

N60201.AR.000523  
NS MAYPORT  
5090.3a

MONITORING ONLY REPORT ECHO PIER NS MAYPORT FL  
10/1/2000  
U S ARMY CORPS OF ENGINEERS

**MONITORING ONLY PLAN (MOP) REPORT**

**MAYPORT NAVAL STATION  
ECHO PIER**

**MAYPORT, FLORIDA**

**PREPARED FOR**

**UNITED STATES NAVY  
SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
CHARLESTON, SOUTH CAROLINA**

**PREPARED BY**

**U.S. ARMY CORPS OF ENGINEERS  
SAVANNAH DISTRICT  
SAVANNAH, GEORGIA**

**OCTOBER 2000**

## **INTRODUCTION**

This Monitoring Only Plan (MOP) report for Echo Pier at Mayport Naval Station, Mayport, Florida is a result of a request by the Florida Department of Environmental Protection (FDEP) that the Southern Division, Naval Facilities Engineering Command (NAVFACENGCOM) Charleston, South Carolina perform supplemental sampling at the site.

## **BACKGROUND**

In July of 1996, a leaking diesel fuel pipeline was discovered in the Echo-3 area of Echo Pier. Bechtel Environmental, Inc. was contracted by Southern Division to repair the pipeline, complete the Initial Remedial Action (IRA), and prepare a Contamination Assessment Report (CAR). The IRA involved recovery of free product, composed of diesel fuel released from the pipeline, plus removal of ground water and excavation of contaminated soil. The pipeline was repaired and placed back in service on 19 July 1996. The source of the contamination was believed to have been removed. The CAR, dated February 1997, recommended a No further Action (NFA) status for the site.

Upon review of the CAR, FDEP recommended a supplemental sampling event at the site. Based upon the results of the supplemental sampling event, Bechtel Inc. proposed a Monitoring Only Plan (MOP) in a Contamination Assessment Report Addendum (CARA), dated 13 May 1997. FDEP final approval of a MOP for the site was granted in a letter to Southern Division dated 16 June 1997. A copy of the letter is contained in attachment 1.

On 25 September 1997, eight-tenths of a foot of free product was discovered in monitoring well MP-EP-02. Subsequent discussion between Southern Division and FDEP resulted in a decision to proceed with the MOP monitoring of wells MP-EP-02 and MP-EP-03, and to perform free product monitoring and removal at all four wells (MP-EP-01 through MP-EP-04) at the site on an as-needed basis.

## **SUMMARY OF GROUND WATER MONITORING AND ANALYSIS**

On 13 October 2000, site monitoring wells MP-EP-01, MP-EP-02, MP-EP-03, and MP-EP-04 were checked for free product petroleum using an oil/water interface probe and disposable teflon bailers. Prior to sampling, monitoring wells MP-EP-02 and MP-EP-03 were purged of a minimum of three volumes using a Teflon bailer. Well purging continued until field parameters (pH, specific conductance, and temperature) stabilized. Water level elevation data is contained in table 4 (attachment 5), and field water quality parameters for the sampled well are contained in table 5 (attachment 6). The ground-water samples were collected using a Teflon bailer and placed in appropriate containers. The samples were properly preserved, stored on ice, and delivered to the laboratory for analysis.

The monitoring well samples were analyzed for EPA Methods 602 (including MTBE) and 8310. Chain of custody was maintained on the samples throughout the sampling period. Sampling procedures were conducted according to U.S. Army Corps of Engineers, Savannah District's FDEP-approved Comprehensive Quality Assurance Plan No. 910026G. Laboratory analyses were performed according to the laboratory's FDEP-approved Generic Quality Assurance Plan.

Laboratory analytical results of the samples from wells MP-EP-02 and MP-EP-03, are shown in table 3 (attachment 3). Benzene, at 5.2 ug/L, was the only VOA detected in well MP-EP-02. This level of benzene exceeds the regulatory level of 1 ug/L. Well MP-EP-03 indicated no VOAs above detection limits.

PAHs detected in well MP-EP-02 were naphthalene at 3.0 ug/L, phenanthrene at 1.0 ug/L, 1-methylnaphthalene at 4.7 ug/L, and 2-methylnaphthalene at 6.7 ug/L. No PAHs were detected in well MP-EP-03. Laboratory analytical data are contained in attachment 7.

**SUMMARY OF SAMPLING EVENTS**

Table 1 is a summary comparison of sampling events for total VOAs in all wells sampled on the indicated sampling events. Only wells MP-EP-02 and MP-EP-03 are being sampled for the MOP, and on four occasions, MP-EP-02 has not been sampled due to the presence of free product. It is noteworthy that the total VOA results for MP-EP-02 have remained quite stable in the absence of free product.

The next sampling event for laboratory analysis is scheduled for January 2001.

**TABLE 1  
TOTAL VOAs (EPA 602) ug/L**

Well No.	December 1996 (CAR)	April 1997 (CARA)	November 1998 (MOP)	February 1999 (MOP)	May 1999 (MOP)	September 1999 (MOP)	January 2000 (MOP)	July 2000 (MOP)
MP-EP-01	2	BDL	NS	NS	NS	NS	NS	NS
MP-EP-02	27	33	21	NS <sup>1</sup>	NS <sup>2</sup>	29	NS <sup>3</sup>	NS <sup>5</sup>
MP-EP-03	BDL	BDL	BDL	BDL <sup>4</sup>	BDL	1	BDL	BDL
MP-EP-04	2	BDL	NS	NS	NS	NS	NS	NS

Well No.	October 2000 (MOP)							
MP-EP-01	NS							
MP-EP-02	5.2							
MP-EP-03	BDL							
MP-EP-04	NS							

- NS -- Not Sampled.
- 1 -- 0.97' of Free Product.
- 2 -- 0.02' of Free Product.
- 3 -- 0.14' of Free Product.
- 4 -- Laboratory detection limit for benzene was 2.0 ug/L.
- 5 -- 0.12' of Free Product.

**FREE PRODUCT MONITORING AND REMOVAL**

Free product monitoring and removal are being performed on all wells at the site. Four weekly product-monitoring events were performed on 13, 21, and 28 November and 5 December 1998. Beginning in January 1999, product-monitoring events have been performed on a monthly basis. The results of this monitoring are displayed in table 2 (attachment 2). Well MP-EP-02 is the only well that has contained free product, with a total of about 30 gallons removed to date. Product removed from wells is drummed for disposal.

## CONCLUSION

The intermittent nature of free product in well MP-EP-02 appears to be related to a rising and falling water table at the site. A review of the past five sampling events indicates a range of water level elevations in well MP-EP-02 of 3.12 feet (above MSL) to 5.62 feet. A trend appears to exist between the disappearance of product in the well, and higher water levels.

Although well MP-EP-02 did not exhibit free product on this latest sampling event, product apparently does still exist in the area of the well.

## LIST OF ATTACHMENTS

- ATTACHMENT 1 - FDEP LETTER OF MOP APPROVAL
- ATTACHMENT 2 - TABLE 2 - SUMMARY OF FREE PRODUCT MONITORING
- ATTACHMENT 3 - TABLE 3 - SUMMARY OF OCTOBER 2000 MOP GROUND-WATER ANALYTICAL RESULTS
- ATTACHMENT 4 - DATA SUMMARY MAP OF OCTOBER 2000 MONITORING WELL ANALYTICAL RESULTS
- ATTACHMENT 5 - TABLE 4 - WATER LEVEL ELEVATION DATA FOR OCTOBER 2000
- ATTACHMENT 6 - TABLE 5 - FIELD WATER QUALITY PARAMETERS FOR OCTOBER 2000
- ATTACHMENT 7 - LABORATORY ANALYTICAL RESULTS (EPA 602 + MTBE AND EPA 8310) FOR OCTOBER 2000

**ATTACHMENT 1**  
**FDEP LETTER OF MOP APPROVAL**

# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Building  
2800 Blair Stone Road  
Tallahassee, Florida 32399-1400

Virginia B. Wetherell  
Secretary

June 16, 1997

Mr. H.J. Fraser-Rahim, P.E.  
Southern Division  
Naval Facilities Engineering Command  
PO Box 190010  
2155 Eagle Drive  
North Charleston, South Carolina 29419

RE: Echo Pier Site, US Naval Station, Mayport, Florida

Dear Mr. Fraser-Rahim:

The Bureau of Waste Cleanup has reviewed the Contamination Assessment Report Addendum (CARA) and Monitoring Only Plan (MOP) proposal dated May 13, 1997 (received May 27, 1997), submitted for this site. The Department designates "source well" as the well located within or adjacent to the identified source of potential groundwater contamination. Likewise, the Department designates "perimeter well" as the well located near the limits of the groundwater contamination or downgradient from the source area. This order is based on monitoring well locations shown in Figure 1 of the Contamination Assessment Report Addendum dated May 13, 1997. The designated wells are:

Source Well: MP-EP-02.

Perimeter Well: MP-EP-03.

Pursuant to Rule 62-770.600(14), Florida Administrative Code (F.A.C.), the Department approves the "monitoring only" proposal. Pursuant to Rules 62-770.660 and 62-770.700(3), F.A.C., you are required to complete the monitoring program outlined below, and to submit the analytical results to the Department within sixty (60) days of sample collection. Each designated well shall be sampled quarterly for one year for EPA Method 602 constituents plus Methyl-tert-butylether (MTBE).

If contaminant concentrations in the designated wells increase above the concentrations listed below, then the resampling/supplemental assessment described in Rule 62-770.660(6) should be performed. If the contaminant concentrations in all wells do not decrease below Rule 62-770.730(5) target cleanup levels after the duration of the monitoring period, then additional monitoring, supplemental contamination assessment and/or remediation may be required.

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

*Printed on recycled paper.*

Mr. H.J. Fraser-Rahim, P.E.  
Page Two  
June 16, 1997

Source Wells: 50 ug/l Benzene; 500 ug/l Total VOAs.

Perimeter Wells: 1 ug/l Benzene; 50 ug/l Total VOAs.

Persons whose substantial interests are affected by this Approval Order have the right to challenge the Department's decision. Such a challenge may include filing a petition for an administrative determination (hearing) as described in the following paragraphs. However, pursuant to Chapter 62-103, F.A.C., you may request an extension of time to file the petition. All requests for extensions of time or petitions for administrative determinations must be filed directly with the Department's Office of General Counsel at the address given below within twenty-one (21) days of receipt of this notice (do not send them to the Bureau of Waste Cleanup).

Notwithstanding the above, a person whose substantial interests are affected by this Approval Order may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within twenty-one (21) days of receipt of this notice. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the Department file number (FDEP facility number), and the name and address of the facility;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by each petitioner, if any;
- (e) A statement of facts which each petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes each petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by each petitioner, stating precisely the action each petitioner wants the Department to take with respect to the Department's action or proposed action.

Mr. H.J. Fraser-Rahim, P.E.  
Page Three  
June 16, 1997

This Approval Order is final and effective on the date of receipt of this Order unless a petition (or time extension) is filed in accordance with the preceding paragraphs. Upon the timely filing of a petition, this Order will not be effective until further order of the Department.

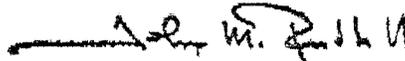
When the Order is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, F.S., by filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty (30) days from the date the Final Order is filed with the Clerk of the Department.

Please be advised that mediation of this decision, pursuant to Section 120.573, F.S., is available.

Note, any changes to the ownership status of this site and/or property must be reported to the Department.

Any questions you may have on the technical aspects of this Approval Order should be directed to James H. Cason, P.G. at (904) 488-3935. Contact with the above named person does not constitute a petition for administrative determination.

Sincerely,



John M. Ruddell, Director  
Division of Waste Management

JMR/jhc

cc: Cheryl Mitchell; NAVSTA Mayport  
Brian Cheary, FDEP Northeast District  
Jerry Young, City of Jacksonville

**ATTACHMENT 2**

**TABLE 2 - SUMMARY OF FREE PRODUCT MONITORING**

**TABLE 2**

**SUMMARY OF FREE PRODUCT MONITORING**

**ECHO PIER  
MAYPORT NAVAL STATION  
MAYPORT, FLORIDA**

**THICKNESS OF PRODUCT LAYER IN WELL (FEET)/PRODUCT REMOVED (GALLONS) \***

MONITOR WELL	11/13/98	11/21/98	11/28/98	12/05/98	01/25/99	02/20/99	03/21/99	04/25/99	05/15/99	06/29/99	07/27/99	08/31/99	09/30/99
MP-EP-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MP-EP-02	0.72/15.0	0.54/6.0	0.03/1.5	0.26/2.5	0.26/1.3	0.97/0.9	0.27/5.0	0.26/6.0	0.02/0.4	0.01/0.0	0.0	0.0	0.0
MP-EP-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MP-EP-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MONITOR WELL	12/18/99	01/10/00	03/08/00	04/29/00	06/03/00	07/08/00	08/12/00	10/13/00					
MP-EP-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
MP-EP-02	0.16/1.0	0.14/0.5	0.05/0.9	0.01/0.2	0.03/2.5	0.12/0.5	0.0	0.0					
MP-EP-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
MP-EP-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					

*Note: Product removed was actually a mixture of product and ground water.*

**ATTACHMENT 3**

**TABLE 3 - SUMMARY OF OCTOBER 2000 MOP GROUND-WATER ANALYTICAL RESULTS**

TABLE 3

## SUMMARY OF GROUND-WATER ANALYTICAL RESULTS

ECHO PIER  
MAYPORT NAVAL STATION  
MAYPORT FLORIDA

13 OCTOBER 2000

## MONITOR WELL NUMBER

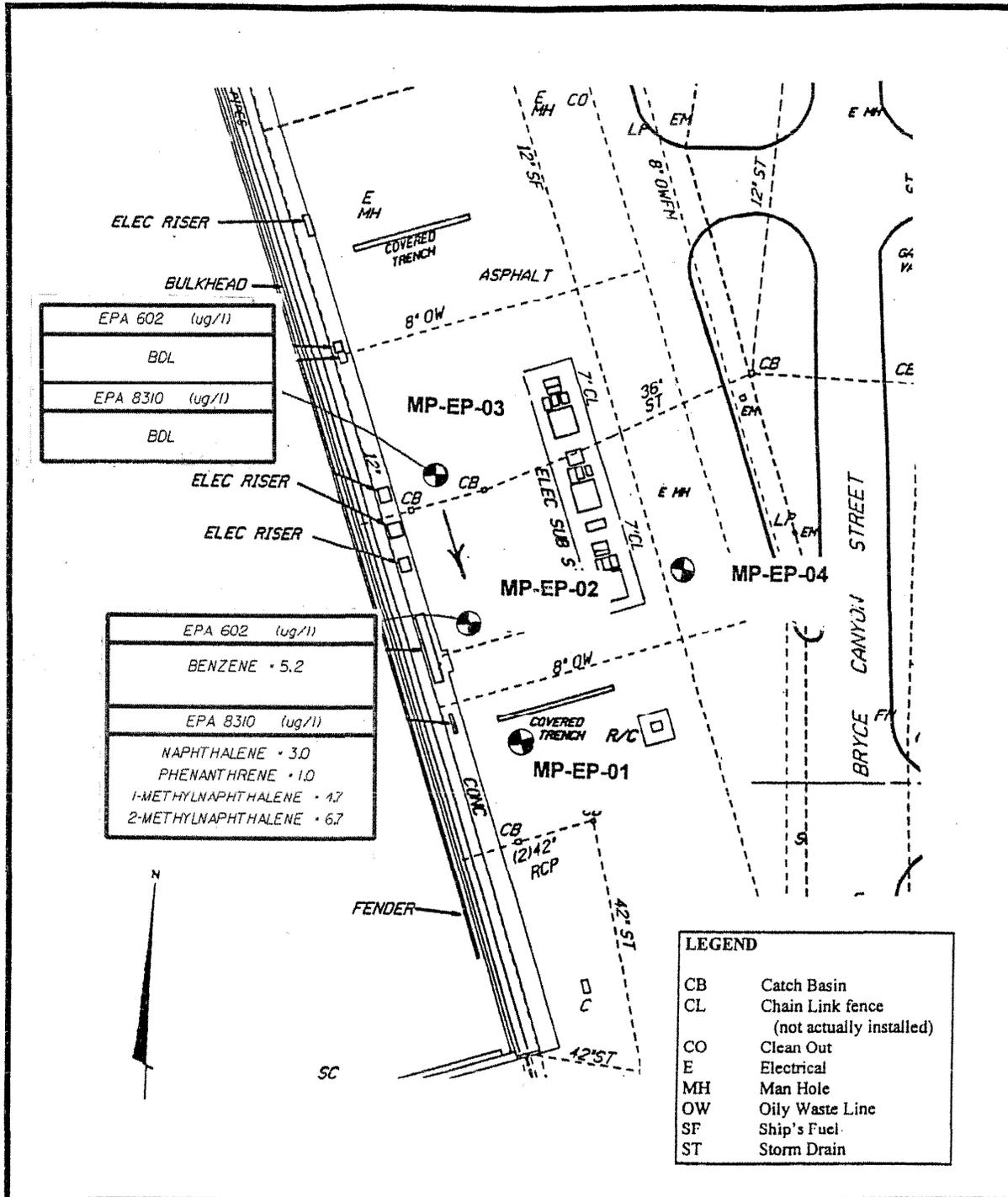
PARAMETER	MP-EP-02 10-00	MP-EP-02 10-00 DUPLICATE	MP-EP-03 10-00	RINSATE BLANK	TRIP BLANK	MCL OR TARGET CLEANUP LEVEL
<b>PURGEABLE AROMATICS (602) ug/L</b>						
BENZENE	5.2	4.9	<1.0	<1.0	<1.0	1 ug/L
TOLUENE	<1.0	<1.0	<1.0	<1.0	<1.0	40 ug/L
ETHYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	30 ug/L
XYLENES (TOTAL)	<2.0	<2.0	<2.0	<2.0	<2.0	20 ug/L
METHYL-T-BUTYLETHER	<10.0	<10.0	<10.0	<10.0	<10.0	35 ug/L
<b>EXTRACTABLE ORGANICS (8310) ug/L</b>						
ACENAPHTHENE	<1.0	<1.0	<1.0	<1.0	NA	20 ug/L
ACENAPHTHYLENE	<1.0	<1.0	<1.0	<1.0	NA	210 ug/L
ANTHRACENE	<0.20	<0.20	<0.20	<0.20	NA	2100 ug/L
BENZO(A)ANTHRACENE	<0.20	<0.20	<0.20	<0.20	NA	0.2 ug/L
BENZO(A)PYRENE	<0.20	<0.20	<0.20	<0.20	NA	0.2 ug/L
BENZO(B)FLUORANTHENE	<0.20	<0.20	<0.20	<0.20	NA	0.2 ug/L
BENZO(G,H,I)PERYLENE	<0.50	<0.50	<0.50	<0.50	NA	210 ug/L
BENZO(K)FLUORANTHENE	<0.20	<0.20	<0.20	<0.20	NA	0.5 ug/L
CHRYSENE	<0.20	<0.20	<0.20	<0.20	NA	5 ug/L
DIBENZO(A,H)ANTHRACENE	<0.20	<0.20	<0.20	<0.20	NA	0.2 ug/L
FLUORANTHENE	<0.50	<0.50	<0.50	<0.50	NA	280 ug/L
FLUORENE	<0.50	<0.50	<0.50	<0.50	NA	280 ug/L
INDENO(1,2,3-CD)PYRENE	<0.20	<0.20	<0.20	<0.20	NA	0.2 ug/L
NAPHTHALENE	2.0	3.0	<1.0	<1.0	NA	20 ug/L
PHENANTHRENE	0.72	1.0	<0.20	<0.20	NA	210 ug/L
PYRENE	<0.50	<0.50	<0.50	<0.50	NA	210 ug/L
1- METHYLNAPHTHALENE	2.9	4.7	<1.0	<1.0	NA	
2- METHYLNAPHTHALENE	5.1	6.7	<1.0	<1.0	NA	

Notes: - NA = Not Analyzed

- Shaded values indicate value above regulatory limit.

**ATTACHMENT 4**

**DATA SUMMARY MAP OF OCTOBER 2000 MONITORING WELL ANALYTICAL RESULTS**



PIER ECHO MOP SAMPLING  
MAYPORT NS, MAYPORT, FLORIDA

**DATA SUMMARY MAP**  
**MONITORING WELL ANALYTICAL RESULTS**  
**13 OCTOBER 2000**

MAP SOURCE: Contamination Assessment Report, Bechtel Inc. dated February 1997.

**ATTACHMENT 5**

**TABLE 4 - OCTOBER 2000 WATER LEVEL ELEVATION DATA**

**TABLE 4**  
**MONITOR WELL**  
**WATER LEVEL DATA**

**ECHO PIER**

**MAYPORT NAVAL STATION**  
**MAYPORT, FLORIDA**

**13 OCTOBER 2000**

Well No.	Total Depth of Well BLS (ft.)	Top of Casing to Ground Surface (ft.)	Surveyed Top of Casing Elevation (MSL) *	Depth to Water from Top of Casing (ft.)	Elevation of Water Table (MSL) **
MP-EP-01	17.8	Flush	8.96	4.42	4.54
MP-EP-02	17.8	"	9.09	4.68	4.41
MP-EP-03	17.8	"	9.09	5.12	3.97
MP-EP-04	17.8	"	8.61	4.00	4.61

Notes: - BLS = Below Land Surface  
- flush = Level with ground surface  
\* - Elevations referenced to MSL (Mean Sea Level).

**ATTACHMENT 6**

**TABLE 5 - OCTOBER 2000 FIELD WATER QUALITY PARAMETERS**

**TABLE 5**  
**FIELD WATER QUALITY PARAMETERS**  
**ECHO PIER**  
**MAYPORT NAVAL STATION**  
**MAYPORT, FLORIDA**  
**13 OCTOBER 2000**

<b>Well No.</b>	<b>pH</b>	<b>Specific Conductance (umhos/cm)</b>	<b>Temperature (Degrees Celsius)</b>
MP-EP-01	NS	NS	NS
MP-EP-02	7.44	1507	27.3
MP-EP-03	7.24	889	26.2
MP-EP-04	NS	NS	NS

*Note: NS = Not Sampled*

**ATTACHMENT 7**

**LABORATORY ANALYTICAL RESULTS FOR OCTOBER 2000 SAMPLING EVENT**



LOG NO: S0-07084  
Received: 16 OCT 00  
Reported: 19 OCT 00

Mr. Cardwell Smith  
U.S. Army Engineer District, Savh  
P.O. Box 889  
Savannah, GA 31402-0889

Client PO. No.: S7120327

Sampled By: Client  
Code: 111101019  
Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
07084-1	MP-EP-02-10-00	10-13-00/16:30
07084-2	MP-EP-03-10-00	10-13-00/16:00
07084-3	MP-EP-BLK1-10-00	10-13-00/16:40
07084-4	MP-EP-DUP1-10-00	10-13-00/13:00

PARAMETER	07084-1	07084-2	07084-3	07084-4
Purgeable Aromatics (602)				
Benzene, ug/l	5.2	<1.0	<1.0	4.9
Toluene, ug/l	<1.0	<1.0	<1.0	<1.0
Ethylbenzene, ug/l	<1.0	<1.0	<1.0	<1.0
Total Xylenes, ug/l	<2.0	<2.0	<2.0	<2.0
Methyl t-butyl ether (MTBE), ug/l	<10	<10	<10	<10
Surrogate - a,a,a-Trifluorotoluene	100 %	97 %	93 %	97 %
Dilution Factor	1	1	1	1
Analysis Date	10.18.00	10.18.00	10.18.00	10.18.00
Batch ID	1B1018A	1B1017A	1B1017A	1B1018A



5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165 • www.stlsavlab.com

LOG NO: S0-07084  
Received: 16 OCT 00  
Reported: 19 OCT 00

Mr. Cardwell Smith  
U.S. Army Engineer District, Savh  
P.O. Box 889  
Savannah, GA 31402-0889

Client PO. No.: S7120327

Sampled By: Client  
Code: 111101019

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED			
07084-1	MP-EP-02-10-00	10-13-00/16:30			
07084-2	MP-EP-03-10-00	10-13-00/16:00			
07084-3	MP-EP-BLK1-10-00	10-13-00/16:40			
07084-4	MP-EP-DUP1-10-00	10-13-00/13:00			
PARAMETER		07084-1	07084-2	07084-3	07084-4
Polynuclear Aromatics (8310)					
Acenaphthene, ug/l		<1.0	<1.0	<1.0	<1.0
Acenaphthylene, ug/l		<1.0	<1.0	<1.0	<1.0
Anthracene, ug/l		<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene, ug/l		<0.20	<0.20	<0.20	<0.20
Benzo(a)pyrene, ug/l		<0.20	<0.20	<0.20	<0.20
Benzo(b)fluoranthene, ug/l		<0.20	<0.20	<0.20	<0.20
Benzo(g,h,i)perylene, ug/l		<0.50	<0.50	<0.50	<0.50
Benzo(k)fluoranthene, ug/l		<0.20	<0.20	<0.20	<0.20
Chrysene, ug/l		<0.20	<0.20	<0.20	<0.20
Dibenzo(a,h)anthracene, ug/l		<0.20	<0.20	<0.20	<0.20
Fluoranthene, ug/l		<0.50	<0.50	<0.50	<0.50
Fluorene, ug/l		<0.50	<0.50	<0.50	0.59
Indeno(1,2,3-cd)pyrene, ug/l		<0.20	<0.20	<0.20	<0.20
Naphthalene, ug/l		2.0	<1.0	<1.0	3.0
Phenanthrene, ug/l		0.72	<0.20	<0.20	1.0
Pyrene, ug/l		<0.50	<0.50	<0.50	<0.50
1-Methylnaphthalene, ug/l		2.9	<1.0	<1.0	4.7
2-Methylnaphthalene, ug/l		5.1	<1.0	<1.0	6.7
Surrogate - Terphenyl-d14		104 %	100 %	92 %	104 %
Dilution Factor		1	1	1	1
Prep Date		10.16.00	10.16.00	10.16.00	10.16.00
Analysis Date		10.17.00	10.17.00	10.17.00	10.17.00
Batch ID		1016J	1016J	1016J	1016J



LOG NO: S0-07084  
Received: 16 OCT 00  
Reported: 19 OCT 00

Mr. Cardwell Smith  
U.S. Army Engineer District, Savh  
P.O. Box 889  
Savannah, GA 31402-0889

Client PO. No.: S7120327

Sampled By: Client  
Code: 111101019  
Page 3

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
07084-5	Trip Blank	10-13-00
PARAMETER		07084-5
Purgeable Aromatics (602)		
Benzene, ug/l		<1.0
Toluene, ug/l		<1.0
Ethylbenzene, ug/l		<1.0
Total Xylenes, ug/l		<2.0
Methyl t-butyl ether (MTBE), ug/l		<10
Surrogate - a,a,a-Trifluorotoluene		90 %
Dilution Factor		1
Analysis Date		10.18.00
Batch ID		1B1017A



LOG NO: S0-07084  
Received: 16 OCT 00  
Reported: 19 OCT 00

Mr. Cardwell Smith  
U.S. Army Engineer District, Savh  
P.O. Box 889  
Savannah, GA 31402-0889

Client PO. No.: S7120327

Sampled By: Client  
Code: 111101019

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED		
07084-6	Method Blank			
07084-7	Lab Control Standard % Recovery			
07084-8	LCS Accuracy Control Limit (%R)			
PARAMETER		07084-6	07084-7	07084-8
Purgeable Aromatics (602)				
Benzene, ug/l		<1.0	100 %	39-150 %
Toluene, ug/l		<1.0	100 %	46-148 %
Ethylbenzene, ug/l		<1.0	---	---
Total Xylenes, ug/l		<2.0	---	---
Methyl t-butyl ether (MTBE), ug/l		<10	---	---
Surrogate - a,a,a-Trifluorotoluene		93 %	93 %	70-130 %
Dilution Factor		1	1	---
Analysis Date		10.18.00	10.18.00	---
Batch ID		1B1018A	1B1018A	---



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LOG NO: S0-07084  
Received: 16 OCT 00  
Reported: 19 OCT 00

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U.S. Army Engineer District, Savh  
P.O. Box 889  
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Client PO. No.: S7120327

Sampled By: Client  
Code: 111101019

REPORT OF RESULTS

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED		
07084-6	Method Blank			
07084-7	Lab Control Standard % Recovery			
07084-8	LCS Accuracy Control Limit (%R)			
PARAMETER		07084-6	07084-7	07084-8
Polynuclear Aromatics (8310)				
Acenaphthene, ug/l		<1.0	61 %	32-128 %
Acenaphthylene, ug/l		<1.0	---	---
Anthracene, ug/l		<0.20	---	---
Benzo(a)anthracene, ug/l		<0.20	---	---
Benzo(a)pyrene, ug/l		<0.20	---	---
Benzo(b)fluoranthene, ug/l		<0.20	---	---
Benzo(g,h,i)perylene, ug/l		<0.50	---	---
Benzo(k)fluoranthene, ug/l		<0.20	---	---
Chrysene, ug/l		<0.20	92 %	40-122 %
Dibenzo(a,h)anthracene, ug/l		<0.20	---	---
Fluoranthene, ug/l		<0.50	---	---
Fluorene, ug/l		<0.50	66 %	31-130 %
Indeno(1,2,3-cd)pyrene, ug/l		<0.20	---	---
Naphthalene, ug/l		<1.0	56 %	15-130 %
Phenanthrene, ug/l		<0.20	---	---
Pyrene, ug/l		<0.50	79 %	29-137 %
1-Methylnaphthalene, ug/l		<1.0	---	---
2-Methylnaphthalene, ug/l		<1.0	---	---
Surrogate - Terphenyl-d14		116 %	96 %	32-141 %
Dilution Factor		1	1	---
Prep Date		10.16.00	10.16.00	---
Analysis Date		10.17.00	10.17.00	---
Batch ID		1016J	1016J	---



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REPORT OF RESULTS

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LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
07084-6	Method Blank	
07084-7	Lab Control Standard % Recovery	
07084-8	LCS Accuracy Control Limit (%R)	

PARAMETER	07084-6	07084-7	07084-8

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.  
SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, and Updates I, II, IIA, IIB, and III and Code of Federal Regulations, Title 40, Part 136; Washington DC, July 1, 1997.

Steven J. White  
Steven J. White, Project Manager

