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NS MAYPORT
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MONITORING ONLY PLAN REPORT FOR ECHO PIER NS MAYPORT FL
7/1/2000
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

JULY 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 July 19,1996. 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 May 13, 1997. FDEP final approval of a MOP for the DFM site was granted in a letter to Southern Division dated 16 June 1997. A copy of the letter is contained in attachment 1.

On September 25, 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 at the site (MP-EP-01 through MP-EP-04) on an as-needed basis.

SUMMARY OF GROUND WATER MONITORING AND ANALYSIS

On 9 July 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. Due to the presence of 0.12 feet of free product petroleum in monitoring well MP-EP-02, only well MP-EP-03 was sampled. The well was 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 sample was collected using a Teflon bailer and placed in appropriate containers. The sample was properly preserved, stored on ice, and delivered to the laboratory for analysis.

The monitoring well sample was analyzed for EPA Methods 602 (including MTBE), and 8310. Chain of custody was maintained on the sample 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 laboratories' FDEP-approved Generic Quality Assurance Plan.

Laboratory analytical results of the sample from well MP-EP-02, as shown in table 3, indicated all parameters were below detection limit for methods 602 and 8310.

The detection limits for dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene were slightly above the regulatory detection limit of 0.2 ug/L. Laboratory analytical data is contained in attachment 7.

SUMMARY OF SAMPLING EVENTS

Table 1 is a summary comparison of sampling events for total volatile organic aromatics (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 October 2000.

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[1]	NS[2]	29	NS[3]	NS[5]
MP-EP-03	BDL	BDL	BDL	BDL[4]	BDL	1	BDL	BDL
MP-EP-04	2	BDL	NS	NS	NS	NS	NS	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 is 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.

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 JULY 2000 MOP GROUND-WATER ANALYTICAL RESULTS
- ATTACHMENT 4 - DATA SUMMARY MAP OF JULY 2000 MONITORING WELL ANALYTICAL RESULTS
- ATTACHMENT 5 - TABLE 4 - WATER LEVEL ELEVATION DATA FOR JULY 2000
- ATTACHMENT 6 - TABLE 5 - FIELD WATER QUALITY PARAMETERS FOR JULY 2000
- ATTACHMENT 7 - LABORATORY ANALYTICAL RESULTS (EPA 602 + MTBE AND EPA 8310) FOR JULY 2000

ATTACHMENT 1

FDEP LETTER OF MOP APPROVAL

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

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.

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.

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

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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							
MP-EP-01	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	0.06/2.5	0.12/0.5							
MP-EP-03	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							

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

ATTACHMENT 3

TABLE 3 - SUMMARY OF JULY 2000 MOP GROUND-WATER ANALYTICAL RESULTS

TABLE 3

SUMMARY OF GROUND-WATER ANALYTICAL RESULTS

ECHO PIER
MAYPORT NAVAL STATION
MAYPORT FLORIDA

9 JULY 2000

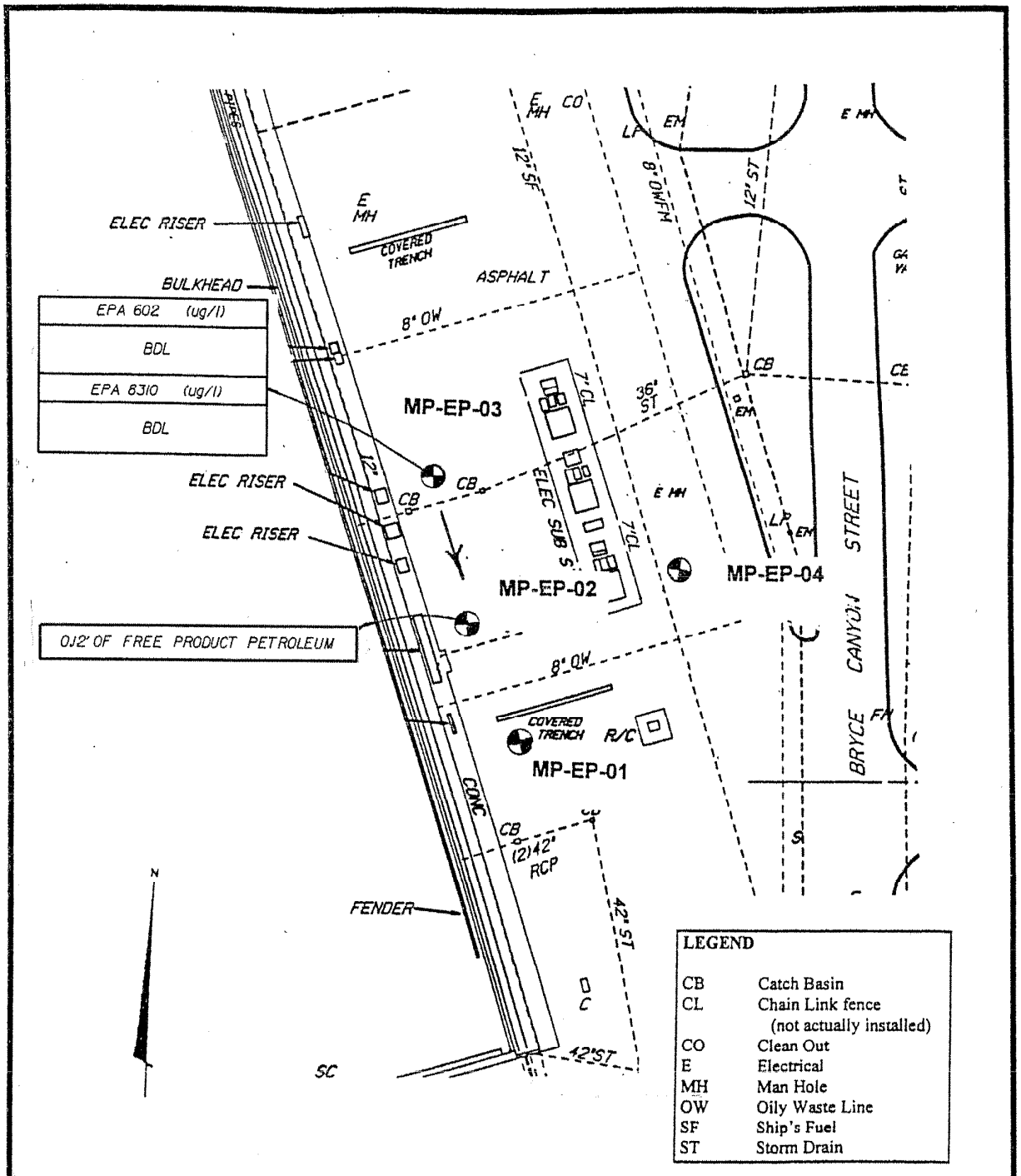
MONITOR WELL NUMBER

PARAMETER	MP-EP-03 7-00	MP-EP-03 7-00 DUPLICATE	RINSATE BLANK	TRIP BLANK	MCL OR TARGET CLEANUP LEVEL
PURGEABLE AROMATICS (602) ug/L					
BENZENE	<1.0	<1.0	<1.0	<1.0	1 ug/L
TOLUENE	<1.0	<1.0	<1.0	<1.0	40 ug/L
ETHYLBENZENE	<1.0	<1.0	<1.0	<1.0	30 ug/L
XYLENES (TOTAL)	<1.0	<1.0	<1.0	<1.0	20 ug/L
METHYL-T-BUTYLETHER	<1.0	<1.0	<1.0	<1.0	35 ug/L
CHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	
1,2 - DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	
1,3 - DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	
1,4 - DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	
EXTRACTABLE ORGANICS (8310) ug/L					
ACENAPHTHENE	<1.0	<1.0	<1.0	NA	20 ug/L
ACENAPHTHYLENE	<2.0	<2.0	<2.0	NA	210 ug/L
ANTHRACENE	<0.7	<0.7	<0.7	NA	2100 ug/L
BENZO(A)ANTHRACENE	<0.1	<0.1	<0.1	NA	0.2 ug/L
BENZO(A)PYRENE	<0.1	<0.1	<0.1	NA	0.2 ug/L
BENZO(B)FLUORANTHENE	<0.2	<0.2	<0.2	NA	0.2 ug/L
BENZO(G,H,I)PERYLENE	<0.8	<0.8	<0.8	NA	210 ug/L
BENZO(K)FLUORANTHENE	<0.2	<0.2	<0.2	NA	0.5 ug/L
CHRYSENE	<0.2	<0.2	<0.2	NA	5 ug/L
DIBENZO(A,H)ANTHRACENE	<0.3	<0.3	<0.3	NA	0.2 ug/l
FLUORANTHENE	<0.2	<0.2	<0.2	NA	280 ug/L
FLUORENE	<0.2	<0.2	<0.2	NA	280 ug/L
INDENO(1,2,3-CD)PYRENE	<0.4	<0.4	<0.4	NA	0.2 ug/L
NAPHTHALENE	<1.0	<1.0	<1.0	NA	20 ug/L
1- METHYLNAPHTHALENE	<1.0	<1.0	<1.0	NA	
2- METHYLNAPHTHALENE	<1.0	<1.0	<1.0	NA	
PHENANTHRENE	<0.6	<0.6	<0.6	NA	210 ug/L
PYRENE	<0.3	<0.3	<0.3	NA	210 ug/L

Notes: - NA = Not Analyzed
- Shaded values indicate detection limit above regulatory limit.

ATTACHMENT 4

DATA SUMMARY MAP OF JULY 2000 MONITORING WELL ANALYTICAL RESULTS



LEGEND

CB	Catch Basin
CL	Chain Link fence (not actually installed)
CO	Clean Out
E	Electrical
MH	Man Hole
OW	Oily Waste Line
SF	Ship's Fuel
ST	Storm Drain

PIER ECHO MOP SAMPLING
MAYPORT NS, MAYPORT, FLORIDA

DATA SUMMARY MAP
MONITORING WELL ANALYTICAL RESULTS
09 JULY 2000

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

ATTACHMENT 5

TABLE 4 - JULY 2000 WATER LEVEL ELEVATION DATA

TABLE 4

MONITOR WELL
WATER LEVEL DATA

ECHO PIER

MAYPORT NAVAL STATION
MAYPORT, FLORIDA

08 JULY 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	5.87	3.09
MP-EP-02	17.8	"	9.09	5.97	3.12
MP-EP-03	17.8	"	9.09	5.68	3.41
MP-EP-04	17.8	"	8.61	5.76	2.85

Notes: *- BLS = Below Land Surface*
- flush = Level with ground surface
** - Elevations referenced to MSL (Mean Sea Level).*
*** - 0.12' of Free Product petroleum found in MP-EP-02.*

ATTACHMENT 6

TABLE 5 - JULY 2000 FIELD WATER QUALITY PARAMETERS

TABLE 5

FIELD WATER QUALITY PARAMETERS

ECHO PIER

MAYPORT NAVAL STATION
MAYPORT, FLORIDA

09 JULY 2000

Well No.	pH	Specific Conductance (umhos/cm)	Temperature (Degrees Celsius)
MP-EP-01	NS	NS	NS
MP-EP-02	NS	NS	NS
MP-EP-03	6.99	1341	26.8
MP-EP-04	NS	NS	NS

Note: NS = Not Sampled

ATTACHMENT 7

LABORATORY ANALYTICAL RESULTS FOR JULY 2000 EVENT

TEST AMERICA INC.
SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00-A96500

Sample ID: MP-EP-03-7-00

Date Collected: 7/ 9/00

Project: DO237

Time Collected: 8:30

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
Toluene	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
Ethylbenzene	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
Xylenes, total	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
Methyl-t-butylether	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
Chlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
1,2-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
1,3-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
1,4-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	3:34	C.Cothron	602	2871
Naphthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Acenaphthene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Anthracene	ND	ug/l	0.7	0.7	1	7/12/00	17:02	Noorbakhsh	8310	4200
Fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Fluorene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Pyrene	ND	ug/l	0.3	0.3	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(a)anthracene	ND	ug/l	0.1	0.1	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(a)pyrene	ND	ug/l	0.1	0.1	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(b)fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(k)fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Chrysene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Dibenzo(a,h)anthracene	ND	ug/l	0.3	0.3	1	7/12/00	17:02	Noorbakhsh	8310	4200
Indeno(1,2,3-cd)pyrene	ND	ug/l	0.4	0.4	1	7/12/00	17:02	Noorbakhsh	8310	4200
Acenaphthylene	ND	ug/l	2.0	2.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(g,h,i)perylene	ND	ug/l	0.8	0.8	1	7/12/00	17:02	Noorbakhsh	8310	4200
Phenanthrene	ND	ug/l	0.6	0.6	1	7/12/00	17:02	Noorbakhsh	8310	4200
1-Methylnapthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
2-Methylnaphthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200

TEST AMERICA INC.
SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00-A96500

Sample ID: MP-EP-03-7-00

Date Collected: 7/ 9/00

Project: D0237

Time Collected: 8:30

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Method

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
PAH's	1000 ml	1.00 ml	7/11/00	J. Rudden	3510

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	107.	50. - 150.
PAH Surr., p-terphenyl d14	77.	20. - 140.

TEST AMERICA INC.
SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00-A96500

Sample ID: MP-EP-03-7-00

Date Collected: 7/ 9/00

Project: D0237

Time Collected: 8:30

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: _____ Report Date: 7/18/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.

Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: HRS-E87358

TEST AMERICA INC.
SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00-A96501

Sample ID: MP-EP-DUP1

Date Collected: 7/ 9/00

Project: D0237

Time Collected: 8:00

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
Toluene	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
Ethylbenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
Xylenes, total	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
Methyl-t-butylether	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
Chlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
1,2-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
1,3-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
1,4-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:04	C.Cothron	602	2871
Naphthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Acenaphthene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Anthracene	ND	ug/l	0.7	0.7	1	7/12/00	17:02	Noorbakhsh	8310	4200
Fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Fluorene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Pyrene	ND	ug/l	0.3	0.3	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(a)anthracene	ND	ug/l	0.1	0.1	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(a)pyrene	ND	ug/l	0.1	0.1	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(b)fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(k)fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Chrysene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Dibenzo(a,h)anthracene	ND	ug/l	0.3	0.3	1	7/12/00	17:02	Noorbakhsh	8310	4200
Indeno(1,2,3-cd)pyrene	ND	ug/l	0.4	0.4	1	7/12/00	17:02	Noorbakhsh	8310	4200
Acenaphthylene	ND	ug/l	2.0	2.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(g,h,i)perylene	ND	ug/l	0.8	0.8	1	7/12/00	17:02	Noorbakhsh	8310	4200
Phenanthrene	ND	ug/l	0.7	0.6	1	7/12/00	17:02	Noorbakhsh	8310	4200
1-Methylnapthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
2-Methylnaphthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200

TEST AMERICA INC.
SPECIALIZED ASSAYS ENVIRONMENTAL
2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

** Original report and a copy of the chain of custody will follow by mail.

USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00 A96501

Sample ID: MP-EP-DUP1

Date Collected: 7/ 9/00

Project: D0237

Time Collected: 8:00

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Method

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
PAH's	980. ml	1.00 ml	7/11/00	J. Rudden	3510

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	107.	50. - 150.
PAH Surr., p-terphenyl d14	67.	20. - 140.

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USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: OO A96501

Sample ID: MP-EP-DUP1

Date Collected: 7/ 9/00

Project: D0237

Time Collected: 8:00

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

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Report Approved By: _____ Report Date: 7/18/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.

Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: HRS-E87358

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2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

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USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00-A96502

Sample ID: MP-EP-EQB

Date Collected: 7/ 9/00

Project: D0237

Time Collected: 8:35

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
Toluene	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
Ethylbenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
Xylenes, total	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
Methyl-t-butylether	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
Chlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
1,2-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
1,3-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
1,4-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	4:33	C.Cothron	602	2871
Naphthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Acenaphthene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Anthracene	ND	ug/l	0.7	0.7	1	7/12/00	17:02	Noorbakhsh	8310	4200
Fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Fluorene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Pyrene	ND	ug/l	0.3	0.3	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(a)anthracene	ND	ug/l	0.1	0.1	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(a)pyrene	ND	ug/l	0.1	0.1	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(b)fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(k)fluoranthene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Chrysene	ND	ug/l	0.2	0.2	1	7/12/00	17:02	Noorbakhsh	8310	4200
Dibenzo(a,h)anthracene	ND	ug/l	0.3	0.3	1	7/12/00	17:02	Noorbakhsh	8310	4200
Indeno(1,2,3-cd)pyrene	ND	ug/l	0.4	0.4	1	7/12/00	17:02	Noorbakhsh	8310	4200
Acenaphthylene	ND	ug/l	2.0	2.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
Benzo(g,h,i)perylene	ND	ug/l	0.8	0.8	1	7/12/00	17:02	Noorbakhsh	8310	4200
Phenanthrene	ND	ug/l	0.6	0.6	1	7/12/00	17:02	Noorbakhsh	8310	4200
1-Methylnapthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200
2-Methylnaphthalene	ND	ug/l	1.0	1.0	1	7/12/00	17:02	Noorbakhsh	8310	4200

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2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

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USACE-SAVANNAH DISTRICT 8095
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00-A96302

Sample ID: MP-EP-EQB

Date Collected: 7/ 9/00

Project: D0237

Time Collected: 8:35

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Method

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
PAH's	990. ml	1.00 ml	7/11/00	J. Rudden	3510

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	108.	50. - 150.
PAH Surr., p-terphenyl d14	90.	20. - 140.

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ANALYTICAL REPORT

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USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00-A96502

Sample ID: MP-EP-EQB

Date Collected: 7/ 9/00

Project: D0237

Time Collected: 8:35

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

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Report Approved By: _____ Report Date: 7/18/00

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Pamela A. Langford, Technical Serv.

Laboratory Certification Number: HRS-E87358

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2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

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USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: OC-A96503

Sample ID: TB

Date Collected:

Project: D0237

Time Collected:

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871
Toluene	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871
Ethylbenzene	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871
Xylenes, total	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871
Methyl-t-butylether	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871
Chlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871
1,2-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871
1,3-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871
1,4-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/16/00	5:03	C.Cothron	602	2871

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	108.	50. - 150.

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2960 Foster Creighton Drive
Nashville, Tennessee 37204

ANALYTICAL REPORT

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USACE-SAVANNAH DISTRICT 8995
MARK HARVISON
100 WEST OGLETHORPE AVE
SAVANNAH, GA 31402

Lab Number: 00-A96503

Sample ID: TB

Date Collected:

Project: D0237

Time Collected:

Project Name: ELCO PIER

Date Received: 7/11/00

Sampler: H COOPER

Time Received: 9:00

State Certification: HRS-E87358

Sample Type: Water

Site I.D.:

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Report Approved By: _____ Report Date: 7/18/00

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Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: HRS-E87358

PROJECT QUALITY CONTROL DATA

Matrix Spike Recovery

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
Benzene	mg/l	< 0.0010	0.0203	0.0200	102	39. - 150.	2871	blank
Toluene	mg/l	< 0.0010	0.0195	0.0200	98	46. - 148.	2871	blank
Ethylbenzene	mg/l	< 0.0010	0.0214	0.0200	107	32. - 160.	2871	blank
Chlorobenzene	mg/l	< 0.0010	0.0205	0.0200	102	70. - 130.	2871	blank
1,3-Dichlorobenzene	mg/l	< 0.0010	0.0197	0.0200	98	68. - 122.	2871	blank
1,4-Dichlorobenzene	mg/l	< 0.0010	0.0206	0.0200	103	74. - 124.	2871	blank
Naphthalene	mg/l	< 0.00100	0.00810	0.0100	81	55. - 115.	4200	blank
Acenaphthene	mg/l	< 0.00100	0.00660	0.0100	66	41. - 108.	4200	blank
Anthracene	mg/l	< 0.00066	0.00700	0.0100	70	25. - 119.	4200	blank
Fluoranthene	mg/l	< 0.00021	0.00750	0.0100	75	42. - 120.	4200	blank
Fluorene	mg/l	< 0.00021	0.00700	0.0100	70	48. - 118.	4200	blank
Pyrene	mg/l	< 0.00027	0.00720	0.0100	72	51. - 114.	4200	blank
Benzo(a)anthracene	mg/l	< 0.00013	0.00770	0.0100	77	47. - 111.	4200	blank
Benzo(a)pyrene	mg/l	< 0.00010	0.00760	0.0100	76	51. - 109.	4200	blank
Benzo(b)fluoranthene	mg/l	< 0.00018	0.00790	0.0100	79	62. - 115.	4200	blank
Benzo(k)fluoranthene	mg/l	< 0.00017	0.00790	0.0100	79	62. - 110.	4200	blank
Chrysene	mg/l	< 0.00015	0.00770	0.0100	77	58. - 109.	4200	blank
Dibenzo(a,h)anthracene	mg/l	< 0.00030	0.00810	0.0100	81	59. - 122.	4200	blank
Indeno(1,2,3-cd)pyrene	mg/l	< 0.00043	0.00760	0.0100	76	56. - 114.	4200	blank
Acenaphthylene	mg/l	< 0.00200	0.00640	0.0100	64	30. - 128.	4200	blank
Benzo(g,h,i)perylene	mg/l	< 0.00076	0.00760	0.0100	76	56. - 115.	4200	blank
Phenanthrene	mg/l	< 0.00064	0.00710	0.0100	71	47. - 123.	4200	blank
1-Methylnapthalene	mg/l	< 0.00100	0.00700	0.0100	70#	75. - 125.	4200	blank
2-Methylnaphthalene	mg/l	< 0.00100	0.00820	0.0100	82	75. - 125.	4200	blank

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
Naphthalene	mg/l	0.00810	0.00660	20.41	23.	4200
Acenaphthene	mg/l	0.00660	0.00600	9.52	23.	4200
Anthracene	mg/l	0.00700	0.00660	5.88	27.	4200
Fluoranthene	mg/l	0.00750	0.00710	5.48	18.	4200
Fluorene	mg/l	0.00700	0.00620	12.12	27.	4200
Pyrene	mg/l	0.00720	0.00720	0.00	18.	4200
Benzo(a)anthracene	mg/l	0.00770	0.00770	0.00	21.	4200
Benzo(a)pyrene	mg/l	0.00760	0.00780	2.60	26.	4200
Benzo(b)fluoranthene	mg/l	0.00790	0.00790	0.00	23.	4200
Benzo(k)fluoranthene	mg/l	0.00790	0.00790	0.00	19.	4200

PROJECT QUALITY CONTROL DATA

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
Chrysene	mg/l	0.00770	0.00750	2.63	17.	4200
Dibenzo(a,h)anthracene	mg/l	0.00810	0.00740	9.03	28.	4200
Indeno(1,2,3-cd)pyrene	mg/l	0.00760	0.00760	0.00	28.	4200
Acenaphthylene	mg/l	0.00640	0.00600	6.45	27.	4200
Benzo(g,h,i)perylene	mg/l	0.00760	0.00770	1.31	31.	4200
Phenanthrene	mg/l	0.00710	0.00660	7.30	18.	4200
1-Methylnapthalene	mg/l	0.00700	0.00620	12.12	20.	4200
2-Methylnaphthalene	mg/l	0.00820	0.00700	15.79	20.	4200

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Benzene	mg/l	0.0200	0.0197	98	70 - 130	2871
Toluene	mg/l	0.0200	0.0214	107	70 - 130	2871
Ethylbenzene	mg/l	0.0200	0.0207	104	70 - 130	2871
Xylenes, total	mg/l	0.0400	0.0419	105	70 - 130	2871
Methyl-t-butylether	mg/l	0.0200	0.0195	98	70 - 130	2871
Chlorobenzene	mg/l	0.0200	0.0208	104	70 - 130	2871
1,2-Dichlorobenzene	mg/l	0.0200	0.0190	95	70 - 130	2871
1,3-Dichlorobenzene	mg/l	0.0200	0.0197	98	70 - 130	2871
1,4-Dichlorobenzene	mg/l	0.0200	0.0206	103	70 - 130	2871
Naphthalene	mg/l	0.0100	0.00920	92	20 - 15.	4200
Acenaphthene	mg/l	0.0100	0.00710	71	18 - 134	4200
Anthracene	mg/l	0.0100	0.00700	70	38 - 97	4200
Fluoranthene	mg/l	0.0100	0.00730	73	40 - 143	4200
Fluorene	mg/l	0.0100	0.00700	70	33 - 105	4200
Pyrene	mg/l	0.0100	0.00720	72	33 - 129	4200
Benzo(a)anthracene	mg/l	0.0100	0.00730	73	47 - 113	4200
Benzo(a)pyrene	mg/l	0.0100	0.00680	68	34 - 119	4200
Benzo(b)fluoranthene	mg/l	0.0100	0.00700	70	47 - 113	4200
Benzo(k)fluoranthene	mg/l	0.0100	0.00700	70	48 - 118	4200
Chrysene	mg/l	0.0100	0.00700	70	45 - 115	4200
Dibenzo(a,h)anthracene	mg/l	0.0100	0.00630	63	42 - 113	4200
Indeno(1,2,3-cd)pyrene	mg/l	0.0100	0.00600	60	38 - 114	4200
Acenaphthylene	mg/l	0.0100	0.00690	69	20 - 140	4200
Benzo(g,h,i)perylene	mg/l	0.0100	0.00700	70	42 - 130	4200
Phenanthrene	mg/l	0.0100	0.00720	72	37 - 105	4200
1-Methylnapthalene	mg/l	0.0100	0.00590	59	26 - 100	4200

PROJECT QUALITY CONTROL DATA

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
2-Methylnaphthalene	mg/l	0.0100	0.00710	71	5 - 118	4200

Blank Data

Analyte	Blank Value	Units	Q.C. Batch
Benzene	< 0.0010	mg/l	2871
Toluene	< 0.0010	mg/l	2871
Ethylbenzene	< 0.0010	mg/l	2871
Xylenes, total	< 0.0010	mg/l	2871
Methyl-t-butylether	< 0.0010	mg/l	2871
Chlorobenzene	< 0.0010	mg/l	2871
1,2-Dichlorobenzene	< 0.0010	mg/l	2871
1,3-Dichlorobenzene	< 0.0010	mg/l	2871
1,4-Dichlorobenzene	< 0.0010	mg/l	2871
Naphthalene	< 0.00100	mg/l	4200
Acenaphthene	< 0.00100	mg/l	4200
Anthracene	< 0.00066	mg/l	4200
Fluoranthene	< 0.00021	mg/l	4200
Fluorene	< 0.00021	mg/l	4200
Pyrene	< 0.00027	mg/l	4200
Benzo(a)anthracene	< 0.00013	mg/l	4200
Benzo(a)pyrene	< 0.00010	mg/l	4200
Benzo(b)fluoranthene	< 0.00018	mg/l	4200
Benzo(k)fluoranthene	< 0.00017	mg/l	4200
Chrysene	< 0.00015	mg/l	4200
Dibenzo(a,h)anthracene	< 0.00030	mg/l	4200
Indeno(1,2,3-cd)pyrene	< 0.00043	mg/l	4200
Acenaphthylene	< 0.00200	mg/l	4200
Benzo(g,h,i)perylene	< 0.00076	mg/l	4200
Phenanthrene	< 0.00064	mg/l	4200
1-Methylnapthalene	< 0.00100	mg/l	4200
2-Methylnaphthalene	< 0.00100	mg/l	4200

End of Report for Project 199348

580 P02 JUL 26 '00 12:2

615-726-3404 SPECIALIZED ASSAYS

TestAmerica

2960 Foster Creighton Drive • Nashville, TN 37204
[800] 765-0980 • [615] 726-0177 • Fax [615] 726-3404

237

8B-037834

Company _____ Client Number _____
Address _____
City _____ St _____ Zip _____
Sampler Sign/Print H. Cooper
Project Name Elco Pier /Proj. # 237
Facility Location (City, St) _____
Project Manager _____
PO Number _____ /Fac./Site I.D. _____
Phone Number _____ Fax Number _____

B.C. # 199348 (Lab Use Only)

Field Sample ID	SAI Lab# (Lab Use Only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	NaOH	ICE	UNPRESERVED	OTHER (SPECIFY)	Sampling: DATE	TIME	Type G= Grab C= Composite D= Discrete	BTEX MTBE ☐ 602 ☐ IPE ☐ 8021 ☐ Other	GRO ☐ OA-1 ☐ TPH Low ☐ MASS VPH ☐ Other ☐	DRO ☐ OA-2 ☐ TPH High ☐ TN EPH ☐ MASS EPH ☐ Other ☐	TPH 418.1 ☐ TX 1005 ☐ Other ☐	Oil and Grease 413.1 ☐ 1664 ☐ 9070/1 ☐ Other ☐	EDB 504.1 ☐ 601 ☐ 8021 ☐ Other ☐	Purgeable Halocarbons 601 ☐ 8021 ☐	Purgeable Aromatics 602 ☐ 8021 ☐	Lead 6010 ☐ 200.7 ☐ Other ☐	PAH (GC, GC/MS) 610 ☐ 625 ☐ 8100 ☐ 8270 ☐	PAH (HPLC) 610 ☐ 8310 ☐	Metals PP ☐ RCRA ☐ TAL ☐	VOA 624 ☐ 8260 ☐	Extractables 625 ☐ 8270 ☐	PCB's 8081 ☐ 8082 ☐	Pesticides, Organochlorine 608 ☐ 8081 ☐	Pesticides, Organophosphorus 614 ☐ 8141 ☐	Herbicides 2,4-D, 2,4,5-TP ☐ Full List ☐	TCLP Metals ☐ VOA ☐ P/M ☐ Lead ☐ SVOA ☐ Full ☐	Reactivity ☐ Corrosivity ☐ Ignitability ☐	Flash Point Closed Cup ☐ Open Cup ☐	TOC 415.1 ☐ 9060 ☐ Other ☐	8310	602 + MTBE
MP-EP-03-7-00	96500	3	X						X							7-9-00	0830	G																				1	2
MP-EP-Dupl	01	3	X													7-9-00	0800	G																				1	2
MP-EP-EQB	02	3	X						X							7-9-00	0835	G																					
trip Bla	96503	2							X																														2

TAT
Standard ☐
3-Day ☐
2-Day ☐
Next Day ☐
Other: _____

SPECIAL DETECTION LIMITS
please meet Fla Standard

SPECIAL REPORTING REQUIREMENTS

REMARKS please meet Fla standard

SAI PROJECT or QUOTE NUMBER
(to insure correct Analysis and Billing)

Temperature Received _____
Airbill Number _____

CUSTODY RECORD

Relinquished by Sampler:	Date	Time	Received by:	Date	Time
H. C. Cooper	7-10-00	15:00	Shipped		
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Laboratory	7-11-00	900