.7105 Casey, Thomas Building 82 West Broadway Boston r 1860 BOS.7106 Collins, James Liquor Import and Wholesale Dealers 262-270 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 366 West Broadway Boston c 1870 BOS.7108 South Boston Savings Bank 368-372 West Broadway Boston r 1870 BOS.7117 Greene, Gardiner Row House 369 West Broadway Boston c 1824 BOS.7116 Greene, Gardiner Row House 371 West Broadway Boston c 1824 BOS.7120	BOS.5563	Boston Wharf Company Building	35-37 Thomson St	Boston	1911
BOS.7113Saints Peter and Paul Roman Catholic Church BOS.710445 West BroadwayBoston1844BOS.7104Cardinal Cushing Central High School for Girls50-72 West BroadwayBostonc 1868BOS.7114Saints Peter and Paul Roman Catholic Rectory55-59 West BroadwayBostonc 1808BOS.15331Devine Block72 West BroadwayBostonc 1890BOS.7105Casey, Thomas Building82 West BroadwayBoston1896BOS.7106Collins, James Liquor Import and Wholesale Dealers262-270 West BroadwayBostonr 1860BOS.9251Street Clock342 West BroadwayBostonc 1870BOS.7107Monks and Company Flour and Grain Building366 West BroadwayBoston1873BOS.7108South Boston Savings Bank368-372 West BroadwayBostonr 1870BOS.7117Greene, Gardiner Row House399 West BroadwayBostonc 1824BOS.7117Greene, Gardiner Row House371 West BroadwayBostonc 1824BOS.7120Nickerson Apartment Building397-401 West BroadwayBostonr 1895BOS.7121Bethesda Hall - Baker Building403-415 West BroadwayBoston1890BOS.7109Saint Matthew's Episcopal Church410 West BroadwayBoston1860BOS.7110U. S. Post Office - South Boston Branch424-426 West BroadwayBoston1919BOS.7112South Boston Savings Bank460-462 West BroadwayBoston1935BOS.7112South Boston Market <t< td=""><td>BOS.12972</td><td>Boston Army Supply Base - Building 54</td><td>7 Tide St</td><td>Boston</td><td>c 1940</td></t<>	BOS.12972	Boston Army Supply Base - Building 54	7 Tide St	Boston	c 1940
BOS.7104Cardinal Cushing Central High School for Girls50-72 West BroadwayBostonc 1868BOS.7114Saints Peter and Paul Roman Catholic Rectory55-59 West BroadwayBostonc 1868BOS.15331Devine Block72 West BroadwayBostonc 1890BOS.7105Casey, Thomas Building82 West BroadwayBoston1896BOS.7106Collins, James Liquor Import and Wholesale Dealers262-270 West BroadwayBostonc 1870BOS.7107Monks and Company Flour and Grain Building BOS.7108342 West BroadwayBostonc 1870BOS.7108South Boston Savings Bank368-372 West BroadwayBoston1873BOS.7118Greene, Gardiner Row House369 West BroadwayBostonc 1824BOS.7117Greene, Gardiner Row House371 West BroadwayBostonc 1824BOS.7120Nickerson Apartment Building397-401 West BroadwayBostonr 1895BOS.7121Bethesda Hall - Baker Building403-415 West BroadwayBoston1890BOS.7090A09 West BroadwayBoston1860BOS.7110U. S. Post Office - South Boston Branch424-426 West BroadwayBoston1919BOS.7111South Boston Savings Bank460-462 West BroadwayBoston1935BOS.7112South Boston Market488-470 West BroadwayBoston1935BOS.7117King, Augustus Double House197-199 West Eighth StBostonc 1868BOS.7160Minot, William Row House261 West Fifth StBoston<	BOS.7103		5 Vinton St	Boston	c 1919
BOS.7114Saints Peter and Paul Roman Catholic Rectory55-59 West BroadwayBostonc 1890BOS.15331Devine Block72 West BroadwayBostonc 1890BOS.7105Casey, Thomas Building82 West BroadwayBoston1896BOS.7106Collins, James Liquor Import and Wholesale Dealers262-270 West BroadwayBostonc 1870BOS.9251Street Clock342 West BroadwayBostonc 1870BOS.7107Monks and Company Flour and Grain Building366 West BroadwayBostonn 1873BOS.7108South Boston Savings Bank368-372 West BroadwayBostonr 1870BOS.7118Greene, Gardiner Row House359 West BroadwayBostonc 1824BOS.7117Greene, Gardiner Row House371 West BroadwayBostonc 1824BOS.7120Nikcerson Apartment Building397-401 West BroadwayBostonr 1895BOS.7121Bethesda Hall - Baker Building403-415 West BroadwayBoston1880BOS.7090Saint Matthew's Episcopal Church410 West BroadwayBoston1980BOS.7110U. S. Post Office - South Boston Branch424-426 West BroadwayBoston1919BOS.7111South Boston Savings Bank460-462 West BroadwayBoston1948BOS.7112South Boston Market468-470 West BroadwayBoston1935BOS.7131King, Augustus Double House197-199 West Eighth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBoston	BOS.7113	Saints Peter and Paul Roman Catholic Church	45 West Broadway	Boston	1844
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BOS.7106 Collins, James Liquor Import and Wholesale Dealers BOS.9251 Street Clock 342 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 366 West Broadway Boston 1873 BOS.7108 South Boston Savings Bank 368-372 West Broadway Boston r 1870 BOS.7118 Greene, Gardiner Row House 369 West Broadway Boston c 1824 BOS.7117 Greene, Gardiner Row House 371 West Broadway Boston c 1824 BOS.7120 Nickerson Apartment Building 397-401 West Broadway Boston r 1895 BOS.7121 Bethesda Hall - Baker Building 403-415 West Broadway Boston 1890 BOS.7090 409 West Broadway Boston c 1900 BOS.7109 Saint Matthew's Episcopal Church 410 West Broadway Boston 1860 BOS.7111 South Boston Savings Bank 460-462 West Broadway Boston 1919 BOS.7112 South Boston Market 468-470 West Broadway Boston 1935 BOS.7112 South Boston Market 468-470 West Broadway Boston 1935 BOS.7113 King, Augustus Double House 197-199 West Eighth St Boston 1918 BOS.9239 West Fifth Street Bridge over Conrail West Fifth St Boston c 1868 BOS.7160 Minot, William Row House 261 West Fifth St Boston c 1868 BOS.7161 Minot, William Row House 263 West Fifth St Boston c 1868	BOS.15331	Devine Block	72 West Broadway	Boston	c 1890
Dealers Street Clock 342 West Broadway Boston c 1870 BOS.7107 Monks and Company Flour and Grain Building 366 West Broadway Boston 1873 BOS.7108 South Boston Savings Bank 368-372 West Broadway Boston r 1870 BOS.7118 Greene, Gardiner Row House 369 West Broadway Boston c 1824 BOS.7117 Greene, Gardiner Row House 371 West Broadway Boston c 1824 BOS.7120 Nickerson Apartment Building 397-401 West Broadway Boston r 1895 BOS.7121 Bethesda Hall - Baker Building 403-415 West Broadway Boston 1890 BOS.7090 Boston 409 West Broadway Boston c 1900 BOS.7109 Saint Matthew's Episcopal Church 410 West Broadway Boston 1860 BOS.7110 U. S. Post Office - South Boston Branch 424-426 West Broadway Boston 1919 BOS.7111 South Boston Savings Bank 460-462 West Broadway Boston 1948 BOS.7112 South Boston Market 468-470 West Broadway Boston	BOS.7105	Casey, Thomas Building	82 West Broadway	Boston	1896
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BOS.7120Nickerson Apartment Building397-401 West BroadwayBostonr 1895BOS.7121Bethesda Hall - Baker Building403-415 West BroadwayBoston1890BOS.7090409 West BroadwayBostonc 1900BOS.7109Saint Matthew's Episcopal Church410 West BroadwayBoston1860BOS.7110U. S. Post Office - South Boston Branch424-426 West BroadwayBoston1919BOS.7111South Boston Savings Bank460-462 West BroadwayBoston1948BOS.7112South Boston Market468-470 West BroadwayBoston1935BOS.7173King, Augustus Double House197-199 West Eighth StBostonc 1874BOS.9239West Fifth Street Bridge over ConrailWest Fifth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBostonc 1868BOS.7161Minot, William Row House263 West Fifth StBostonc 1868	BOS.7118	Greene, Gardiner Row House	369 West Broadway	Boston	c 1824
BOS.7121 Bethesda Hall - Baker Building 403-415 West Broadway Boston 1890 BOS.7090 409 West Broadway Boston c 1900 BOS.7109 Saint Matthew's Episcopal Church 410 West Broadway Boston 1860 BOS.7110 U. S. Post Office - South Boston Branch 424-426 West Broadway Boston 1919 BOS.7111 South Boston Savings Bank 460-462 West Broadway Boston 1948 BOS.7112 South Boston Market 468-470 West Broadway Boston 1935 BOS.7173 King, Augustus Double House 197-199 West Eighth St Boston c 1874 BOS.9239 West Fifth Street Bridge over Conrail West Fifth St Boston 1918 BOS.7160 Minot, William Row House 261 West Fifth St Boston c 1868 BOS.7161 Minot, William Row House 263 West Fifth St Boston c 1868	BOS.7117	Greene, Gardiner Row House	371 West Broadway	Boston	c 1824
BOS.7090409 West BroadwayBostonc 1900BOS.7109Saint Matthew's Episcopal Church410 West BroadwayBoston1860BOS.7110U. S. Post Office - South Boston Branch424-426 West BroadwayBoston1919BOS.7111South Boston Savings Bank460-462 West BroadwayBoston1948BOS.7112South Boston Market468-470 West BroadwayBoston1935BOS.7173King, Augustus Double House197-199 West Eighth StBostonc 1874BOS.9239West Fifth Street Bridge over ConrailWest Fifth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBostonc 1868BOS.7161Minot, William Row House263 West Fifth StBostonc 1868	BOS.7120	Nickerson Apartment Building	397-401 West Broadway	Boston	r 1895
BOS.7109Saint Matthew's Episcopal Church410 West BroadwayBoston1860BOS.7110U. S. Post Office - South Boston Branch424-426 West BroadwayBoston1919BOS.7111South Boston Savings Bank460-462 West BroadwayBoston1948BOS.7112South Boston Market468-470 West BroadwayBoston1935BOS.7173King, Augustus Double House197-199 West Eighth StBostonc 1874BOS.9239West Fifth Street Bridge over ConrailWest Fifth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBostonc 1868BOS.7161Minot, William Row House263 West Fifth StBostonc 1868	BOS.7121	Bethesda Hall - Baker Building	403-415 West Broadway	Boston	1890
BOS.7110U. S. Post Office - South Boston Branch424-426 West BroadwayBoston1919BOS.7111South Boston Savings Bank460-462 West BroadwayBoston1948BOS.7112South Boston Market468-470 West BroadwayBoston1935BOS.7173King, Augustus Double House197-199 West Eighth StBostonc 1874BOS.9239West Fifth Street Bridge over ConrailWest Fifth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBostonc 1868BOS.7161Minot, William Row House263 West Fifth StBostonc 1868	BOS.7090		409 West Broadway	Boston	c 1900
BOS.7111South Boston Savings Bank460-462 West BroadwayBoston1948BOS.7112South Boston Market468-470 West BroadwayBoston1935BOS.7173King, Augustus Double House197-199 West Eighth StBostonc 1874BOS.9239West Fifth Street Bridge over ConrailWest Fifth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBostonc 1868BOS.7161Minot, William Row House263 West Fifth StBostonc 1868	BOS.7109	Saint Matthew's Episcopal Church	410 West Broadway	Boston	1860
BOS.7112South Boston Market468-470 West BroadwayBoston1935BOS.7173King, Augustus Double House197-199 West Eighth StBostonc 1874BOS.9239West Fifth Street Bridge over ConrailWest Fifth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBostonc 1868BOS.7161Minot, William Row House263 West Fifth StBostonc 1868	BOS.7110	U. S. Post Office - South Boston Branch	424-426 West Broadway	Boston	1919
BOS.7173King, Augustus Double House197-199 West Eighth StBostonc 1874BOS.9239West Fifth Street Bridge over ConrailWest Fifth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBostonc 1868BOS.7161Minot, William Row House263 West Fifth StBostonc 1868	BOS.7111	South Boston Savings Bank	460-462 West Broadway	Boston	1948
BOS.9239West Fifth Street Bridge over ConrailWest Fifth StBoston1918BOS.7160Minot, William Row House261 West Fifth StBostonc 1868BOS.7161Minot, William Row House263 West Fifth StBostonc 1868	BOS.7112	South Boston Market	468-470 West Broadway	Boston	1935
BOS.7160 Minot, William Row House 261 West Fifth St Boston c 1868 BOS.7161 Minot, William Row House 263 West Fifth St Boston c 1868	BOS.7173	King, Augustus Double House	197-199 West Eighth St	Boston	c 1874
BOS.7161 Minot, William Row House 263 West Fifth St Boston c 1868	BOS.9239	West Fifth Street Bridge over Conrail	West Fifth St	Boston	1918
	BOS.7160	Minot, William Row House	261 West Fifth St	Boston	c 1868
BOS.7162 Minot, William Row House 265 West Fifth St Boston c 1868	BOS.7161	Minot, William Row House	263 West Fifth St	Boston	c 1868
	BOS.7162	Minot, William Row House	265 West Fifth St	Boston	c 1868

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ıv. No.	Property Name	Street	Town	Year
OS.7163	Burrage, J. Row House	267 West Fifth St	Boston	c 1868
OS.7164	Frothingham, Nathaniel D. Row House	269 West Fifth St	Boston	c 1868
OS.7165	Connor, James Row House	271 West Fifth St	Boston	c 1868
OS.7166	Minot, William Row House	273 West Fifth St	Boston	c 1868
OS.7167	Minot, William Row House	275 West Fifth St	Boston	c 1868
OS.7168	Minot, William Row House	277 West Fifth St	Boston	c 1868
OS.7169	Connor, James Row House	279 West Fifth St	Boston	c 1868
OS.7170	Minot, William Row House	281 West Fifth St	Boston	c 1868
OS.7171	Minot, William Row House	283 West Fifth St	Boston	c 1868
OS.12990	Estabrook's, Rufus Sons Building	202 West First St	Boston	c 1890
OS.9007	West Fourth Street Bridge - Dover Street Bridge	West Fourth St	Boston	1893
OS.9245	West Fourth Street Bridge over MBTA	West Fourth St	Boston	1917
OS.7146	York House - South Boston Hotel	99-101 West Fourth St	Boston	c 1830
OS.7147	Wood, William W. Double House	123-125 West Fourth St	Boston	c 1845
OS.7139	Hausman, Harry and Joseph Building	142 West Fourth St	Boston	c 1919
OS.7140	Hausman, Harry and Joseph Building	150-154 West Fourth St	Boston	1904
OS.7141	Bigelow School	350 West Fourth St	Boston	1901
OS.7148	Homer, Henry House	361 West Fourth St	Boston	c 1843
OS.7149	Thing, Joseph House	375 West Fourth St	Boston	c 1852
OS.7150	Conley, Charles C Safford, Daniel House	377 West Fourth St	Boston	c 1844
OS.7142	Nickerson, Capt. Jonathan S. House	380 West Fourth St	Boston	c 1870
OS.7143	Murphy, Mary E. House	388 West Fourth St	Boston	c 1852
OS.7151	Smith, Horace - Driscoll, J. Double House	389-391 West Fourth St	Boston	c 1852
OS.7144	Winch, Mary - Lovett, George L. Double House	392-394 West Fourth St	Boston	c 1868
OS.7152	Miles - Smith, James F. Double House	397-399 West Fourth St	Boston	c 1852
OS.7153	Hughes, Joshua House	401 West Fourth St	Boston	c 1852
OS.7154	Atwood, Charles House	411 West Fourth St	Boston	c 1852
OS.7155	James, Benjamin Row House	417 West Fourth St	Boston	r 1860
OS.7156	Smith, Freeman Row House	419 West Fourth St	Boston	r 1860
OS.7157	Brown, Solon F. Row House	421 West Fourth St	Boston	r 1860
OS.7158	Howard, Samuel Row House	423 West Fourth St	Boston	r 1860
OS.7159	James, Francis Row House	425 West Fourth St	Boston	r 1860
OS.6874	South Boston Community Health Center	453 West Fourth St	Boston	1926
OS.7145	Boston Hook and Ladder Fire House #5	456 West Fourth St	Boston	r 1870
OS.7122	Ipswich Hosiery Mill	154 West Second St	Boston	1912
OS.7124	Lawrence, William R. Row House	161 West Second St	Boston	c 1852
OS.7125	Lawrence, William R. Row House	163 West Second St	Boston	c 1852
	Lawrence, William R. Row House	165 West Second St	Boston	c 1852

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Inv. No.	Property Name	Street	Town	Year
BOS.7127	Lawrence, William R. Row House	167 West Second St	Boston	c 1852
BOS.6848	Boston Beer Company	249 West Second St	Boston	c 1882
BOS.7123	Hersey Brothers Machinery Manufacturing Company	314-330 West Second St	Boston	c 1899
BOS.7172	Cunningham, Mary - Furber, Benjamin Double House	190-192 West Seventh St	Boston	c 1868
BOS.9232	West Sixth Street Bridge over Conrail	West Sixth St	Boston	1918
BOS.9238	West Third Street Bridge over Conrail	West Third St	Boston	1918
BOS.7137	Foley, John House	117 West Third St	Boston	c 1868
BOS.7128	Saint Vincent de Paul Roman Catholic Church	212 West Third St	Boston	1872
BOS.7129	Weston, Alden B. House	236 West Third St	Boston	c 1874
BOS.7130	Connors, Ann Double Three Decker	242-244 West Third St	Boston	r 1895
BOS.7131	Lanergan, Richard House	256 West Third St	Boston	c 1852
BOS.7138	Williams, Rev. J. J. House	267 West Third St	Boston	r 1880
BOS.7132	McCarthy, Ellen House	310 West Third St	Boston	c 1852
BOS.7133	Souther, Henry P. Row House	346 West Third St	Boston	c 1868
BOS.7134	Souther, Henry P. Row House	348 West Third St	Boston	c 1868
BOS.7135	Souther, Henry P. Row House	350 West Third St	Boston	c 1868
BOS.7136	Souther, Henry P. Row House	352 West Third St	Boston	c 1868
BOS.7175	Columbus Park Building	William J. Day Blvd	Boston	
BOS.7176	Columbus Park Building	William J. Day Blvd	Boston	
BOS.7177	Carson Beach Bath and Field House	William J. Day Blvd	Boston	c 1922
BOS.7178	Carson Beach Concession Stand	William J. Day Blvd	Boston	
BOS.9253	Columbus Park	William J. Day Blvd	Boston	c 1897
BOS.9254	Carson Beach	William J. Day Blvd	Boston	c 1897
BOS.9255	Strandway, The	William J. Day Blvd	Boston	c 1897
BOS.9579	South Boston Boat Clubs Granite Retaining Wall	William J. Day Blvd	Boston	r 1920
BOS.9580	South Boston Boat Clubs Iron Fence	William J. Day Blvd	Boston	r 1920
BOS.6851	L Street Bath House	1663-1685 William J. Day Blvd	Boston	1931
BOS.7174	Richmond, Augustus C. House	52-54 Woodward St	Boston	c 1874
BOS.15361	Factory Buildings Trust Industrial Building #2	21 Wormwood St	Boston	c 1896
BOS.15365	Factory Buildings Trust Industrial Building #3	23-27 Wormwood St	Boston	c 1896
BOS.15362	Factory Buildings Trust Industrial Building #4	33-37 Wormwood St	Boston	c 1897
BOS.9515	Factory Buildings Trust Chimney Stack	41-45 Wormwood St	Boston	c 1896
BOS.15363	Factory Buildings Trust Industrial Building #5	41-45 Wormwood St	Boston	c 1896

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