Aqua Survey, Inc.

Volume I

Technical Report on the Sampling and Testing of Sediment from Stone Harbor Lagoons for Upland Disposal

Prepared for:

Ocean and Coastal Consultants, Inc.
20 E. Clementon Road, Suite 201N
Gibbsboro, NJ 08026

Issued:

March 10, 2015

ASI Job No. 35-005

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Volume II

Eurofins Lancaster Laboratories Chemical Analysis of the Sediment and Field Blanks

Information Page

Technical Report on the Sampling and Testing of Sediment from Stone Harbor Lagoons for Upland Disposal

STUDY INITIATION DATE

January 28, 2015

STUDY COMPLETION DATE

March 10, 2015

PERFORMING LABORATORY

Aqua Survey, Inc.
469 Point Breeze Road
Flemington, New Jersey 08822

SPONSOR

Ocean and Coastal Consultants, Inc.
20 E. Clementon Road, Suite 201N
Gibbsboro, NJ 08026

LABORATORY PROJECT ID

ASI Study No. 35-005

Signature Page

Technical Report on the Sampling and Testing of Sediment from Stone Harbor Lagoons for Upland Disposal

Prepared for:

Ocean and Coastal Consultants, Inc.
20 E. Clementon Road, Suite 201N
Gibbsboro, NJ 08026

This report, as well as all records and raw data were audited and found to be an accurate reflection of the study. Copies of raw data will be maintained by Aqua Survey, Inc, 469 Point Breeze Road, Flemington, New Jersey, 08822.

Robert M. Fristrom — 3/10/15
Robert M. Fristrom — Date
Quality Assurance Officer

Michelle Thomas — 3/10/15
Michelle Thomas — Date
Laboratory Manager

Jon Doi — 3-10-15
Jon Doi, Ph.D. — Date
Executive Vice President

I. INTRODUCTION

The objective of this project was to collect and analyze sediment from nine (9) lagoons and adjacent waterways near Stone Harbor, Cape May County, New Jersey. This work was conducted in accordance with the SAP request submitted to Mr. Joel Pecchioli of NJDEP Office of Dredging and Sediment Technology, revised 1/16/15, and additional direction from NJDEP; please refer to the correspondence section of this report for details.

ASI performed all sampling and physical analyses of the sediments. Eurofins Lancaster Laboratories of Lancaster, PA performed the chemical analyses of the sediment and the field blank.

II. CORRESPONDENCE

The following pages provide correspondence relevant to this project.

Ocean and Coastal Consultants | COWI

ADDRESS Ocean and Coastal Consultants, Inc.
20 E. Clementon Road
Suite 201N
Gibbsboro, NJ 08026

TEL 856-248-1200
FAX 856-248-1206
WWW ocean-coastal.com

DATE 16 January 2015
PAGE 1/4
REF MADN
PROJECT NO 214078.0

State of New Jersey Department of Environmental Protection
Office of Dredging & Sediment Technology
401 E. State St. 6th Floor
Trenton, NJ 08625
(609) 292-1251

Attention: Mr. Joel Pecchioli

Proposed Stone Harbor Dredging
Sampling and Analysis Plan, REV 1/16/15

Dear Mr Pecchioli:

On behalf of the Borough of Stone Harbor (Stone Harbor), New Jersey, Ocean and Coastal Consultants, Inc. (OCC) is preparing to submit permit application to the U.S. Army Corps of Engineers (USACE) and the State of New Jersey Department of Environmental Protection (NJDEP) requesting authorization for maintenance dredging within the Stone Harbor Lagoons with upland disposal of the dredged materials. OCC herein requests approval of the proposed Sample and Analysis Plan (SAP) or its modification as necessary, in order to meet the testing requirements for a NJDEP Acceptable Use Determination (AUD). OCC will submit the results of the approved SAP implementation within the permit application packages for the proposed maintenance dredging.

The proposed SAP is Phase 1 of a two-phase process and only includes physical and Bulk Sediment Chemistry analyses. Additional sampling and analysis ("Phase 2") will be required to evaluate the potential impacts to surface water quality resulting from the dredged material dewatering process. A SAP for "Phase 2" will be developed, approved by NJDEP-ODST, and implemented once the dewatering method and contractor have been selected. Additional samples may also need to be collected to evaluate the suitability of the dredged material for additional site specific placement alternatives.

Site Description

The project is located in Stone Harbor, Cape May County, New Jersey. The dredge area consists of nine (9) man-made lagoons and the waterways connecting the lagoons to the openwaters of New Jersey. The enclosed SAP drawing set identifies the limits of the dredge areas we seeking dredging authorization for the areas include Stone Harbor dredge areas as well as "Slip" dredge areas located along the bulkhead.

Dredging History

Stone Harbor most recently dredged the lagoons in 2003. The dredging restored the channels to a depth of six (6) feet below Mean Low Water (MLW) plus two (2) feet of allowable overdepth (OD). In the current proposal, the Borough is

seeking to standardize the water depth to mean lower low water, an increase of 0.16 feet, to be consistent with current NOAA and USACE standards. Approximately 105,000 cubic yards of dredged material were removed and placed at multiple upland facilities in 2003.

Proposed Dredging and Placement

The NJDEP and USACE permit applications seeks maintenance dredging permits to enable the Borough to conduct dredging at the Stone Harbor Lagoons over the course of ten (10) years under the USACE permit and five (5) years under the NJDEP permit. The application will specify maintenance dredging via mechanical or hydraulic means to a depth of 6 feet MLLW plus 2 feet of OD. The table below provides a summary of proposed permit dredging approximate volume by area.

Table 1 - Stone Harbor Dredging Permit Volume Summary

DREDGE AREA	STONE HARBOR DREDGE VOLUME [CY]	SLIP DREDGE VOLUME [CY]	TOTAL PERMIT VOLUME [CY]
North Basin	24,000	2,400	26,400
South Basin	14,500	1,450	16,000
Snug Harbor	18,000	1,800	19,800
Shelter Haven	20,000	2,000	22,000
Stone Harbor	9,000	900	9,900
Pleasure Bay	12,500	1,250	13,800
Carnival Bay	16,000	1,600	17,600
Sanctuary Bay	15,000	1,500	16,500
Paradise Bay	10,000	1,000	11,000
Stone Harbor Hole	15,000	0	15,000
Access Channel	11,000	0	11,000
TOTAL	**165,000**	**13,900**	**179,000**

The dredged material will be transported to and dewatered at the Stone Harbor Marina parking lot via belt filter press, geotubes, or other approved equivalent. Following dewatering the material will be trucked to upland facilities that are approved to receive dredged material. This may include the Cape Atlantic Recycling Facility and Keasby Landfill.

Proposed Sampling and Analysis Plan

The SAP was designed to meet the State and Federal requirements to adequately characterize the dredged material prior to upland placement in New Jersey. The proposed SAP follows the guidelines listed in the *The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters* published by the NJDEP in October 1997 and NJDEP comments provided by Joel Pecchioli via email on January 7 and 16, 2015.

The SAP identifies 35 core sample locations to characterize the approximately 179,000 cubic yards of dredged material being proposed for removal from within the Stone Harbor Lagoons. The enclosed drawing set identifies those proposed sample locations (Enclosure D). Additionally, Table 1 (Enclosure C) provides a tabular summary of the proposed sample IDs, lagoon area, sample locations, sample depths, and number of sample composites being sought.

Each core sample will be collected with a vibracore from the existing sediment surface down to a depth of 8 feet below MLLW. An inert plastic liner will be used in conjunction with each sediment core sampling device; this plastic liner will not be reused.

Sampling locations are approximate, and the sediment core samples should be collected in the shallowest areas as close as possible to these locations as practical. The locations will consider safety, the presence of obstructions, etc.. The actual sample location and depth will be recorded using GPS and depth of penetration. Core logs and core photographs will be collected for each sample. The sediment core samples will include the sample identification number and a length scale in the picture. Each sample throughout the SAP process will be documented on a Chain of Custody form that is consistent with the NJDEP Field Sampling Procedures Manual.

All sediment samples will be subject to the following physical analysis: grain size, total organic carbon (TOC), and percent moisture (% moisture). The entire sediment core sample greater than six (6) feet will be homogenized unless any distinct strata (based on apparent grain size and other sediment characteristics) within a core at least two feet in depth are present; such strata will be segregated and separately homogenized and analyzed.

Following physical analysis, the samples will be composited according to the approved composite plan. Sediment core sample/strata comprised of 90% or greater sand/coarser material is excluded from additional testing and will not be composited with any other samples that will be subject to additional testing. Within the set of individual core samples designated to be composited in the SAP, any such distinct strata located at similar depths will be composited for analysis. Individual core samples will be composited only if the grain size characteristics are similar. In general, the sediment core samples designated to be

composited in the SAP should not be composited if the %sand, %silt, or %clay differ by more than 20% - if this occurs, we will contact NJDEP-ODST for additional guidance. Physical analysis will be conducted on each composite sample.

For chemical analysis, each composite sample will be analyzed for the NJ Residential Soil Remediation Standard analytes listed in N.J.A.C. 2:26D. For the Bulk Sediment Chemistry analyses, the achieved contaminant detection limits will be less than the NJ Residential Soil Remediation Standard (NJAC 7:26D) for each contaminant. The following analytical methods will be used for each contaminant class: VOCs (8260C), SVOCs (8270C), Pesticides (8081A), PCB Aroclors (8082), Metals (6010B), and Mercury (7471A). Testing is not required for dioxins/furans and volatile organic compounds.

All work will be performed by Aqua Survey Inc. according to their standard operating procedure SOP/PRP/008 that has previously been approved by NJDEP ODST. Their sample handling, preservation, and storage procedures are consistent with the required analytical methods.

As required by NJDEP, the results of the physical and chemical analysis will be summarized in tabular form and submitted along with the backup data with the

If you require any additional information, please do not hesitate to contact the undersigned at your convenience. Thank you for your attention to this matter.

Very truly yours,

OCEAN AND COASTAL CONSULTANTS, INC.

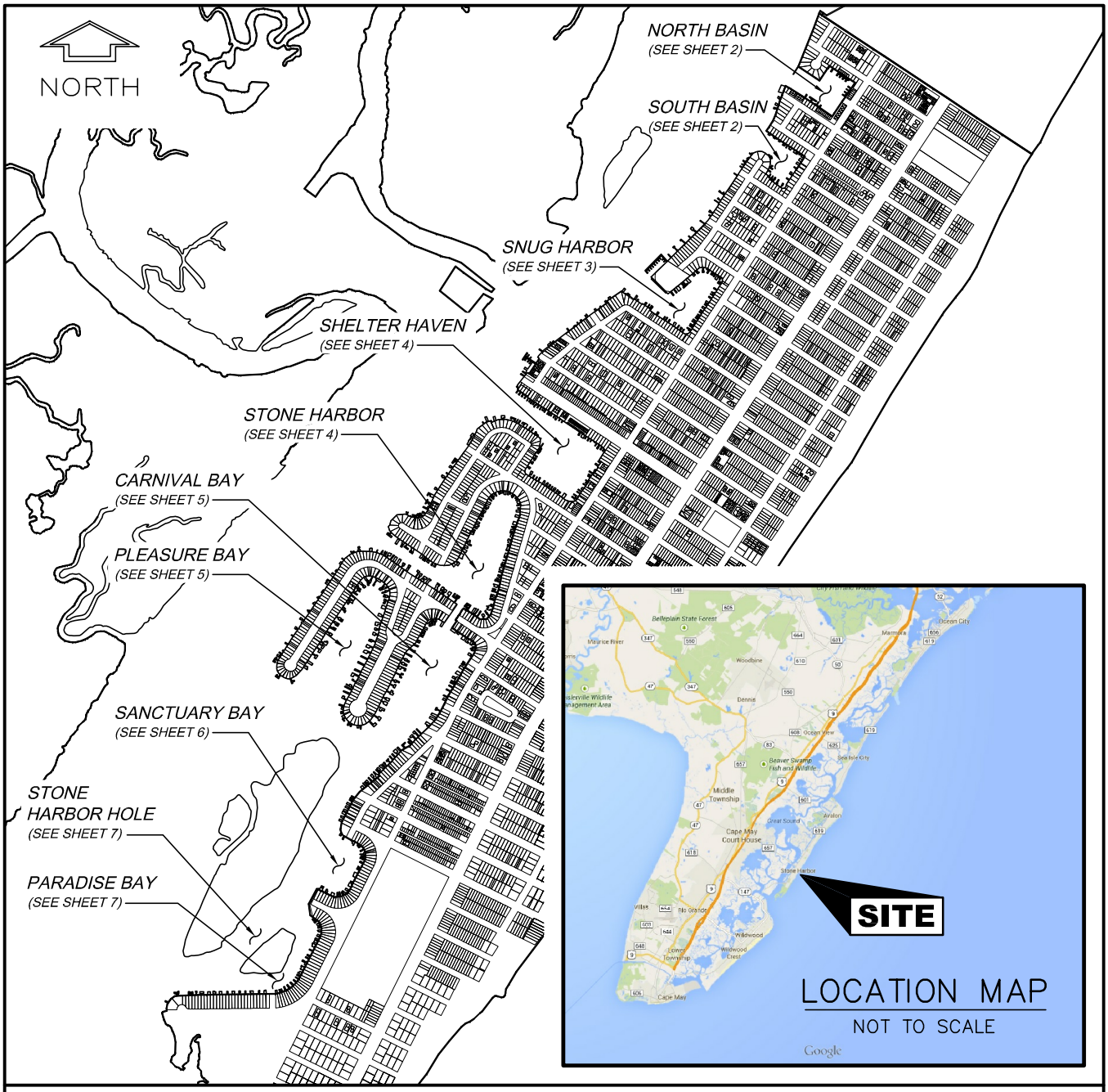
Matthew Dalon
Project Manager

Enclosure: Sampling and Analysis Plan Summary Table
Sampling and Analysis Plan Drawing Set

CC: Jill Gougher – Borough Administrator

Sample ID	Dredge Area	X Coordinate* [ft]	Y Coordinate* [ft]	Mudline Elevation** [ft MLLW]	Sample Elevation [ft MLLW]	Estimated Sample Thickness [ft]	Composite ID
S-01	North Basin	419,754	84,209	3.4	8.0	4.6	A
S-01a	North Basin	419,877	84,055	5.5	8.0	2.5	A
S-02	North Basin	420,052	84,214	1.9	8.0	6.1	A-1
S-03	North Basin	420,061	83,887	2.75	8.0	5.25	A-1
S-04	South Basin	419,366	83,581	2.29	8.0	5.71	B
S-05	South Basin	419,685	83,451	4.8	8.0	3.2	B
S-05a	South Basin	419,597	83,215	4.3	8.0	3.7	B
S-06	Snug Harbor	418,336	82,209	3.1	8.0	4.9	C
S-07	Snug Harbor	418,536	81,952	5.6	8.0	2.4	C
S-08	Snug Harbor	418,754	82,001	5.1	8.0	2.9	C
S-27	Snug Harbor ©	418,599	82,614	2.8	8.0	5.2	C-1
S-09	Shelter Haven	416,904	81,017	2.5	8.0	5.5	D
S-10	Shelter Haven	417,157	81,062	3.7	8.0	4.3	D
S-10a	Shelter Haven	417,249	80,879	5.3	8.0	2.7	D
S-11	Shelter Haven	417,556	80,197	4.1	8.0	3.9	D-1
S-12	Stone Harbor	415,820	79,736	3.2	8.0	4.8	E
S-13	Stone Harbor	416,329	79,498	3.6	8.0	4.4	E
S-14	Pleasure Bay	415,294	78,522	5.7	8.0	2.3	F
S-15	Pleasure Bay	415,618	78,855	4.7	8.0	3.3	F
S-17	Carnival Bay	415,781	77,762	4.7	8.0	3.3	G
S-17a	Carnival Bay	416,553	78,744	5.1	8.0	2.9	G
S-18	Carnival Bay	416,001	78,265	5.43	8.0	2.57	G
S-16	Access Channel	414,985	78,233	0.6	8.0	7.4	H
S-16a	Access Channel	414,551	78,477	2.43	8.0	5.57	H
S-16b	Access Channel	415,347	77,958	1.4	8.0	6.6	H
S-19	Sanctuary Bay	415,354	76,874	3.9	8.0	4.1	I
S-20	Sanctuary Bay	415,376	76,504	3.5	8.0	4.5	I
S-21	Sanctuary Bay	415,352	77,246	5.7	8.0	2.3	I
S-22	Paradise Bay	415,090	76,082	3.5	8.0	4.5	J
S-23	Paradise Bay	414,505	75,581	0.6	8.0	7.4	J
S-24	Stone Harbor Hole	414,721	76,169	3.3	8.0	4.7	K
S-25	Stone Harbor Hole	414,498	75,917	2	8.0	6	K
S-26	Stone Harbor Hole	414,179	75,649	3.6	8.0	4.4	K
S-28	Stone Harbor ©	416,254	80,243	2.8	8.0	5.2	L
S-29	Pleasure Bay ©	415,029	79,070	3	8.0	5	L

© Sample located along slips adjacent to Great Channel
* NAD83 NJ State Plane Feet
** Based on hydrographic survey data collected by Richard Stockton College of New Jersey Coastal Research on 8 May 2014 and can only represent the conditions at the time of the hydrographic survey



VICINITY MAP

0 2000 4000 FT.

SCALE 1"=2000'-0"

FOR PERMIT USE ONLY
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PURPOSE: MAINTENANCE DREDGING
SAMPLING AND ANALYSIS PLAN

DATUM: M.L.L.W.

ADJACENT PROPERTY OWNERS:
SEE APPLICATION

AGENT: OCEAN AND COASTAL CONSULTANTS, INC.

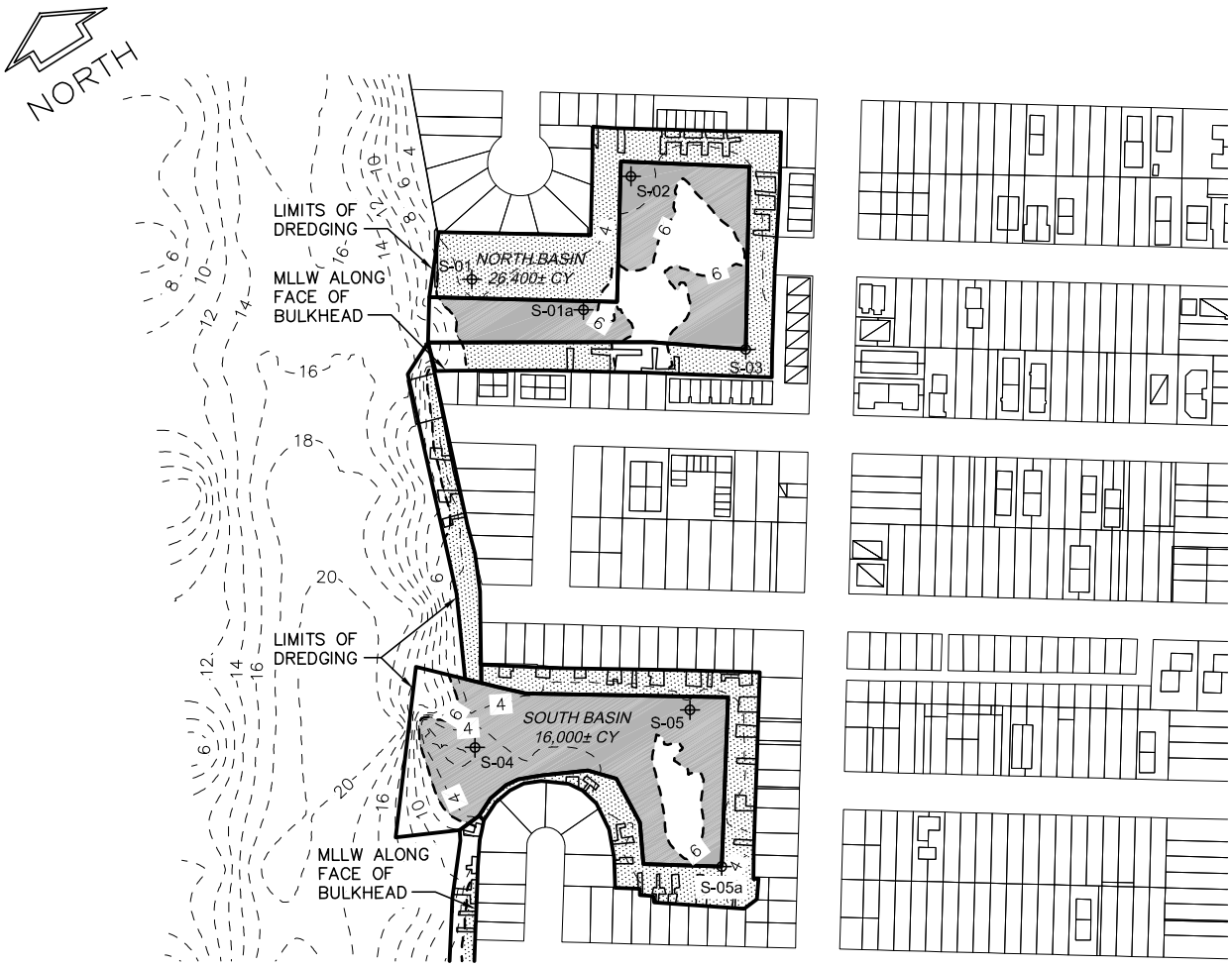
PROPOSED MAINTENANCE DREDGING
AT STONE HARBOR LAGOONS
ALONG THE GREAT CHANNEL WATERWAY
COUNTY OF CAPE MAY
STATE OF NEW JERSEY

APPLICATION BY: STONE HARBOR

DATE: 9/30/14

SHEET 1 OF 7

S:\OCC\Projects\2014\OCC_214078.0\3_Project_Files\CAD\Task 2\01.dwg Sheet 01 Carrie L. Walter Wed, 01 Oct 2014 – 9:02am



LEGEND:

S-10 PROPOSED SAMPLE LOCATIONS

STONE HARBOR DREDGE AREA (DREDGE TO 6 FT MLLW PLUS 2 FT OD)

SLIP DREDGE AREA (DREDGE TO 6 FT MLLW PLUS 2 FT OD)

GENERAL NOTE:
HYDROGRAPHIC SURVEY OF STONE HARBOR LAGOONS COLLECTED BY RICHARD STOCKTON COLLEGE OF NEW JERSEY COASTAL RESEARCH ON 8 MAY 2014 AND CAN ONLY REPRESENT THE CONDITIONS AT THE TIME OF THE HYDROGRAPHIC SURVEY.

NORTH BASIN & SOUTH BASIN

0 300 600 FT.

SCALE 1"=300'-0"

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REV. 1 1/14/15

PURPOSE: MAINTENANCE DREDGING SAMPLING AND ANALYSIS PLAN

DATUM: M.L.L.W.

ADJACENT PROPERTY OWNERS: SEE APPLICATION

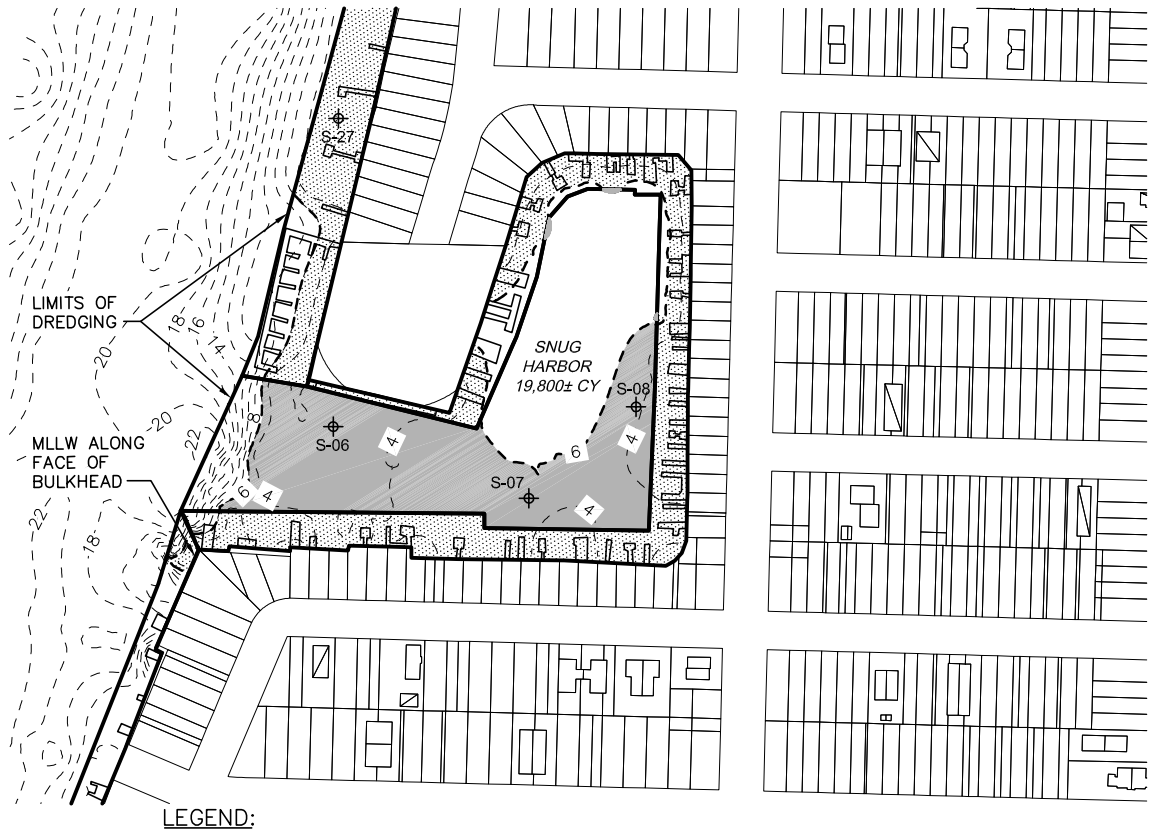
AGENT: OCEAN AND COASTAL CONSULTANTS, INC.

PROPOSED MAINTENANCE DREDGING
AT STONE HARBOR LAGOONS
ALONG THE GREAT CHANNEL WATERWAY
COUNTY OF CAPE MAY
STATE OF NEW JERSEY
APPLICATION BY: STONE HARBOR

DATE: 9/30/14

SHEET 2 OF 7

P:\2014\OCC_214078.0\3_Project_Files\CAD\Task 2\02.dwg Sheet 02 Carrie L. Walter Wed, 14 Jan 2015 – 9:53am



LEGEND:

S-10 PROPOSED SAMPLE LOCATIONS

STONE HARBOR DREDGE AREA (DREDGE TO 6 FT MLLW PLUS 2 FT OD)

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SNUG HARBOR

0 300 600 FT.

SCALE 1"=300'-0"

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REV. 1 1/14/15

PURPOSE: MAINTENANCE DREDGING
SAMPLING AND ANALYSIS PLAN

DATUM: M.L.L.W.

ADJACENT PROPERTY OWNERS:
SEE APPLICATION

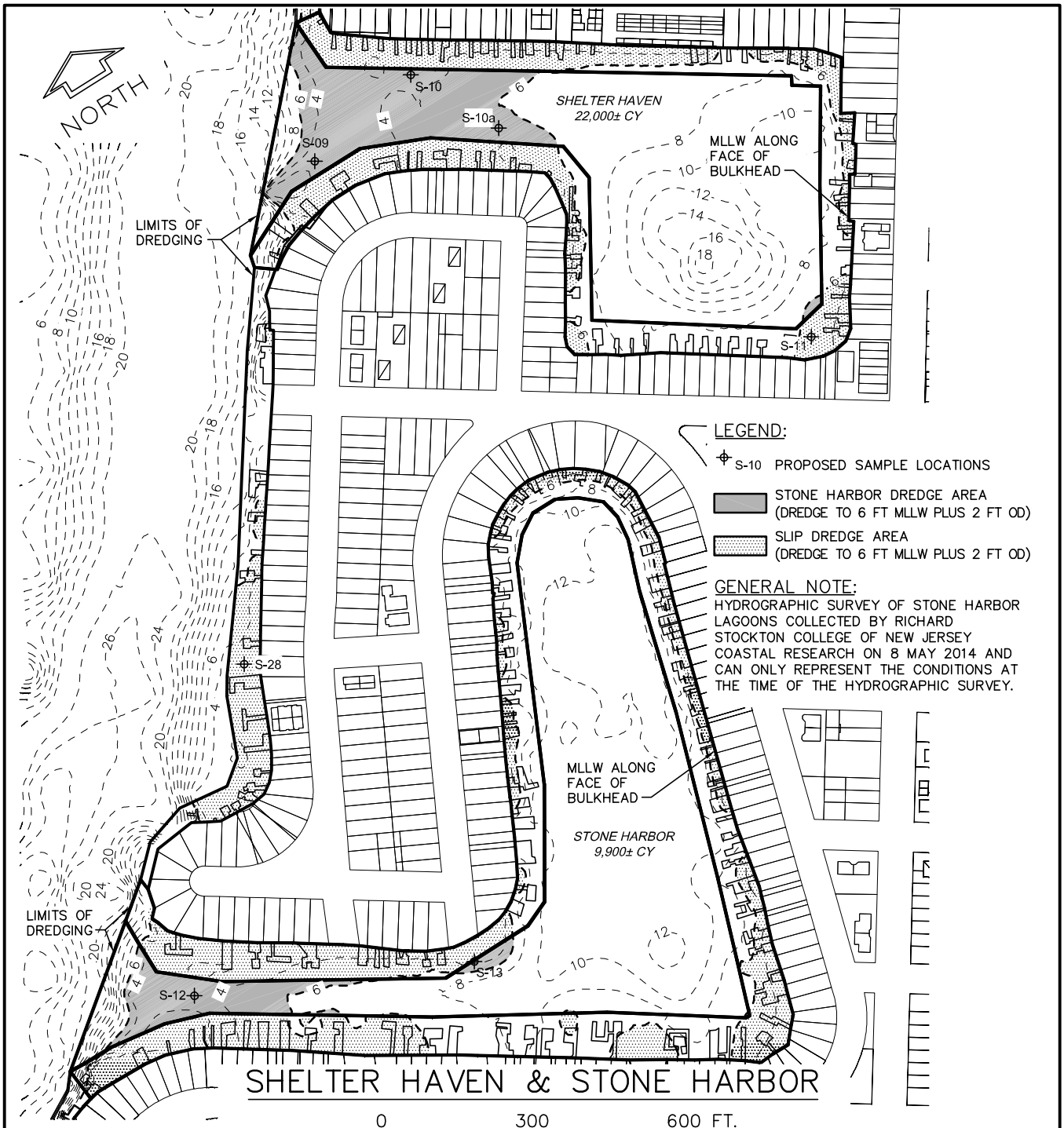
AGENT: OCEAN AND COASTAL CONSULTANTS, INC.

PROPOSED MAINTENANCE DREDGING
AT STONE HARBOR LAGOONS
ALONG THE GREAT CHANNEL WATERWAY
COUNTY OF CAPE MAY
STATE OF NEW JERSEY
APPLICATION BY: STONE HARBOR

DATE: 9/30/14

SHEET 3 OF 7

P:\2014\OCC_214078.0\3_Project_Files\CAD\Task 2\02.dwg Sheet 03 Carrie L. Walter Wed, 14 Jan 2015 – 9:53am



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REV. 1 1/14/15

PURPOSE: MAINTENANCE DREDGING
SAMPLING AND ANALYSIS PLAN

DATUM: M.L.L.W.

ADJACENT PROPERTY OWNERS:
SEE APPLICATION

AGENT: OCEAN AND COASTAL CONSULTANTS, INC.

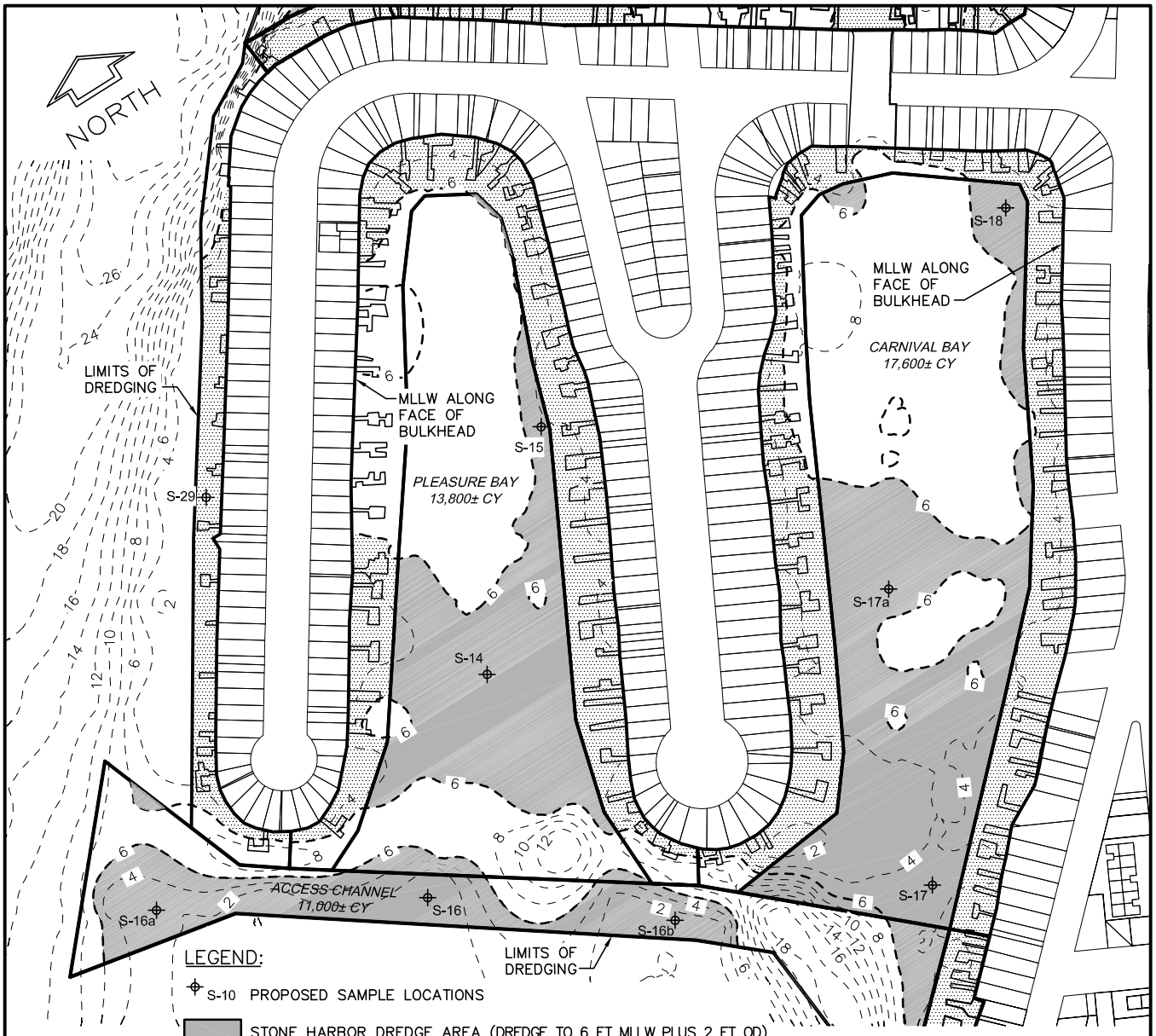
PROPOSED MAINTENANCE DREDGING
AT STONE HARBOR LAGOONS
ALONG THE GREAT CHANNEL WATERWAY
COUNTY OF CAPE MAY
STATE OF NEW JERSEY

APPLICATION BY: STONE HARBOR

DATE: 9/30/14

SHEET 4 OF 7

P:\2014\OCC_214078.0\3_Project_Files\CAD\Task 2\02.dwg Sheet 04 Carrie L. Walter Wed, 14 Jan 2015 – 9:54am



LEGEND:

S-10 PROPOSED SAMPLE LOCATIONS

STONE HARBOR DREDGE AREA (DREDGE TO 6 FT MLLW PLUS 2 FT OD)

SLIP DREDGE AREA (DREDGE TO 6 FT MLLW PLUS 2 FT OD)

GENERAL NOTE:
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PLEASURE BAY, CARNIVAL BAY, & ACCESS CHANNEL

0 300 600 FT.

SCALE 1"=300'-0"

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NOT FOR CONSTRUCTION

REV. 1 1/14/15

PURPOSE: MAINTENANCE DREDGING
SAMPLING AND ANALYSIS PLAN

DATUM: M.L.L.W.

ADJACENT PROPERTY OWNERS:
SEE APPLICATION

AGENT: OCEAN AND COASTAL CONSULTANTS, INC.

PROPOSED MAINTENANCE DREDGING
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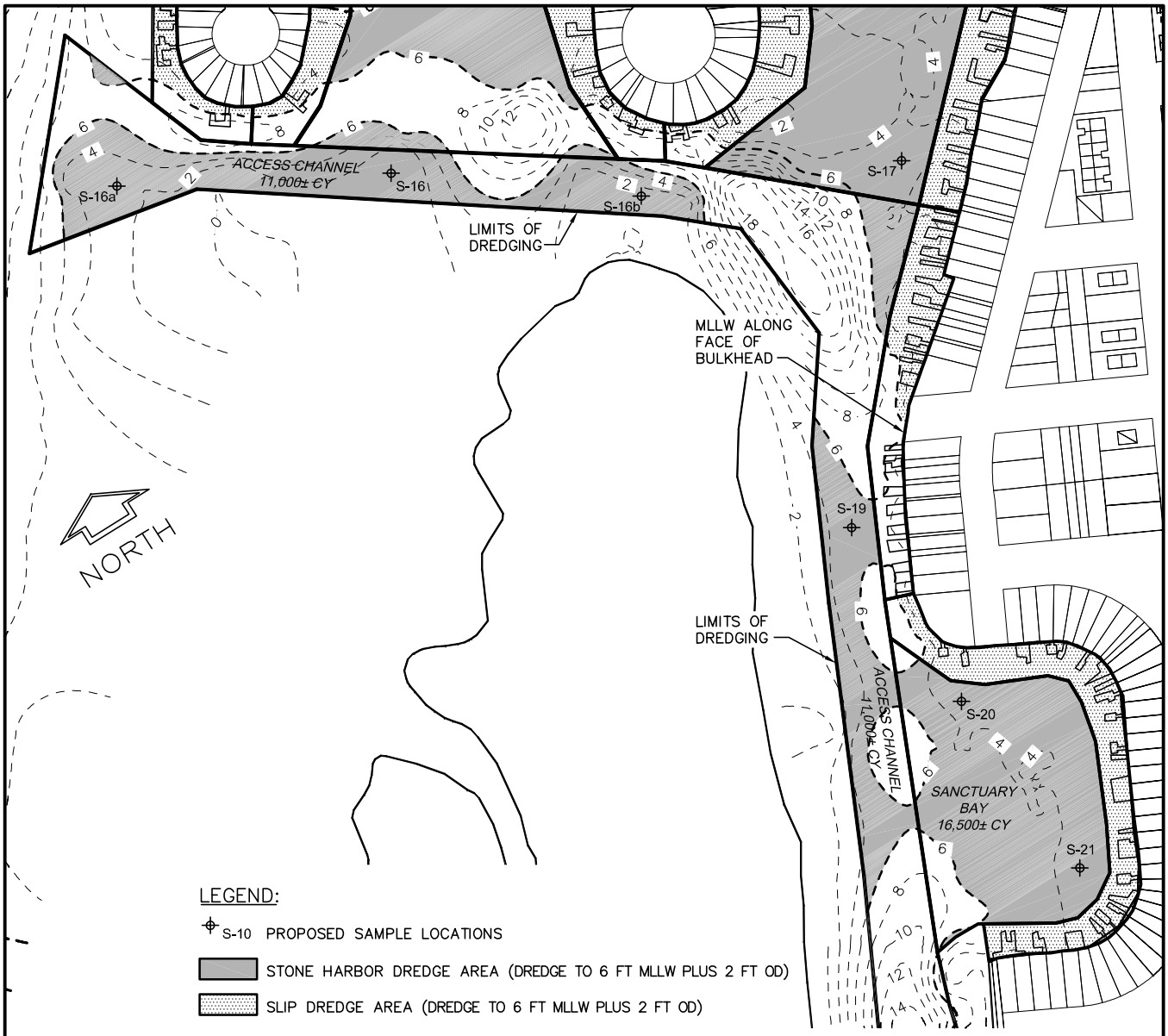
ALONG THE GREAT CHANNEL WATERWAY
COUNTY OF CAPE MAY
STATE OF NEW JERSEY
APPLICATION BY: STONE HARBOR

DATE: 9/30/14

SHEET 5 OF 7

P:\2014\OCC_214078.0\3_Project_Files\CAD\Task 2\02.dwg Sheet 05 Carrie L. Walter Wed, 14 Jan 2015 – 9:54am



LEGEND:

S-10 PROPOSED SAMPLE LOCATIONS

STONE HARBOR DREDGE AREA (DREDGE TO 6 FT MLLW PLUS 2 FT OD)

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SANCTUARY BAY & ACCESS CHANNEL

0 300 600 FT.

SCALE 1"=300'-0"

FOR PERMIT USE ONLY
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REV. 1 1/14/15

PURPOSE: MAINTENANCE DREDGING
SAMPLING AND ANALYSIS PLAN

DATUM: M.L.L.W.

ADJACENT PROPERTY OWNERS:
SEE APPLICATION

AGENT: OCEAN AND COASTAL CONSULTANTS, INC.

PROPOSED MAINTENANCE DREDGING
AT STONE HARBOR LAGOONS
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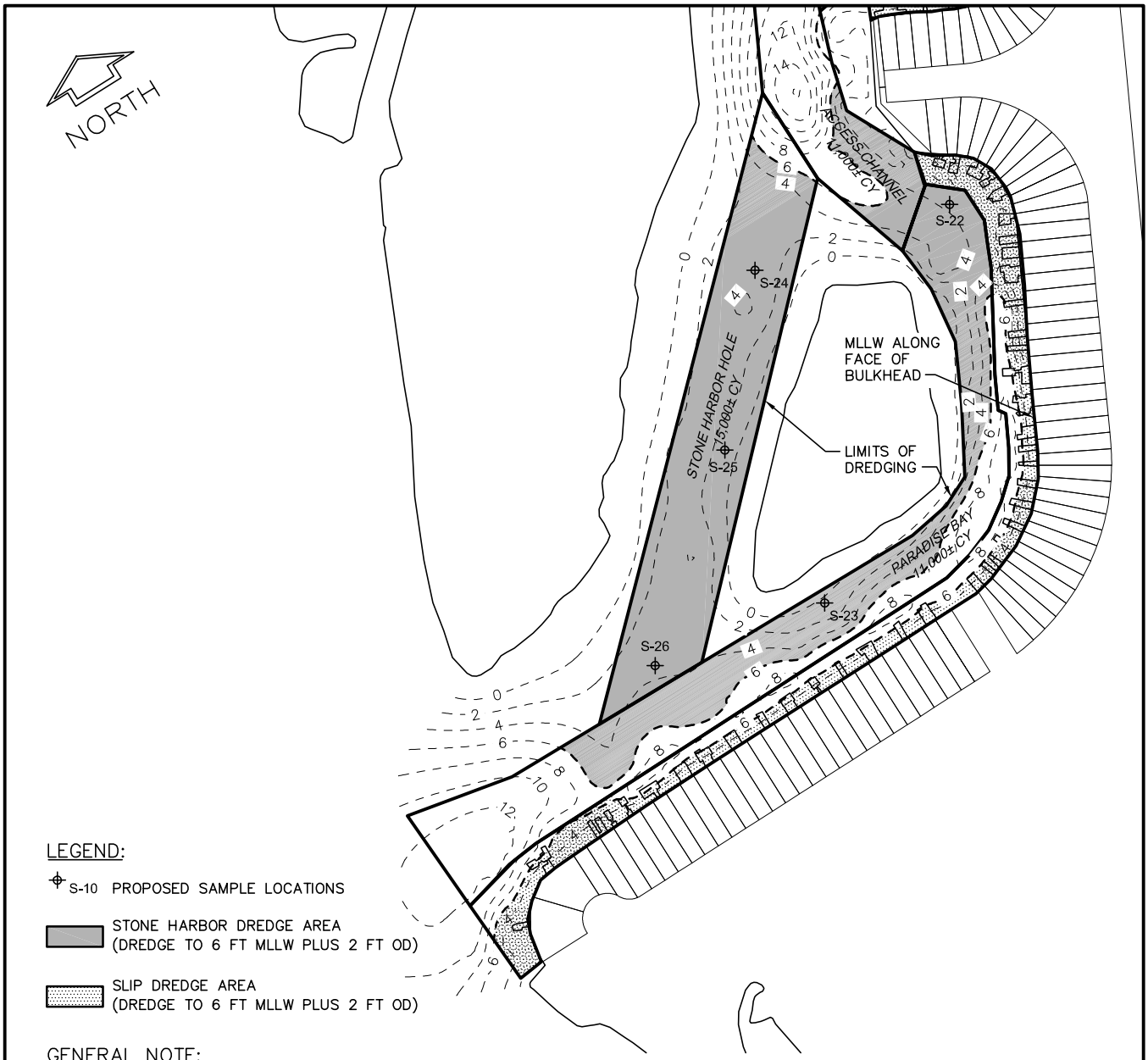
APPLICATION BY: STONE HARBOR

DATE: 9/30/14

SHEET 6 OF 7

P:\2014\OCC_214078.0\3_Project_Files\CAD\Task 2\02.dwg Sheet 06 Carrie L. Walter Wed, 14 Jan 2015 – 9:54am



LEGEND:

S-10 PROPOSED SAMPLE LOCATIONS

STONE HARBOR DREDGE AREA
(DREDGE TO 6 FT MLLW PLUS 2 FT OD)

SLIP DREDGE AREA
(DREDGE TO 6 FT MLLW PLUS 2 FT OD)

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PARADISE BAY, STONE HARBOR HOLE, & ACCESS CHANNEL

0 300 600 FT.

SCALE 1"=300'-0"

FOR PERMIT USE ONLY
NOT FOR CONSTRUCTION

REV. 1 1/14/15

PURPOSE: MAINTENANCE DREDGING
SAMPLING AND ANALYSIS PLAN

DATUM: M.L.L.W.

ADJACENT PROPERTY OWNERS:
SEE APPLICATION

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APPLICATION BY: STONE HARBOR

DATE: 9/30/14

SHEET 7 OF 7

P:\2014\OCC_214078.0\3_Project_Files\CAD\Task 2\02.dwg Sheet 07 Carrie L. Walter Wed, 14 Jan 2015 – 9:55am

Joanna Hunt

From: Jon Doi
Sent: Wednesday, March 4, 2015 3:40 PM
To: Joanna Hunt; Bob Fristrom
Cc: Tom Dolce
Subject: FW: Stone Harbor SAP approved
Attachments: 214078-2_Stone Harbor Dredging SAP Request_MADN_3.0.pdf

Joanna:
This email states by our client that OCC's (now COWI Marine North America) SAP was accepted by NJDEP. This will be the last report where we call COWI Marine NA, Ocean & Coastal Consultants.

Take care,
Jon

From: Matthew Dalon [mailto:madn@ocean-coastal.com]
Sent: Tuesday, January 20, 2015 2:22 PM
To: Jon Doi
Cc: Tom Dolce; OCC_214078.0_Mail
Subject: Stone Harbor SAP approved

Jon –

The attached SAP has been approved by NJDEP. Can you revise your quote and let me know when we can get in the schedule? We would like to sample asap.

Thanks,

Matt

Matthew Dalon, PE
Project Manager

COWI Marine North America
20 E Clementon Road, Suite 201N
Gibbsboro, NJ 08026

Office: 856.821.4131
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OCC_214078 1/8/2015

Proposed Sampling and Analysis Plan Summary Table

Sample ID	Dredge Area	Composite ID	ASI Sample ID	% Sand (#230 Sieve)	NJDEP Approved COMPOSITE
S-01	North Basin	A	20150060	15.7	**A**
S-01a	North Basin	A	20150061	2.1	**A**
S-02	North Basin	A-1	20150062	38.0	**A-1**
S-03	North Basin	A-1	20150063	75.3	**A-2**
S-04	South Basin	B	20150064	19.4	**B**
S-05	South Basin	B	20150065	14.8	**B**
S-05a	South Basin	B	20150066	69.1	**B-1**
S-06	Snug Harbor	C	20150067	30.3	**C**
S-07	Snug Harbor	C	20150068	2.9	**C-1**
S-08	Snug Harbor	C	20150069	1.8	**C-1**
S-27	Snug Harbor ©	C-1	20150070		**C or C-2**
S-09	Shelter Haven	D	20150071	69.7	**D**
S-10	Shelter Haven	D	20150072	26.0	**D-1**
S-10a	Shelter Haven	D	20150073	11.4	**D-1**
S-11	Shelter Haven	D-1	20140074		**D-1 or D-2**
S-12	Stone Harbor	E	20150075	25.2	**E**
S-13	Stone Harbor	E	20150076	84.6	**E-1**
S-14	Pleasure Bay	F	20150077	2.3	**F**
S-15	Pleasure Bay	F	20150078	2.6	**F**
S-17	Carnival Bay	G	20150079	11.8	**G**
S-17a	Carnival Bay	G	20150080	13.5	**G**
S-18	Carnival Bay	G	20150081	3.0	**G**
S-16 (0-3.4')	Access Channel	H	20150082a	82.1	**No Chem**
S-16 (3.4-7.4')			20150082b	91.2	**No Chem**
S-16a	Access Channel	H	20150083	95.5	**No Chem**
			20150083 dup	95.5	**No Chem**
			20150083 trip	95.5	**No Chem**
S-16b	Access Channel	H	20150084	90.6	**No Chem**
S-19	Sanctuary Bay	I	20150085	37.3	**I**
S-20	Sanctuary Bay	I	20150086	7.0	**I-1**
S-21	Sanctuary Bay	I	20150087	82.8	**I-2**
S-22	Paradise Bay	J	20150088	28.7	**J**
S-23	Paradise Bay	J	20150089	82.5	**J-1**
S-24	Stone Harbor Hole	K	20150090	90.8	**No Chem**
S-25	Stone Harbor Hole	K	20150091	96.4	**No Chem**
S-26	Stone Harbor Hole	K	20150092	92.3	**No Chem**
S-28 (0-2.9')	Stone Harbor ©	L	20150093a	85.4	**L**
			20150093a dup	85.5	**No Chem**
			20150093a trip	85.7	**No Chem**
S-28 (2.9-7.6')			20150093b	95.7	**No Chem**
S-29	Pleasure Bay ©	L	20150094	86.7	**L**

© Sample located along slips adjacent to Great Channel

* NAD83 NJ State Plane Feet

** Based on hydrographic survey data collected by

Joanna Hunt

From: Jon Doi
Sent: Wednesday, March 4, 2015 4:01 PM
To: Joanna Hunt
Subject: RE[2]: Stone Harbor correspondence

Joanna:
Please include the email trail below in the Correspondence section of the report. Thanks.

Take care,
Jon

From: Matthew Dalon [mailto:madn@cowi.com]
Sent: Thursday, February 5, 2015 9:49 AM
To: Jon Doi
Subject: RE: RE[9]: Stone Harbor Lagoons Dredging - Additional Costs for extra sampling and testing ...

Jon –

Please provide TOC, % moisture, and grain size on all samples.

For samples/composites (i.e. letter samples) with <90% sand will need the TOC, %moisture, grain size, bulk density, and total % solids along with the chemical analysis.

Matthew Dalon, PE
Project Manager
Office: 856.821.4131

COWI Marine North America
COWI-na.com

From: Jon Doi [mailto:doi@aquasurvey.com]
Sent: Thursday, February 05, 2015 9:41 AM
To: Matthew Dalon
Subject: RE[9]: Stone Harbor Lagoons Dredging - Additional Costs for extra sampling and testing ...

Matt:
Both S-11 and S-27 are going to be above 70% sand, so there will be two more discrete samples – C-2 and D-2. The total samples to be analyzed for at least Bulk Sediment Chemistry will be 21.

The samples that you say should have "No Chem", does this mean no TOC or percent moisture either or do you want these pieces of information with the grain size analysis?

Take care,
Jon

From: Matthew Dalon [mailto:madn@cowi.com]
Sent: Wednesday, February 4, 2015 7:02 PM
To: Jon Doi

Cc: OCC_214078.0_Mail
Subject: RE: RE[7]: Stone Harbor Lagoons Dredging - Additional Costs for extra sampling and testing ...

Jon –

I'm in agreement with the recommended composite scheme and do not need the additional info provided with the core logs and photos at this time.

The naming convention for the composite samples is not ideal. You are correct that if there is only one sample for a composite id than it is just a discrete sample. Feel free to revise the composite naming convention, just let me know what you want to do.

I'm available in the morning to discuss if needed.

Matt

Matthew Dalon, PE
Project Manager
Office: 856.821.4131

COWI Marine North America
COWI-na.com

From: Jon Doi [mailto:doi@aquasurvey.com]
Sent: Wednesday, February 04, 2015 5:39 PM
To: Matthew Dalon
Subject: RE[7]: Stone Harbor Lagoons Dredging - Additional Costs for extra sampling and testing ...

Matt:

We have the QA'd core logs and photos for this project. Do you still want them now as DEP has already made its decision on a compositing scheme? I assume that when you say there is an "A" composite plus an A-1 and A-2, this means there is 1 composite and 2 discrete samples. Is this correct? It is interesting that Joel said some samples with the sand content as low as 82.1% (top layer of S-16) doesn't have to be tested, whereas another sample with more sand, 84.6% (S-13) requires additional testing. I guess it depends on where the sample is and what it is close to, huh? We will get you the results of S-11 and S-27 early tomorrow morning, but I'll probably be able to figure out what to do with these samples, based on their grain size results.

Let me know if you would like the core logs and photos right now.

Take care,
Jon

From: Matthew Dalon [mailto:madn@cowi.com]
Sent: Wednesday, February 4, 2015 4:29 PM
To: Jon Doi
Cc: OCC_214078.0_Mail
Subject: RE: RE[6]: Stone Harbor Lagoons Dredging - Additional Costs for extra sampling and testing ...

Jon

The NJDEP approved composite scheme is attached.

I talked to Stone Harbor and they said they will have an answer regarding the additional sampling tomorrow morning.

Matt

Matthew Dalon, PE
Project Manager
Office: 856.821.4131

COWI Marine North America
COWI-na.com

From: Matthew Dalon
Sent: Wednesday, February 04, 2015 3:22 PM
To: 'Jon Doi'
Subject: RE: RE[6]: Stone Harbor Lagoons Dredging - Additional Costs for extra sampling and testing ...

Thanks Jon. I sent my recommendations to Joel at NJDEP and he said he would have it back to me before the end of the day.

Matt

Matthew Dalon, PE
Project Manager
Office: 856.821.4131

COWI Marine North America
COWI-na.com

From: Jon Doi [mailto:doi@aquasurvey.com]
Sent: Wednesday, February 04, 2015 2:00 PM
To: Matthew Dalon
Subject: RE[6]: Stone Harbor Lagoons Dredging - Additional Costs for extra sampling and testing ...

Matt:

Attached is an updated grain size table with all but 2 samples. We will have grain size on the 2 remaining samples either late today or early tomorrow. We are working on the core logs and photos, but it takes some time to QA them. Hopefully, we can get those to you later today or early tomorrow.

If you can tell us what samples to composite together right now (without the core logs or photos), because the grain size results make it obvious, let us know now, so we can begin compositing today. If not, I understand. Thanks.

Take care,
Jon

From: Matthew Dalon [mailto:madn@cowi.com]
Sent: Tuesday, February 3, 2015 4:57 PM
To: Jon Doi
Cc: OCC_214078.0_Mail
Subject: RE: RE[2]: Stone Harbor Lagoons Dredging - Additional Costs for extra sampling and testing ...

Thanks Jon. Can you send along the core logs and photos too? They will help with the NJDEP review.

Matt

Matthew Dalon, PE
Project Manager
Office: 856.821.4131

COWI Marine North America
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III. TEST ADMINISTRATION

A. Sponsor

Ocean and Coastal Consultants, Inc.
20 E. Clementon Road, Suite 201N
Gibbsboro, NJ 08026

B. Testing Facilities

Aqua Survey, Inc.
469 Point Breeze Road
Flemington, NJ 08822

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601

C. Dates of Experimentation

Date of Study Initiation:	January 28, 2015
Date of Study Completion:	March 10, 2015

D. Study Participants

Jon Doi, Ph.D.	Executive Vice President
Thomas Dolce	Field Operations Manager
Robert Fristrom	Quality Assurance Officer
Cheryl Hall	Quality Assurance Unit
Elizabeth Horn	Scientist
Jim Karwacki	Field Operations Support
Matt Shappell	Field Operations Specialist
Kevin Sondag	Field Operations Specialist
Jeff Thomas	Scientist
Michelle Thomas	Laboratory Manager

IV. MATERIALS AND METHODS

All sampling and testing were performed in accordance with the technical manual "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters" (NJDEP Dredging Manual), October 1997, with the SAP request submitted to Mr. Joel Pecchioli of NJDEP Office of Dredging and Sediment Technology, revised 1/16/15, and additional direction from NJDEP; please refer to the correspondence section of this report for details.

A. Sampling

Test sediment from 35 locations and two field blank samples were collected from various lagoons and waterways in Stone Harbor, New Jersey by Aqua Survey personnel on January 28, 29 and 30, 2015. Table 1 summarizes DGPS positioning coordinates. Project depth was 8 feet Mean Lower Low Water (MLLW), including 2 feet overdredge.

The vessels used for sampling, the R/V Schuykill and R/V Raritan, were positioned using Trimble SPS 855 Differential Global Positioning System (DGPS) equipment. Sediment collection was performed using a Rossfelder P-3 vibracore with flexible plastic core liners.

Two of the sediment cores appeared to have distinct strata based upon apparent grain size and were separated into two layers, S-16 and S-28.

The core samples were inspected, photographed and the characteristics were recorded on Sediment Core Logs. All samples were assigned unique ASI sample numbers. All samples were received at ASI in Flemington, NJ under chain of custody on ice and stored at 2-4 °C until testing.

The appendices contain all supporting documentation including ASI sampling logs (Appendix A), photographs (Appendix B), chains of custody (Appendix C), sample use forms (Appendix D), percent moisture, grain size distribution and bulk density raw data (Appendix E) and TOC raw data (Appendix F).

B. Homogenizing and Compositing

Each of the core samples was carefully homogenized using a stainless steel mixer. This procedure followed the specific guidelines found on pages 9-11 and in Appendix A of the Dredging Manual and in ASI's standard operating procedure SOP/PRP/008. Samples were mixed until uniform in color and texture.

Using a #230 (62.5 micron mesh) separation sieve, each of the samples was analyzed for sand content. The Quick Sieve grain size results were submitted to NJDEP for review and alterations were made to the original compositing scheme. If samples that comprise a composite showed greater than 20% difference in sand content, the cores were declared discrete samples and were not composited together. Samples with high sand content (90% sand rule) were removed from compositing and no chemical analysis was required.

Twelve (12) of the 37 samples were declared discrete based upon disparate sand content. Note that there were a total of fourteen (14) discrete samples; two locations (S-27 and S-11) were identified as discrete in the original sampling plan. Eight (8) samples were removed from required chemical analysis due to high sand content. The remaining fifteen (15) cores were

composited into seven (7) additional composites following the revised compositing scheme provided by NJDEP. Please refer to the correspondence section of this report for details. Thus, twenty-one (21) total samples were sent to the analytical laboratory for required chemical analyses. All sample identification numbers and the compositing scheme can be found in Table 3.

Sub-samples of the composites and discrete samples were archived in the freezer.

C. Physical and Total Organic Carbon Analysis

All individual core samples were initially analyzed for grain size analysis by the Quick Sieve method as described in the Section B, Homogenizing and Compositing. As the name implies, the Quick Sieve grain size analysis is a single data point to provide an immediate quantitative measurement of sand content. This method does not supersede and/or replace the full grain size distribution analysis using separation sieves and a hydrometer, with the exception of samples with high sand content (>90% sand).

Therefore, thirty-six of the samples (individual cores and composites) were re-analyzed for grain size distribution, using methodology from the *Standard Test Method for Particle-Size Analysis of Soils,* Designation ASTM D422-63, reapproved 2002. See Appendix E for all grain size distribution and percent moisture raw data.

The composite and discrete samples were analyzed for bulk density, in accordance with *Methods of Soil Analysis Part I. Physical and Mineralogical Methods Bulk Density. American Society of Agronomy*. Raw data for bulk density is provided in Appendix E.

Additionally, all samples were analyzed for TOC and percent moisture. TOC analysis followed guidance from EPA Office of Solids Waste and Emergency Response SW-846 Method No. 9060 (Volume IC, Chapter 5, Revision 0, 9/86). The instrument for this analysis was the Dohrmann TOC Boat Sampler, Model 183 (Serial number 98202003), which was connected to the Dohrmann Apollo 9000 TOC Analyzer. Raw data and a standard reference material control chart can be found in Appendix F.

D. Chemical Analyses

Sub-samples of the composites and the field blanks were shipped to the analytical laboratory by overnight courier. Following chain-of-custody procedures, the samples were placed in jars and shipped in coolers with ice packs.

Samples were analyzed for the NJ Residential Soil Remediation Standard analytes listed in N.J.A.C. 2:26D, plus chromium speciation. Testing for Dioxin/Furans was not required.

V. PHYSICAL AND CHEMICAL ANALYSIS RESULTS

The grain size distribution, percent moisture, bulk density and total organic carbon for the sediment samples are shown in Table 4. The results of the chemical analyses of bulk sediment are provided in Tables 5a through 5h and the field blanks in Table 6.

Figure 1 **Site Map: North Basin, South Basin and Snug Harbor**

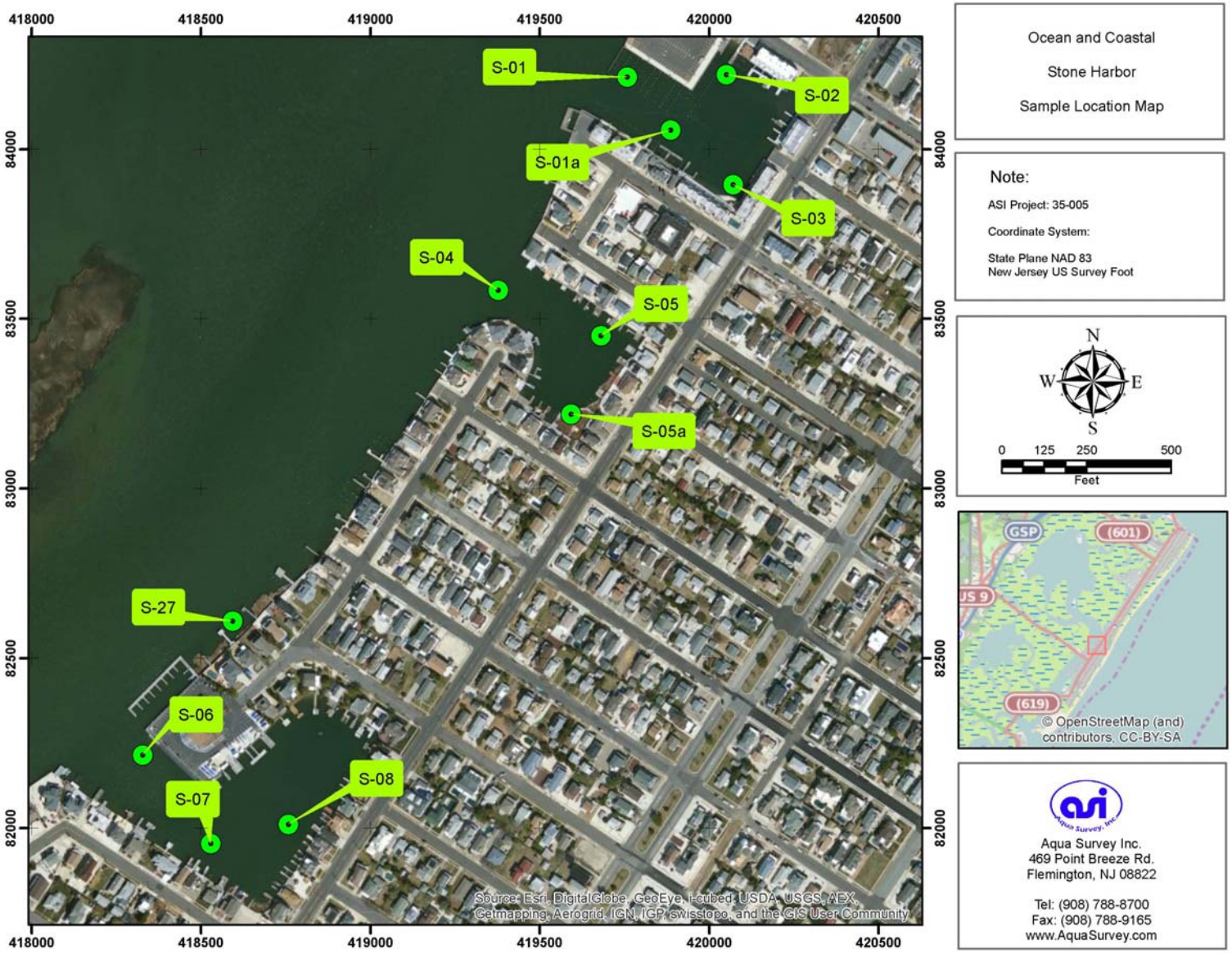

Figure 2 **Site Map: Shelter Haven, Stone Harbor, Pleasure Bay, Carnival Bay**

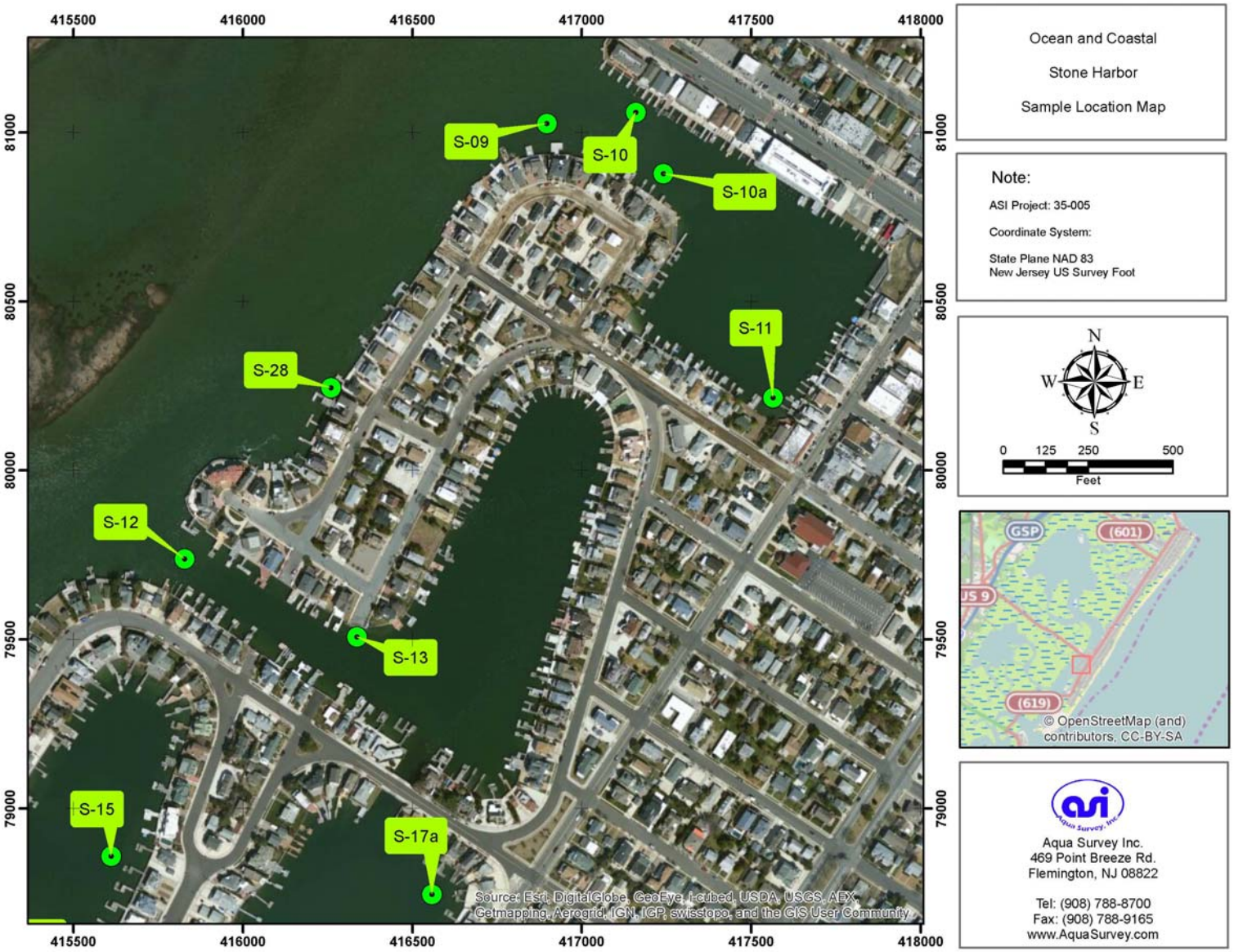

Figure 3 **Site Map: Pleasure Bay, Carnival Bay, Access Channel, Sanctuary Bay**

Figure 4 **Site Map: Sanctuary Bay, Paradise Bay, Stone Harbor Hole**

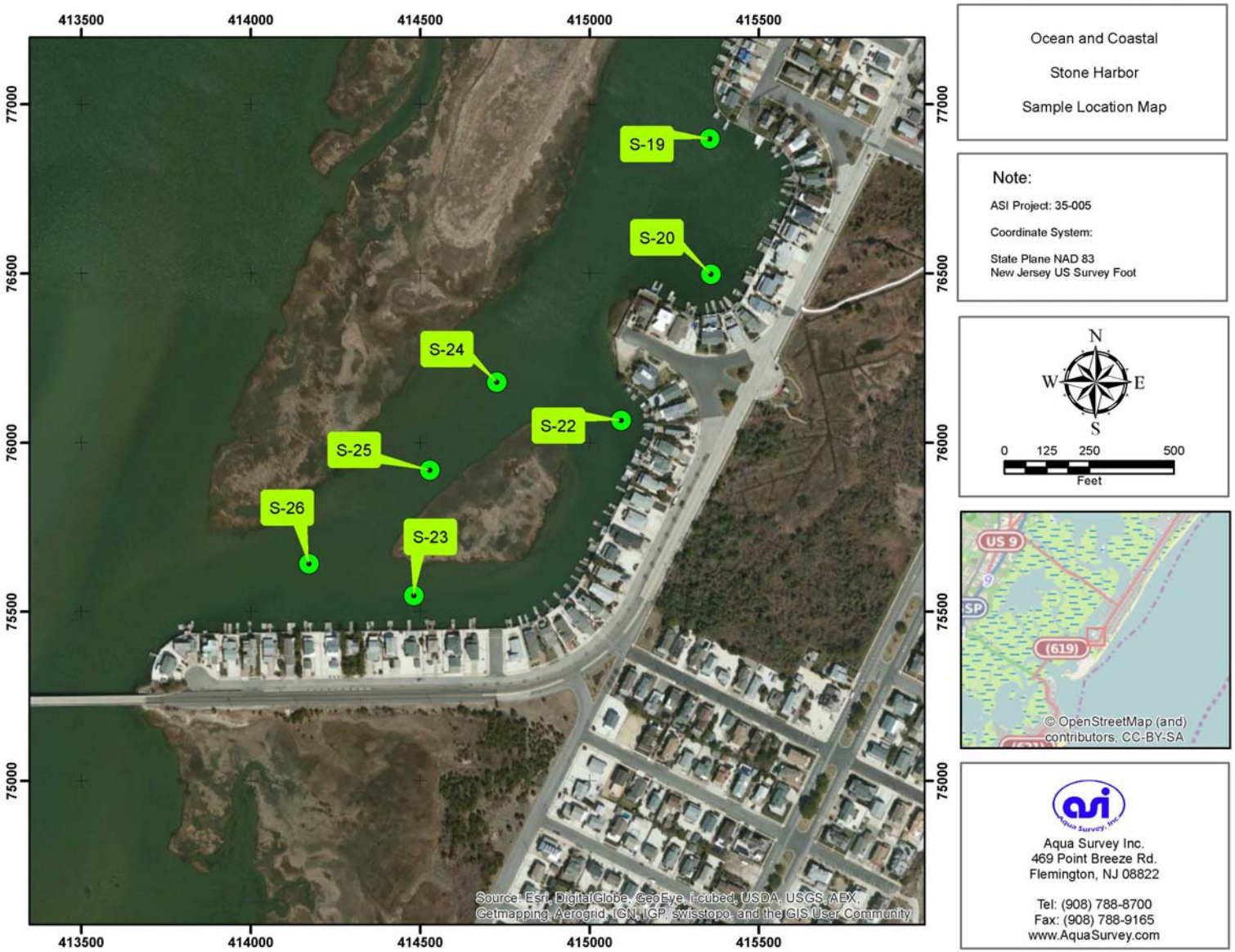

Table 1 DGPS Coordinates

Location	Northings	Eastings
S-01	84213.7	419756.5
S-01a	84058.1	419884.5
S-02	84221.1	420048.4
S-03	83896.7	420068.4
S-04	83585.3	419375.3
S-05	83451.7	419679.3
S-05a	83220.0	419590.8
S-06	82216.1	418326.5
S-07	81955.1	418527.6
S-08	82011.9	418756.8
S-27	82611.6	418591.4
S-09	81027.1	416895.0
S-10	81059.8	417157.9
S-10a	80878.4	417239.1
S-11	80215.9	417563.0
S-12	79739.7	415827.2
S-13	79509.2	416335.0
S-14	78534.0	415289.4
S-15	78860.7	415609.7
S-17	77766.4	415786.0
S-17a	78747.6	416556.1
S-18	78264.8	416010.5
S-16a	78464.1	414557.8
S-16b	77955.8	415351.2
S-18	78264.8	416010.5
S-19	76899.4	415353.2
S-20	76498.4	415356.3
S-21	77334.9	415287.8
S-22	76067.0	415091.4
S-23	75549.4	414480.0
S-24	76179.7	414724.9
S-25	75919.8	414526.3
S-26	75643.7	414170.5
S-28	80245.5	416258.3
S-29	79071.0	415028.4

Table 2 Quick Sieve Grain Size Distribution and Alterations to Compositing Scheme

Sample	ASI ID #	% Sand (#230 Sieve)	Alteration made to Compositing Scheme
S-01	20150060	15.7	
S-01a	20150061	2.1	
S-02	20150062	38.0	Discrete, renamed Composite A-1
S-03	20150063	75.3	Discrete, renamed Composite A-2
S-04	20150064	19.4	
S-05	20150065	14.8	
S-05a	20150066	69.1	Discrete, renamed Composite B-1
S-06	20150067	30.3	Discrete, renamed Composite C
S-07	20150068	2.9	Renamed Composite C-1
S-08	20150069	1.8	
S-27	20150070	75.1	Discrete, renamed Composite C-2
S-09	20150071	69.7	Discrete, renamed Composite D
S-10	20150072	26.0	Renamed Composite D-1
S-10a	20150073	11.4	
S-11	20140074	84.6	Discrete, renamed Composite D-2
S-12	20150075	25.2	Discrete, renamed Composite E
S-13	20150076	84.6	Discrete, renamed Composite E-1
S-14	20150077	2.3	
S-15	20150078	2.6	
S-17	20150079	11.8	
S-17a	20150080	13.5	
S-18	20150081	3.0	
S-16 (0-3.4')	20150082a	82.1	Removed from chemical analysis
S-16 (3.4-7.4')	20150082b	91.2	Removed from chemical analysis
S-16a	20150083	95.5 (MEAN)	Removed from chemical analysis
S-16b	20150084	90.6	Removed from chemical analysis
S-19	20150085	37.3	Discrete, renamed Composite I
S-20	20150086	7.0	Discrete, renamed Composite I-1
S-21	20150087	82.8	Discrete, renamed Composite I-2
S-22	20150088	28.7	Discrete, renamed Composite J
S-23	20150089	82.5	Discrete, renamed Composite J-1
S-24	20150090	90.8	Removed from chemical analysis
S-25	20150091	96.4	Removed from chemical analysis
S-26	20150092	92.3	Removed from chemical analysis
S-28 (0-2.9’)	20150093a	85.5 (MEAN)	
S-28-(2.9-7.6’)	20150093b	95.7	Removed from chemical analysis
S-29	20150094	86.7	

Table 3 Sample Identification and Compositing Scheme

Location	Sample ID No.	Composite ID No.
North Basin		
S-01	20150060	Composite A 20150097
S-01a	20150061	
S-02	20150062	Composite A-1
S-03	20150063	Composite A-2
South Basin		
S-04	20150064	Composite B 20150099
S-05	20150065	
S-05a	20150066	Composite B-1
Snug Harbor and Snug Harbor Slip		
S-06	20150067	Composite C
S-07	20150068	Composite C-1 20150100
S-08	20150069	
S-27	20150070	Composite C-2
Shelter Haven		
S-09	20150071	Composite D
S-10	20150072	Composite D-1 20150101
S-10a	20150073	
S-11	20150074	Composite D-2
Stone Harbor		
S-12	20150075	Composite E
S-13	20150076	Composite E-1
Pleasure Bay		
S-14	20150077	Composite F 20150103
S-15	20150078	

Table 3 (continued) Sample Identification and Compositing Scheme

Location	Sample ID No.	Composite ID No.
Carnival Bay		
S-17	20150079	Composite G 20150104
S-17a	20150080	
S-18	20150081	
Sanctuary Bay		
S-19	20150085	Composite I
S-20	20150086	Composite I-1
S-21	20150087	Composite I-2
Paradise Bay		
S-22	20150088	Composite J
S-23	20150089	Composite J-1
Stone Harbor and Pleasure Bay Slips		
S-28 (0-2.9’)	20150093a	Composite L 20140109
S-29	20150094	
Field Blank #1	20150095	
Field Blank #2	20150096	

Table 4 **Grain Size Distribution, Percent Moisture, Bulk Density and TOC**

Sample ID	ASI ID #	% Gravel	% Sand	% Silt	% Clay	% Moisture	Bulk Density g/ml wet	Bulk Density g/ml dry	TOC ppm	% TOC of Dry Weight
S-01	20150060	0.0	15.9	54.7	29.4	57.6			31,086	3.11
S-01a	20150061	0.0	1.9	65.5	32.6	64.5			37,072	3.71
Comp A	20150097	0.0	10.2	55.9	33.9	61.2	1.31	0.52	35,879	3.59
Comp A-1 (S-02)	20150062	0.0	35.2	39.1	25.7	54.2	1.42	0.67	22,245	2.22
Comp A-2 (S-03)	20150063	0.3	74.4	13.5	11.8	33.3	1.76	1.19	11,444	1.14
Comp A-2 (S-03)	20150063 dup	0.4	74.6	13.0	12.0					
Comp A-2 (S-03)	20150063 trip	1.1	73.6	14.1	11.2					
S-04	20150064	0.0	19.2	53.3	27.5	57.0			27,905	2.79
S-05	20150065	0.0	14.2	50.2	35.6	58.0			29,532	2.95
Comp B	20150099	0.0	15.5	51.1	33.4	59.0	1.36	0.58	28,543	2.85
Comp B-1 (S-05a)	20150066	8.6	58.6	17.7	15.1	40.1	1.59	0.98	16,820	1.68
Comp C (S-06)	20150067	0.3	29.7	40.0	30.0	50.7	1.42	0.67	27,950	2.80
S-07	20150068	0.0	2.5	59.8	37.7	63.8			35,518	3.55
S-08	20150069	0.0	1.8	58.7	39.5	62.9			33,579	3.36
Comp C-1	20150100	0.0	2.3	60.1	37.6	63.8	1.29	0.47	34,935	3.49
Comp C-1	20150100 dup	0.0	0.0	0.0	0.0	63.7				
Comp C-1	20150100 trip	0.0	0.0	0.0	0.0	63.7				
Comp C-2 (S-27)	20150070	0.2	74.4	13.8	11.6	35.3	1.68	1.08	11,284	1.13
Comp C-2 (S-27)	20150070 dup	0.3	74.5	11.1	14.1					
Comp C-2 (S-27)	20150070 trip	0.4	74.4	11.7	13.5					
Comp D (S-09)	20150071	0.0	69.6	16.1	14.3	38.8	1.60	0.98	11,642	1.16
S-10	20150072	0.0	26.0	48.1	25.9	56.3			30,479	3.05
S-10a	20150073	0.0	11.3	60.6	28.1	58.6			32,302	3.23
Comp D-1	20150101	0.0	19.8	43.7	36.5	57.5	1.37	0.60	31,934	3.19
Comp D-2 (S-11)	20150074	3.0	82.8	5.0	9.2	28.1	1.81	1.31	9,578	0.96
Comp E (S-12)	20150075	0.0	24.8	51.9	23.3	53.1	1.39	0.64	30,666	3.07
Comp E-1 (S-13)	20150076	0.3	83.5	11.8	4.4	27.2	1.83	1.36	7,439	0.74
Comp E-1 (S-13)	20150076 dup	0.5	83.4	10.5	5.6					
Comp E-1 (S-13)	20150076 trip	1.2	82.7	8.8	7.3					

Table 4 (continued) **Grain Size Distribution, Percent Moisture, Bulk Density and TOC**

Sample ID	ASI ID #	% Gravel	% Sand	% Silt	% Clay	% Moisture	Bulk Density g/ml wet	Bulk Density g/ml dry	TOC ppm	% TOC of Dry Weight
S-14	20150077	0.0	2.1	67.4	30.5	64.5			32,491	3.25
S-15	20150078	0.0	2.2	65.4	32.4	63.6			31,998	3.20
Comp F	20150103	0.0	2.4	60.5	37.1	64.3	1.29	0.47	33,508	3.35
S-17	20150079	0.0	11.7	52.7	35.6	58.8			29,818	2.98
S-17	20150079 dup					58.8				
S-17	20150079 trip					58.8				
S-17a	20150080	0.0	12.9	49.9	37.2	59.3			30,578	3.06
S-18	20150081	0.0	2.9	62.1	35.0	62.7			33,361	3.34
Comp G	20150104	0.0	9.1	54.4	36.5	60.8	1.31	0.52	31,226	3.12
Comp G	20150104 dup						1.32	0.52		
Comp G	20150104 trip						1.32	0.52		
Comp I (S-19)	20150085	0.0	37.2	38.2	24.6	52.9	1.39	0.63	24,164	2.42
Comp I-1 (S-20)	20150086	0.0	5.7	61.8	32.5	63.7	1.30	0.51	31,347	3.13
Comp I-2 (S-21)	20150087	0.2	81.5	11.0	7.3	28.5	1.85	1.34	4,660	0.47
Comp J (S-22)	20150088	0.0	31.9	45.4	22.7	59.5	1.35	0.60	24,129	2.41
Comp J-1 (S-23)	20150089	0.0	81.7	11.4	6.9	29.5	1.76	1.25	6,067	0.61
S-28 (0-2.9')	20150093a	0.5	84.8	11.6	3.1	28.5			5,863	0.59
S-29	20150094	0.0	86.4	9.9	3.7	24.1			3,969	0.40
Comp L	20150109	0.4	85.4	5.5	8.7	26.5	1.83	1.36	4,359	0.44
Comp L	20150109 dup					26.3				
Comp L	20150109 trip					26.2				
S-16 (0-3.4')	20150082a	82.1		17.9		28.7			5,550	0.56
S-16 (3.4-7.4')	20150082b	91.2		8.8		24.0			3,396	0.34
S-16a (mean)	20150083	95.5		4.5		20.2			1,916	0.19
S-16b	20150084	90.6		9.4		25.4			3,297	0.33
S-24	20150090	90.8		9.2		21.4			2,825	0.28
S-25	20150091	96.4		3.6		21.7			1,075	0.11
S-26	20150092	92.3		7.7		22.3			2,444	0.24
S-28 (2.9-7.6')	20150093b	95.7		4.3		22.2			1,515	0.15

Chemical Analysis Tables
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List of Data Qualifiers:

J = Estimated value; the result is less than the LOQ but greater than or equal to the MDL

P = Concentration difference between the primary and confirmation column >40%. The lower result is reported.

ND = Not detected

V = Concentration between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.

Regulatory Standards:

Bulk Sediment Standards: Tables 1A Residential Direct Contact Health Based Criteria and Soil Remediation Standards, N.J.A.C 7:26D Remediation Standards, June 2, 2008.

If the PQL for a specific analyte is greater than the most conservative health-based criterion then the PQL supersedes the criterion and is used as the Direct Contact Soil Remediation standard.

Note: Shaded values indicate that regulatory sediment criteria have been exceeded.

RL and/or MDL value (ND) exceeds NJDEP Criterion

Analyte value exceeds NJDEP Criterion

Table 5a **Volatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp A			Comp A-1 (S-02)			Comp A-2 (S-03)		
				20150097			20150062			20150063		
				7764540			7764541			7764542		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	70,000,000	10	270	49		120	43		19	30	J
Acrolein	107-02-8	500	500	ND	250	ND	ND	210	ND	ND	150	ND
Acrylonitrile	107-13-1	900	500	ND	49	ND	ND	43	ND	ND	30	ND
Benzene	71-43-2	2,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Bromoform	75-25-2	81,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Bromomethane (Methyl bromide)	74-83-9	25,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100,000	10	41	25		18	21	J	ND	15	ND
Carbon disulfide	75-15-0	7,800,000	500	28.0	12		27	11.0		4	8.0	J
Carbon tetrachloride	56-23-5	600	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Chlorobenzene	108-90-7	510,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Chloroethane (Ethyl chloride)	75-00-3	220,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Chloroform	67-66-3	600	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Chloromethane (Methyl Chloride)	74-87-3	4,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	3,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
1,2-Dibromo-3-chloropropane	96-12-8	80	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
1,2-Dibromoethane	106-93-4	8	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Dichlorodifluoromethane	75-71-8	490,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
1,1-Dichloroethane	75-34-3	8,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
1,2-Dichloroethane	107-06-2	900	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
1,1-Dichloroethene	75-35-4	11,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
cis -1,2-Dichloroethene	156-59-2	230,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
trans -1,2-Dichloroethene	156-60-5	300,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
1,2-Dichloropropane	78-87-5	2,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
trans -1,3-Dichloropropene	10061-02-6	2,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
cis -1,3-Dichloropropene	10061-01-5	2,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	2,000	5	0.0		ND	0.0		ND	0.0		ND
Ethylbenzene	100-41-4	7,800,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Methyl acetate	79-20-9	78,000,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Methylene chloride (Dichloromethane)	75-09-2	34,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	110,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Styrene	100-42-5	90,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Tertiary butyl alcohol	75-65-0	1,400,000	100	ND	250	ND	ND	210	ND	ND	150	ND
1,1,2,2-Tetrachloroethane	79-34-5	1,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Tetrachloroethene (PCE)	127-18-4	2,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Toluene	108-88-3	6,300,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
1,1,1-Trichloroethane	71-55-6	290,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
1,1,2-Trichloroethane	79-00-5	2,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	7,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Trichlorofluoromethane	75-69-4	23,000,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Vinyl chloride	75-01-4	700	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND
Xylenes (Total)	1330-20-7	12,000,000	5	ND	12	ND	ND	11.0	ND	ND	8.0	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5a continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp A			Comp A-1 (S-02)			Comp A-2 (S-03)		
				20150097			20150062			20150054		
				7764540			7764541			7764542		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	3100000	200	ND	84	ND	ND	69	ND	33	49	J
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	84	ND	ND	69	ND	ND	49	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	84	ND	ND	69	ND	ND	49	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	84	ND	ND	69	ND	ND	49	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	84	ND	ND	69	ND	ND	49	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	84	ND	ND	69	ND	ND	49	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	84	ND	ND	69	ND	ND	49	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	84	ND	ND	69	ND	ND	49	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	84	ND	ND	69	ND	ND	49	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	84	ND	ND	69	ND	ND	49	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	2500	ND	ND	2100	ND	ND	1500	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	420	ND	ND	350	ND	ND	240	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	84	ND	ND	69	ND	ND	49	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	0.0		ND	0.0		ND	0.0		ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	84	ND	ND	69	ND	ND	49	ND
2-Methylnaphthalene	91-57-6	230000	170	36	43	J	ND	35	ND	79	25	
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	84	ND	ND	69	ND	ND	49	ND
2-Nitroaniline	88-74-4	39000	300	ND	84	ND	ND	69	ND	ND	49	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	840	ND	ND	690	ND	ND	490	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	1300	ND	ND	1000	ND	ND	730	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	47	84	J	ND	69	ND	48	49	J
Acenaphthene	83-32-9	3400000	200	79	43		ND	35	ND	75	25	
Acenaphthylene	208-96-8	N/A	200	51	43		ND	35	ND	95	25	
Acetophenone	98-86-2	2000	200	ND	84	ND	ND	69	ND	ND	49	ND
Anthracene	120-12-7	17000000	200	230	43		11	35	J	160	25	
Atrazine	1912-24-9	210000	200	ND	420	ND	ND	350	ND	ND	240	ND
Benzaldehyde	100-52-7	6100000	200	ND	420	ND	ND	350	ND	ND	240	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5a continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp A			Comp A-1 (S-02)			Comp A-2 (S-03)		
				20150097			20150062			20150054		
				7764540			7764541			7764542		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	700	700	ND	8400	ND	ND	6900	ND	ND	4900	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	420	43		21	35	J	340	25	
Benzo(a)pyrene	50-32-8	200	200	250	43		19	35	J	350	25	
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	490	43		35	35		590	25	
Benzo(g,h,i)perylene	191-24-2	380000000	200	170	43		15	35	J	260	25	
Benzo(k)fluoranthene	207-08-9	6000	200	200	43		13	35	J	200	25	
bis(2-Chloroethyl)ether	111-44-1	400	200	ND	84	ND	ND	69	ND	ND	49	ND
Bis(2-chloroisopropyl) ether	108-60-1	23000	200	ND	84	ND	ND	69	ND	ND	49	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	430	ND	ND	350	ND	ND	250	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	420	ND	ND	350	ND	ND	240	ND
Caprolactam	105-60-2	31000000	200	ND	420	ND	ND	350	ND	ND	240	ND
Carbazole	86-74-8	24000	200	ND	84	ND	ND	69	ND	59	49	
Chrysene	218-01-9	62000	200	560	43		34	35	J	490	25	
Dibenz(a,h)anthracene	53-70-3	200	200	53	43		ND	35	ND	71	25	
Diethylphthalate	84-66-2	49000000	200	ND	420	ND	ND	350	ND	ND	240	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	420	ND	ND	350	ND	ND	240	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	420	ND	ND	350	ND	ND	240	ND
Fluoranthene	206-44-0	2300000	200	1300	43		59	35		1300	25	
Fluorene	86-73-7	2300000	200	93	43		ND	35	ND	89	25	
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	84	ND	ND	69	ND	ND	49	ND
Hexachlorobenzene	118-74-1	300	200	ND	43	ND	ND	35	ND	ND	25	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	1300	ND	ND	1000	ND	ND	730	ND
Hexachloroethane	67-72-1	35000	200	ND	420	ND	ND	350	ND	ND	240	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	160	43		15	35	J	250	25	
Isophorone	78-59-1	510000	200	ND	84	ND	ND	69	ND	ND	49	ND
Naphthalene	91-20-3	6000	200	60	43		8.0	35	J	300	25	
Nitrobenzene	98-95-3	31000	200	ND	84	ND	ND	69	ND	ND	49	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	420	ND	ND	350	ND	ND	240	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	84	ND	ND	69	ND	ND	49	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	84	ND	ND	69	ND	ND	49	ND
Pentachlorophenol	87-86-5	3000	300	ND	430	ND	ND	350	ND	ND	250	ND
Phenanthrene	85-01-8	N/A	200	180	43		17	35	J	700	25	
Phenol	108-95-2	18000000	200	ND	84	ND	ND	69	ND	ND	49	ND
Pyrene	129-00-0	1700000	200	890	43		50	35		1400	25	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5a continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp A			Comp A-1 (S-02)			Comp A-2 (S-03)		
				20150097			20150062			20150054		
				7764540			7764541			7764542		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	3000	3	1.3	4.3	J	1.6	3.5	J P	ND	2.5	V
4,4'-DDE	72-55-9	2000	3	1.7	4.3	J	1.2	3.5	J P	1.2	2.5	J
4,4'-DDT	50-29-3	2000	3	ND	4.3	ND	0.83	3.5	J P	ND	2.5	ND
Aldrin	309-00-2	40	2	2.8	2.1		ND	1.7	ND	1.1	1.2	J
alpha-HCH (alpha-BHC)	319-84-6	100	2	0.66	2.1	J	ND	1.7	V	0.51	1.2	J
beta-HCH (beta-BHC)	319-85-7	400	2	ND	2.5	ND	5.6	2.1	P	ND	1.5	V
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	0.91	ND	V	13	1.7		2.6	1.2	P
alpha-Chlordane	5103-71-9	200	2	0.51	2.1	J P	ND	1.7	ND	0.37	1.2	J P
gamma-Chlordane	5566-34-7	200	2	ND	2.1	V	ND	4.8	V	ND	1.2	V
Chlordane (alpha and gamma)	57-74-9	200	2	0.51		J	0.0		ND	0.37		J
Dieldrin	60-57-1	40	3	ND	4.3	ND	ND	3.5	ND	ND	2.5	ND
Endosulfan I	959-98-8	470000	3	0.61	2.1	J P	3.7	1.7		0.43	1.2	J
Endosulfan II	33213-65-9	470000	3	ND	4.3	ND	ND	3.5	ND	ND	2.5	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	0.6		J	3.7			0.43		J
Endosulfan sulfate	1031-07-8	470000	3	ND	4.3	ND	ND	3.5	V	ND	2.5	V
Endrin	72-20-8	23000	3	ND	4.3	ND	ND	3.5	ND	0.89	2.5	J
Heptachlor	76-44-8	100	2	1.6	2.1	J	ND	5.7	V	ND	1.3	ND
Heptachlor epoxide	1024-57-3	70	2	1.0	2.1	J	ND	1.7	ND	0.99	1.2	J P
Methoxychlor	72-43-5	390000	20	ND	17	ND	ND	14	ND	ND	9.8	ND
Toxaphene	8001-35-2	600	200	ND	83	ND	ND	68	ND	ND	48	ND
Arochlor-1016	12674-11-2	200	30	ND	43	ND	ND	35	ND	ND	25	ND
Arochlor-1221	11104-28-2	200	30	ND	43	ND	ND	35	ND	ND	25	ND
Arochlor-1232	11141-16-5	200	30	ND	43	ND	ND	35	ND	ND	25	ND
Arochlor-1242	53469-21-9	200	30	ND	43	ND	ND	35	ND	ND	25	ND
Arochlor-1248	12672-29-6	200	30	ND	43	ND	ND	35	ND	ND	25	ND
Arochlor-1254	11097-69-1	200	30	ND	43	ND	ND	35	ND	ND	25	ND
Arochlor-1260	11096-82-5	200	30	ND	43	ND	ND	35	ND	ND	25	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5a continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp A			Comp A-1 (S-02)			Comp A-2 (S-03)		
				20150097			20150062			20150054		
				7764540			7764541			7764542		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	20400	49.5		15600	41.5		6830	28.4	
Antimony	7440-36-0	31	6	ND	4.95	ND	ND	4.15	ND	ND	2.84	ND
Arsenic**	7440-38-2	19	1	13.5	4.95		11.5	4.15		6.55	2.84	
Barium	7440-39-3	16000	20	59.5	1.24		47.6	1.04		27.7	0.711	
Beryllium	7440-41-7	16	0.5	1.09	1.24	J	0.778	1.04	J	0.35	0.711	J
Cadmium	7440-43-9	78	0.5	0.676	1.24	J	0.475	1.04	J	0.447	0.711	J
Cobalt	7440-48-4	1600	5	10.1	1.24		7.25	1.04		3.36	0.711	
Copper	7440-50-8	3100	3	44.2	2.48		33.8	2.08		52.4	1.42	
Lead	7439-92-1	400	1	49.6	3.71		38.0	3.11		81.3	2.130	
Manganese	7439-96-5	11000	2	330	1.24		238	1.04		98.8	0.711	
Mercury	7439-97-6	23	0.1	0.411	0.244		0.27	0.207		0.447	0.137	
Nickel	7440-02-0	1600	4	30.20	2.48		20.8	2.08		9.3	1.42	
Selenium	7782-49-2	390	4	3.71	4.95	J	2.52	4.15	J	ND	2.84	ND
Silver	7440-22-4	390	1	0.49	1.24	J	ND	1.04	ND	ND	0.711	ND
Thallium	7440-28-0	5	3	3.61	7.43	J	3.25	6.23	J	1.54	4.27	J
Vanadium	7440-62-2	78	5	69.2	1.24		45.9	1.04		20.3	0.711	
Zinc	7440-66-6	23000	6	150	4.95		114	4.15		89.5	2.84	
Cyanide	57-12-5	1600	3	ND	1.200	ND	ND	1.00	ND	ND	0.700	ND
Chromium, total	7440-47-3	N/A	N/A	69.7	3.71		45.2	3.11		19.4	2.13	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	3.80	ND	ND	3.10	ND	ND	2.20	ND
Trivalent chromium	16065-83-1	N/A	N/A	69.7	3.80		45.2	3.10		19.4	2.20	
% Moisture	N/A	N/A	N/A	60.4			52.3			32.4		
%Solids	N/A	N/A	N/A	39.6			47.7			67.6		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5b **Volatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp B			Comp B-1 (S-05a)		
				20150099			20150066		
				7764543			7764544		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	70,000,000	10	130	46		40	34	
Acrolein	107-02-8	500	500	ND	230	ND	ND	170	ND
Acrylonitrile	107-13-1	900	500	ND	46	ND	ND	34	ND
Benzene	71-43-2	2,000	5	ND	12	ND	ND	9.0	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1,000	5	ND	12	ND	ND	9.0	ND
Bromoform	75-25-2	81,000	5	ND	12	ND	ND	9.0	ND
Bromomethane (Methyl bromide)	74-83-9	25,000	5	ND	12	ND	ND	9.0	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100,000	10	20	23	J	7.0	17	J
Carbon disulfide	75-15-0	7,800,000	500	18	12		8.0	9.0	J
Carbon tetrachloride	56-23-5	600	5	ND	12	ND	ND	9.0	ND
Chlorobenzene	108-90-7	510,000	5	ND	12	ND	ND	9.0	ND
Chloroethane (Ethyl chloride)	75-00-3	220,000	5	ND	12	ND	ND	9.0	ND
Chloroform	67-66-3	600	5	ND	12	ND	ND	9.0	ND
Chloromethane (Methyl Chloride)	74-87-3	4,000	5	ND	12	ND	ND	9.0	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	3,000	5	ND	12	ND	ND	9.0	ND
1,2-Dibromo-3-chloropropane	96-12-8	80	5	ND	12	ND	ND	9.0	ND
1,2-Dibromoethane	106-93-4	8	5	ND	12	ND	ND	9.0	ND
Dichlorodifluoromethane	75-71-8	490,000	5	ND	12	ND	4	9.0	J
1,1-Dichloroethane	75-34-3	8,000	5	ND	12	ND	ND	9.0	ND
1,2-Dichloroethane	107-06-2	900	5	ND	12	ND	ND	9.0	ND
1,1-Dichloroethene	75-35-4	11,000	5	ND	12	ND	ND	9.0	ND
cis -1,2-Dichloroethene	156-59-2	230,000	5	ND	12	ND	ND	9.0	ND
trans -1,2-Dichloroethene	156-60-5	300,000	5	ND	12	ND	ND	9.0	ND
1,2-Dichloropropane	78-87-5	2,000	5	ND	12	ND	ND	9.0	ND
trans -1,3-Dichloropropene	10061-02-6	2,000	5	ND	12	ND	ND	9.0	ND
cis -1,3-Dichloropropene	10061-01-5	2,000	5	ND	12	ND	ND	9.0	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	2,000	5	0.0		ND	0.0		ND
Ethylbenzene	100-41-4	7,800,000	5	ND	12	ND	ND	9.0	ND
Methyl acetate	79-20-9	78,000,000	5	ND	12	ND	ND	9.0	ND
Methylene chloride (Dichloromethane)	75-09-2	34,000	5	ND	12	ND	ND	9.0	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	110,000	5	ND	12	ND	ND	9.0	ND
Styrene	100-42-5	90,000	5	ND	12	ND	ND	9.0	ND
Tertiary butyl alcohol	75-65-0	1,400,000	100	ND	230	ND	ND	170	ND
1,1,2,2-Tetrachloroethane	79-34-5	1,000	5	ND	12	ND	ND	9.0	ND
Tetrachloroethene (PCE)	127-18-4	2,000	5	ND	12	ND	ND	9.0	ND
Toluene	108-88-3	6,300,000	5	ND	12	ND	ND	9.0	ND
1,1,1-Trichloroethane	71-55-6	290,000	5	ND	12	ND	ND	9.0	ND
1,1,2-Trichloroethane	79-00-5	2,000	5	ND	12	ND	ND	9.0	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	7,000	5	ND	12	ND	ND	9.0	ND
Trichlorofluoromethane	75-69-4	23,000,000	5	ND	12	ND	ND	9.0	ND
Vinyl chloride	75-01-4	700	5	ND	12	ND	ND	9.0	ND
Xylenes (Total)	1330-20-7	12,000,000	5	ND	12	ND	ND	9.0	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5b continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp B			Comp B-1 (S-05a)		
				20150099			20150066		
			PQL*	7764543			7764544		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	3100000	200	ND	78	ND	ND	56	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	78	ND	ND	56	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	78	ND	ND	56	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	78	ND	ND	56	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	78	ND	ND	56	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	78	ND	ND	56	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	78	ND	ND	56	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	78	ND	ND	56	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	78	ND	ND	56	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	78	ND	ND	56	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	2400	ND	ND	1700	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	390	ND	ND	280	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	78	ND	ND	56	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	0.0		ND	0.0		ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	78	ND	ND	56	ND
2-Methylnaphthalene	91-57-6	230000	170	28	40	J	76	29	
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	78	ND	ND	56	ND
2-Nitroaniline	88-74-4	39000	300	ND	78	ND	ND	56	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	780	ND	ND	560	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	1200	ND	ND	840	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	ND	78	ND	ND	56	ND
Acenaphthene	83-32-9	3400000	200	75	40		180	29	
Acenaphthylene	208-96-8	N/A	200	23	40	J	35	29	
Acetophenone	98-86-2	2000	200	ND	78	ND	ND	56	ND
Anthracene	120-12-7	17000000	200	73	40		140	29	
Atrazine	1912-24-9	210000	200	ND	390	ND	ND	280	ND
Benzaldehyde	100-52-7	6100000	200	ND	390	ND	ND	280	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5b continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp B			Comp B-1 (S-05a)		
				20150099			20150066		
				7764543			7764544		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	700	700	ND	7800	ND	ND	5600	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	120	40		270	29	
Benzo(a)pyrene	50-32-8	200	200	87	40		200	29	
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	150	40		350	29	
Benzo(g,h,i)perylene	191-24-2	380000000	200	65	40		120	29	
Benzo(k)fluoranthene	207-08-9	6000	200	57	40		150	29	
bis(2-Chloroethyl)ether	111-44-1	400	200	ND	78	ND	ND	56	ND
Bis(2-chloroisopropyl) ether	108-60-1	23000	200	ND	78	ND	ND	56	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	400	ND	ND	290	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	390	ND	ND	280	ND
Caprolactam	105-60-2	31000000	200	ND	390	ND	ND	280	ND
Carbazole	86-74-8	24000	200	ND	78	ND	ND	56	ND
Chrysene	218-01-9	62000	200	160	40		390	29	
Dibenz(a,h)anthracene	53-70-3	200	200	25	40	J	39	29	
Diethylphthalate	84-66-2	49000000	200	ND	390	ND	ND	280	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	390	ND	ND	280	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	390	ND	ND	280	ND
Fluoranthene	206-44-0	2300000	200	310	40		950	29	
Fluorene	86-73-7	2300000	200	62	40		110	29	
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	78	ND	ND	56	ND
Hexachlorobenzene	118-74-1	300	200	ND	40	ND	ND	29	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	1200	ND	ND	840	ND
Hexachloroethane	67-72-1	35000	200	ND	390	ND	ND	280	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	58	40		110	29	
Isophorone	78-59-1	510000	200	ND	78	ND	ND	56	ND
Naphthalene	91-20-3	6000	200	180	40		130	29	
Nitrobenzene	98-95-3	31000	200	ND	78	ND	ND	56	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	390	ND	ND	280	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	78	ND	ND	56	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	78	ND	ND	56	ND
Pentachlorophenol	87-86-5	3000	300	ND	400	ND	ND	290	ND
Phenanthrene	85-01-8	N/A	200	93	40		230	29	
Phenol	108-95-2	18000000	200	ND	78	ND	ND	56	ND
Pyrene	129-00-0	1700000	200	240	40		790	29	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5b continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp B			Comp B-1 (S-05a)		
				20150099			20150066		
				7764543			7764544		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	3000	3	5.6	4.0		9.1	2.8	
4,4'-DDE	72-55-9	2000	3	1.4	4.0	J P	6.1	2.8	
4,4'-DDT	50-29-3	2000	3	2.5	4.0	J	0.96	2.8	J P
Aldrin	309-00-2	40	2	6.1	2.0		0.73	1.4	J P
alpha-HCH (alpha-BHC)	319-84-6	100	2	ND	2.0	V	0.36	1.4	J
beta-HCH (beta-BHC)	319-85-7	400	2	ND	2.4	V	ND	1.7	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	ND	4.3	V	ND	4.2	ND
alpha-Chlordane	5103-71-9	200	2	ND	2.0	ND	0.58	1.4	J
gamma-Chlordane	5566-34-7	200	2	ND	2.0	ND	ND	1.4	V
Chlordane (alpha and gamma)	57-74-9	200	2	0.0		ND	0.6		J
Dieldrin	60-57-1	40	3	ND	4.0	ND	ND	2.8	ND
Endosulfan I	959-98-8	470000	3	5.1	2.0		ND	1.4	ND
Endosulfan II	33213-65-9	470000	3	ND	4.0	ND	ND	2.8	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	5.1			0.0		ND
Endosulfan sulfate	1031-07-8	470000	3	ND	4.0	ND	ND	2.8	ND
Endrin	72-20-8	23000	3	ND	4.0	ND	ND	2.8	ND
Heptachlor	76-44-8	100	2	ND	8.8	V	0.91	1.4	J
Heptachlor epoxide	1024-57-3	70	2	ND	2.0	V	0.35	1.4	J P
Methoxychlor	72-43-5	390000	20	ND	16	V	ND	11	ND
Toxaphene	8001-35-2	600	200	ND	78	ND	ND	55	ND
Arochlor-1016	12674-11-2	200	30	ND	40	ND	ND	28	ND
Arochlor-1221	11104-28-2	200	30	ND	40	ND	ND	28	ND
Arochlor-1232	11141-16-5	200	30	ND	40	ND	ND	28	ND
Arochlor-1242	53469-21-9	200	30	ND	40	ND	ND	28	ND
Arochlor-1248	12672-29-6	200	30	ND	40	ND	ND	28	ND
Arochlor-1254	11097-69-1	200	30	ND	40	ND	ND	28	ND
Arochlor-1260	11096-82-5	200	30	ND	40	ND	ND	28	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5b continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp B			Comp B-1 (S-05a)		
				20150099			20150066		
				7764543			7764544		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	18600	46.0		9300	33.4	
Antimony	7440-36-0	31	6	ND	4.60	ND	ND	3.34	ND
Arsenic**	7440-38-2	19	1	13.1	4.60		5.02	3.34	
Barium	7440-39-3	16000	20	55.2	1.15		32.3	0.836	
Beryllium	7440-41-7	16	0.5	0.992	1.15	J	0.552	0.836	J
Cadmium	7440-43-9	78	0.5	0.462	1.15	J	ND	0.836	ND
Cobalt	7440-48-4	1600	5	9.34	1.15		4.20	0.836	
Copper	7440-50-8	3100	3	31.5	2.30		16.6	1.67	
Lead	7439-92-1	400	1	43.5	3.45		25.2	2.51	
Manganese	7439-96-5	11000	2	318	1.15		124	0.836	
Mercury	7439-97-6	23	0.1	0.351	0.228		0.124	0.166	J
Nickel	7440-02-0	1600	4	27.10	2.30		12.2	1.67	
Selenium	7782-49-2	390	4	3.00	4.60	J	1.16	3.34	J
Silver	7440-22-4	390	1	ND	1.15	ND	ND	0.836	ND
Thallium	7440-28-0	5	3	3.61	6.90	J	ND	5.02	ND
Vanadium	7440-62-2	78	5	62.9	1.15		27.1	0.836	
Zinc	7440-66-6	23000	6	126	4.60		60.2	3.34	
Cyanide	57-12-5	1600	3	ND	1.10	ND	ND	0.810	ND
Chromium, total	7440-47-3	N/A	N/A	61.0	3.45		28.1	2.51	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	3.60	ND	ND	2.50	ND
Trivalent chromium	16065-83-1	N/A	N/A	61.0	3.60		28.1	2.50	
% Moisture	N/A	N/A	N/A	57.8			40.8		
%Solids	N/A	N/A	N/A	42.2			59.2		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5c **Volatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp C (S-06)			Comp C-1			Comp C-2 (S-27)		
				20150067			20150100			20150070		
				7764545			7764546			7764547		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	70,000,000	10	65	43		240	55		ND	29	ND
Acrolein	107-02-8	500	500	ND	210	ND	ND	280	ND	ND	140	ND
Acrylonitrile	107-13-1	900	500	ND	43	ND	ND	55	ND	ND	29	ND
Benzene	71-43-2	2,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Bromoform	75-25-2	81,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Bromomethane (Methyl bromide)	74-83-9	25,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100,000	10	12	21	J	35	28		ND	14	ND
Carbon disulfide	75-15-0	7,800,000	500	8.0	11	J	41	14		3.0	7.0	J
Carbon tetrachloride	56-23-5	600	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Chlorobenzene	108-90-7	510,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Chloroethane (Ethyl chloride)	75-00-3	220,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Chloroform	67-66-3	600	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Chloromethane (Methyl Chloride)	74-87-3	4,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	3,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
1,2-Dibromo-3-chloropropane	96-12-8	80	5	ND	11	ND	ND	14	ND	ND	7.0	ND
1,2-Dibromoethane	106-93-4	8	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Dichlorodifluoromethane	75-71-8	490,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
1,1-Dichloroethane	75-34-3	8,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
1,2-Dichloroethane	107-06-2	900	5	ND	11	ND	ND	14	ND	ND	7.0	ND
1,1-Dichloroethene	75-35-4	11,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
cis -1,2-Dichloroethene	156-59-2	230,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
trans -1,2-Dichloroethene	156-60-5	300,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
1,2-Dichloropropane	78-87-5	2,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
trans -1,3-Dichloropropene	10061-02-6	2,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
cis -1,3-Dichloropropene	10061-01-5	2,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	2,000	5	0.0		ND	0.0		ND	0.0		ND
Ethylbenzene	100-41-4	7,800,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Methyl acetate	79-20-9	78,000,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Methylene chloride (Dichloromethane)	75-09-2	34,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	110,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Styrene	100-42-5	90,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Tertiary butyl alcohol	75-65-0	1,400,000	100	ND	210	ND	ND	280	ND	ND	140	ND
1,1,2,2-Tetrachloroethane	79-34-5	1,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Tetrachloroethene (PCE)	127-18-4	2,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Toluene	108-88-3	6,300,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
1,1,1-Trichloroethane	71-55-6	290,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
1,1,2-Trichloroethane	79-00-5	2,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	7,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Trichlorofluoromethane	75-69-4	23,000,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Vinyl chloride	75-01-4	700	5	ND	11	ND	ND	14	ND	ND	7.0	ND
Xylenes (Total)	1330-20-7	12,000,000	5	ND	11	ND	ND	14	ND	ND	7.0	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5c continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp C (S-06)			Comp C-1			Comp C-2 (S-27)		
				20150067			20150100			20150070		
			PQL*	7764545			7764546			7764547		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	3100000	200	ND	69	ND	ND	92	ND	ND	51	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	69	ND	ND	92	ND	ND	51	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	69	ND	ND	92	ND	ND	51	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	69	ND	ND	92	ND	ND	51	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	69	ND	ND	92	ND	ND	51	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	69	ND	ND	92	ND	ND	51	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	69	ND	ND	92	ND	ND	51	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	69	ND	ND	92	ND	ND	51	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	69	ND	ND	92	ND	ND	51	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	69	ND	ND	92	ND	ND	51	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	2100	ND	ND	2800	ND	ND	1500	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	340	ND	ND	460	ND	ND	250	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	69	ND	ND	92	ND	ND	51	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	0.0		ND	0.0		ND	0.0		ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	69	ND	ND	92	ND	ND	51	ND
2-Methylnaphthalene	91-57-6	230000	170	22	35	J	15	47	J	ND	26	ND
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	69	ND	ND	92	ND	ND	51	ND
2-Nitroaniline	88-74-4	39000	300	ND	69	ND	ND	92	ND	ND	51	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	690	ND	ND	920	ND	ND	510	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	1000	ND	ND	1400	ND	ND	760	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	56	69	J	ND	92	ND	ND	51	ND
Acenaphthene	83-32-9	3400000	200	18	35	J	15	47	J	ND	26	ND
Acenaphthylene	208-96-8	N/A	200	24.0	35	J	20.0	47	J	6.0	26	J
Acetophenone	98-86-2	2000	200	ND	69	ND	ND	92	ND	ND	51	ND
Anthracene	120-12-7	17000000	200	69	35		45	47	J	13	26	J
Atrazine	1912-24-9	210000	200	ND	340	ND	ND	460	ND	ND	250	ND
Benzaldehyde	100-52-7	6100000	200	ND	340	ND	ND	460	ND	ND	250	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5c continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp C (S-06)			Comp C-1			Comp C-2 (S-27)		
				20150067			20150100			20150070		
			PQL*	7764545			7764546			7764547		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	700	700	ND	6900	ND	ND	9200	ND	ND	5100	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	110	35		78	47		31	26	
Benzo(a)pyrene	50-32-8	200	200	98	35		65	47		26	26	J
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	150	35		110	47		43	26	
Benzo(g,h,i)perylene	191-24-2	380000000	200	73	35		42	47	J	20	26	J
Benzo(k)fluoranthene	207-08-9	6000	200	62	35		44	47	J	19	26	J
bis(2-Chloroethyl)ether	111-44-1	400	200	ND	69	ND	ND	92	ND	ND	51	ND
Bis(2-chloroisopropyl) ether	108-60-1	23000	200	ND	69	ND	ND	92	ND	ND	51	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	350	ND	ND	470	ND	ND	260	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	340	ND	ND	460	ND	ND	250	ND
Caprolactam	105-60-2	31000000	200	ND	340	ND	ND	460	ND	ND	250	ND
Carbazole	86-74-8	24000	200	ND	69	ND	ND	92	ND	ND	51	ND
Chrysene	218-01-9	62000	200	130	35		120	47		44	26	
Dibenz(a,h)anthracene	53-70-3	200	200	19.0	35	J	18	47	J	10	26	J
Diethylphthalate	84-66-2	49000000	200	ND	340	ND	ND	460	ND	ND	250	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	340	ND	ND	460	ND	ND	250	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	340	ND	ND	460	ND	ND	250	ND
Fluoranthene	206-44-0	2300000	200	270	35		200	47		45	26	
Fluorene	86-73-7	2300000	200	35	35	J	24	47	J	7	26	J
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	69	ND	ND	92	ND	ND	51	ND
Hexachlorobenzene	118-74-1	300	200	ND	35	ND	ND	47	ND	ND	26	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	1000	ND	ND	1400	ND	ND	760	ND
Hexachloroethane	67-72-1	35000	200	ND	340	ND	ND	460	ND	ND	250	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	68	35		45	47	J	17	26	J
Isophorone	78-59-1	510000	200	ND	69	ND	ND	92	ND	ND	51	ND
Naphthalene	91-20-3	6000	200	31	35	J	25	47	J	7.0	26	J
Nitrobenzene	98-95-3	31000	200	ND	69	ND	ND	92	ND	ND	51	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	340	ND	ND	460	ND	ND	250	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	69	ND	ND	92	ND	ND	51	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	69	ND	ND	92	ND	ND	51	ND
Pentachlorophenol	87-86-5	3000	300	ND	350	ND	ND	470	ND	ND	260	ND
Phenanthrene	85-01-8	N/A	200	100	35		50	47		16	26	J
Phenol	108-95-2	18000000	200	ND	69	ND	ND	92	ND	ND	51	ND
Pyrene	129-00-0	1700000	200	200	35		150	47		81	26	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5c continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp C (S-06)			Comp C-1			Comp C-2 (S-27)		
				20150067			20150100			20150070		
			PQL*	7764545			7764546			7764547		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	3000	3	2.1	3.5	J P	1.9	4.7	J	ND	2.6	ND
4,4'-DDE	72-55-9	2000	3	1.3	3.5	J P	1.6	4.7	J	ND	2.6	ND
4,4'-DDT	50-29-3	2000	3	ND	3.5	ND	ND	4.7	ND	ND	2.6	ND
Aldrin	309-00-2	40	2	ND	3.7	ND	2.6	2.3		0.59	1.3	J
alpha-HCH (alpha-BHC)	319-84-6	100	2	1.1	1.7	J P	ND	2.3	ND	ND	1.3	ND
beta-HCH (beta-BHC)	319-85-7	400	2	ND	2.1	V	ND	2.8	ND	ND	1.5	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	ND	2.7	V	5.0	2.3		ND	1.3	ND
alpha-Chlordane	5103-71-9	200	2	0.42	1.7	J P	ND	2.3	ND	ND	1.3	ND
gamma-Chlordane	5566-34-7	200	2	ND	2.5	V	ND	2.3	V	ND	1.3	V
Chlordane (alpha and gamma)	57-74-9	200	2	0.42		J	0.0			0.0		
Dieldrin	60-57-1	40	3	ND	3.5	ND	ND	4.7	ND	ND	2.6	ND
Endosulfan I	959-98-8	470000	3	1.1	1.7	J P	ND	2.3	ND	ND	1.3	ND
Endosulfan II	33213-65-9	470000	3	1.0	3.5	J P	ND	4.7	ND	ND	2.6	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	2.1		J P	0.0		ND	0.0		ND
Endosulfan sulfate	1031-07-8	470000	3	ND	3.5	ND	ND	4.7	ND	ND	2.6	ND
Endrin	72-20-8	23000	3	ND	3.5	ND	ND	4.7	ND	ND	2.6	ND
Heptachlor	76-44-8	100	2	2.5	1.7	P	1.5	2.3	J P	ND	1.3	ND
Heptachlor epoxide	1024-57-3	70	2	1.5	1.7	J P	0.64	2.3	J P	ND	1.3	ND
Methoxychlor	72-43-5	390000	20	ND	14	ND	ND	19	ND	ND	10	ND
Toxaphene	8001-35-2	600	200	ND	68	ND	ND	92	ND	ND	50	ND
Arochlor-1016	12674-11-2	200	30	ND	35	ND	ND	47	ND	ND	26	ND
Arochlor-1221	11104-28-2	200	30	ND	35	ND	ND	47	ND	ND	26	ND
Arochlor-1232	11141-16-5	200	30	ND	35	ND	ND	47	ND	ND	26	ND
Arochlor-1242	53469-21-9	200	30	ND	35	ND	ND	47	ND	ND	26	ND
Arochlor-1248	12672-29-6	200	30	ND	35	ND	ND	47	ND	ND	26	ND
Arochlor-1254	11097-69-1	200	30	ND	35	ND	ND	47	ND	ND	26	ND
Arochlor-1260	11096-82-5	200	30	ND	35	ND	ND	47	ND	ND	26	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5c continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp C (S-06)			Comp C-1			Comp C-2 (S-27)		
				20150067			20150100			20150070		
				7764545			7764546			7764547		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	16700	40.0		23000	53.7		6380	30.1	
Antimony	7440-36-0	31	6	ND	4.00	ND	1.02	5.37	J	0.66	3.01	J
Arsenic**	7440-38-2	19	1	12.8	4.00		14.7	5.37		4.22	3.01	
Barium	7440-39-3	16000	20	47.3	0.999		66.0	1.34		16.2	0.752	
Beryllium	7440-41-7	16	0.5	0.893	0.999	J	1.22	1.34	J	0.412	0.752	J
Cadmium	7440-43-9	78	0.5	ND	0.999	ND	0.121	1.34	J	ND	0.752	ND
Cobalt	7440-48-4	1600	5	8.39	0.999		11.3	1.34		3.27	0.752	
Copper	7440-50-8	3100	3	26.4	2.00		40.5	2.69		6.20	1.5	
Lead	7439-92-1	400	1	35.5	3.00		53.5	4.03		7.98	2.260	
Manganese	7439-96-5	11000	2	284	0.999		345	1.34		96.6	0.752	
Mercury	7439-97-6	23	0.1	0.262	0.204		0.424	0.268		0.0362	0.151	J
Nickel	7440-02-0	1600	4	23.70	2.00		32	2.69		9.15	1.5	
Selenium	7782-49-2	390	4	2.67	4.00	J	4.17	5.37	J	1.14	3.01	J
Silver	7440-22-4	390	1	ND	0.999	ND	ND	1.34	ND	ND	0.752	ND
Thallium	7440-28-0	5	3	ND	5.99	ND	ND	8.06	ND	ND	4.51	ND
Vanadium	7440-62-2	78	5	54.6	0.999		71.3	1.34		19.8	0.752	
Zinc	7440-66-6	23000	6	105	4.00		156	5.37		30.8	3.01	
Cyanide	57-12-5	1600	3	ND	1.000	ND	ND	1.30	ND	ND	0.750	ND
Chromium, total	7440-47-3	N/A	N/A	55.5	3.00		76.4	4.03		18.8	2.26	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	3.10	ND	ND	4.20	ND	ND	2.30	ND
Trivalent chromium	16065-83-1	N/A	N/A	55.5	3.10		76.4	4.20		18.8	2.30	
% Moisture	N/A	N/A	N/A	51.4			64.2			34.8		
%Solids	N/A	N/A	N/A	48.6			35.8			65.2		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5d **Volatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp D (S-09)			Comp D-1			Comp D-2 (S-11)		
				20150071			20150101			20150074		
			PQL*	7764548			7764549			7764550		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	70,000,000	10	34	33		78	51		11	28	J
Acrolein	107-02-8	500	500	ND	160	ND	ND	260	ND	ND	140	ND
Acrylonitrile	107-13-1	900	500	ND	33	ND	ND	51	ND	ND	28	ND
Benzene	71-43-2	2,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Bromoform	75-25-2	81,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Bromomethane (Methyl bromide)	74-83-9	25,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100,000	10	7.0	16	J	15	26	J	ND	14	ND
Carbon disulfide	75-15-0	7,800,000	500	7.0	8.0	J	10	13	J	2.0	7.0	J
Carbon tetrachloride	56-23-5	600	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Chlorobenzene	108-90-7	510,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Chloroethane (Ethyl chloride)	75-00-3	220,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Chloroform	67-66-3	600	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Chloromethane (Methyl Chloride)	74-87-3	4,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	3,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
1,2-Dibromo-3-chloropropane	96-12-8	80	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
1,2-Dibromoethane	106-93-4	8	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Dichlorodifluoromethane	75-71-8	490,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
1,1-Dichloroethane	75-34-3	8,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
1,2-Dichloroethane	107-06-2	900	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
1,1-Dichloroethene	75-35-4	11,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
cis -1,2-Dichloroethene	156-59-2	230,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
trans -1,2-Dichloroethene	156-60-5	300,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
1,2-Dichloropropane	78-87-5	2,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
trans -1,3-Dichloropropene	10061-02-6	2,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
cis -1,3-Dichloropropene	10061-01-5	2,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	2,000	5	0.0		ND	0.0		ND	0.0		ND
Ethylbenzene	100-41-4	7,800,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Methyl acetate	79-20-9	78,000,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Methylene chloride (Dichloromethane)	75-09-2	34,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	110,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Styrene	100-42-5	90,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Tertiary butyl alcohol	75-65-0	1,400,000	100	ND	160	ND	ND	260	ND	ND	140	ND
1,1,2,2-Tetrachloroethane	79-34-5	1,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Tetrachloroethene (PCE)	127-18-4	2,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Toluene	108-88-3	6,300,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
1,1,1-Trichloroethane	71-55-6	290,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
1,1,2-Trichloroethane	79-00-5	2,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	7,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Trichlorofluoromethane	75-69-4	23,000,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Vinyl chloride	75-01-4	700	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND
Xylenes (Total)	1330-20-7	12,000,000	5	ND	8.0	ND	ND	13	ND	ND	7.0	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5d continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp D (S-09)			Comp D-1			Comp D-2 (S-11)		
				20150071			20150101			20150074		
			PQL*	7764548			7764549			7764550		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	3100000	200	ND	55	ND	ND	77	ND	ND	46	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	55	ND	ND	77	ND	ND	46	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	55	ND	ND	77	ND	ND	46	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	55	ND	ND	77	ND	ND	46	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	55	ND	ND	77	ND	ND	46	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	55	ND	ND	77	ND	ND	46	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	55	ND	ND	77	ND	ND	46	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	55	ND	ND	77	ND	ND	46	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	55	ND	ND	77	ND	ND	46	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	55	ND	ND	77	ND	ND	46	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	1600	ND	ND	2300	ND	ND	1400	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	270	ND	ND	390	ND	ND	230	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	55	ND	ND	77	ND	ND	46	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	0.0		ND	0.0		ND	0.0		ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	55	ND	ND	77	ND	ND	46	ND
2-Methylnaphthalene	91-57-6	230000	170	17	28	J	ND	39	ND	16	23	J
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	55	ND	ND	77	ND	ND	46	ND
2-Nitroaniline	88-74-4	39000	300	ND	55	ND	ND	77	ND	ND	46	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	550	ND	ND	770	ND	ND	460	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	820	ND	ND	1200	ND	ND	690	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	ND	55	ND	ND	77	ND	ND	46	ND
Acenaphthene	83-32-9	3400000	200	11	28	J	ND	39	ND	17	23	J
Acenaphthylene	208-96-8	N/A	200	12.0	28	J	ND	39	ND	13	23	J
Acetophenone	98-86-2	2000	200	ND	55	ND	ND	77	ND	ND	46	ND
Anthracene	120-12-7	17000000	200	66	28		12	39	J	46	23	
Atrazine	1912-24-9	210000	200	ND	270	ND	ND	390	ND	ND	230	ND
Benzaldehyde	100-52-7	6100000	200	ND	270	ND	ND	390	ND	ND	230	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5d continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp D (S-09)			Comp D-1			Comp D-2 (S-11)		
				20150071			20150101			20150074		
				7764548			7764549			7764550		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	700	700	ND	5500	ND	ND	7700	ND	ND	4600	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	74	28		27	39	J	130	23	
Benzo(a)pyrene	50-32-8	200	200	58	28		22	39	J	140	23	
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	87	28		26	39	J	200	23	
Benzo(g,h,i)perylene	191-24-2	380000000	200	30	28		11.0	39	J	85	23	
Benzo(k)fluoranthene	207-08-9	6000	200	39	28		21.0	39	J	84	23	
bis(2-Chloroethyl)ether	111-44-1	400	200	ND	55	ND	ND	77	ND	ND	46	ND
Bis(2-chloroisopropyl) ether	108-60-1	23000	200	ND	55	ND	ND	77	ND	ND	46	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	280	ND	ND	390	ND	ND	230	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	270	ND	ND	390	ND	ND	230	ND
Caprolactam	105-60-2	31000000	200	ND	270	ND	ND	390	ND	ND	230	ND
Carbazole	86-74-8	24000	200	ND	55	ND	ND	77	ND	ND	46	ND
Chrysene	218-01-9	62000	200	110	28		32	39	J	190	23	
Dibenz(a,h)anthracene	53-70-3	200	200	11.0	28	J	ND	39	ND	20	23	J
Diethylphthalate	84-66-2	49000000	200	ND	270	ND	ND	390	ND	ND	230	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	270	ND	ND	390	ND	ND	230	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	270	ND	ND	390	ND	ND	230	ND
Fluoranthene	206-44-0	2300000	200	220	28		51.0	39		280	23	
Fluorene	86-73-7	2300000	200	24.0	28	J	ND	39	ND	21	23	J
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	55	ND	ND	77	ND	ND	46	ND
Hexachlorobenzene	118-74-1	300	200	ND	28	ND	ND	39	ND	ND	23	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	820	ND	ND	1200	ND	ND	690	ND
Hexachloroethane	67-72-1	35000	200	ND	270	ND	ND	390	ND	ND	230	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	35	28		ND	39	ND	76	23	
Isophorone	78-59-1	510000	200	ND	55	ND	ND	77	ND	ND	46	ND
Naphthalene	91-20-3	6000	200	18	28	J	ND	39	ND	48.0	23	
Nitrobenzene	98-95-3	31000	200	ND	55	ND	ND	77	ND	ND	46	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	270	ND	ND	390	ND	ND	230	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	55	ND	ND	77	ND	ND	46	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	55	ND	ND	77	ND	ND	46	ND
Pentachlorophenol	87-86-5	3000	300	ND	280		ND	390	ND	ND	230	ND
Phenanthrene	85-01-8	N/A	200	43	28		16.0	39	J	160	23	
Phenol	108-95-2	18000000	200	ND	55	ND	ND	77	ND	ND	46	ND
Pyrene	129-00-0	1700000	200	170	28		54	39		420	23	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5d continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp D (S-09)			Comp D-1			Comp D-2 (S-11)		
				20150071			20150101			20150074		
				7764548			7764549			7764550		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	3000	3	2.3	2.8	J	ND	4.0	ND	16	2.4	
4,4'-DDE	72-55-9	2000	3	0.79	2.8	J P	1.7	4.0	J P	5.0	2.4	
4,4'-DDT	50-29-3	2000	3	ND	2.8	ND	ND	4.0	ND	2.6	2.4	
Aldrin	309-00-2	40	2	ND	1.4	ND	ND	1.9	ND	ND	1.2	ND
alpha-HCH (alpha-BHC)	319-84-6	100	2	0.8	1.4	J P	1.0	1.9	J P	ND	1.2	ND
beta-HCH (beta-BHC)	319-85-7	400	2	ND	3.5	V	4.8	2.3	P	ND	1.4	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	ND	3.0	V	ND	3.8	V	ND	1.2	ND
alpha-Chlordane	5103-71-9	200	2	ND	1.4	ND	0.84	1.9	P	ND	1.2	ND
gamma-Chlordane	5566-34-7	200	2	ND	1.4	ND	ND	3.5	V	ND	1.2	ND
Chlordane (alpha and gamma)	57-74-9	200	2	0.0		ND	0.84			0.0		ND
Dieldrin	60-57-1	40	3	ND	2.8	ND	ND	4.0	ND	ND	2.4	ND
Endosulfan I	959-98-8	470000	3	1.1	1.4	J P	1.6	1.9	J P	ND	1.2	ND
Endosulfan II	33213-65-9	470000	3	ND	2.8	ND	2.1	4.0	J P	ND	2.4	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	1.1		J	3.7		J P	0.0		ND
Endosulfan sulfate	1031-07-8	470000	3	ND	2.8	V	ND	4.0	V	ND	2.4	ND
Endrin	72-20-8	23000	3	ND	2.8	ND	ND	4.0	ND	ND	2.4	ND
Heptachlor	76-44-8	100	2	15	6.8		ND	5.6	V	ND	1.2	ND
Heptachlor epoxide	1024-57-3	70	2	ND	1.4	V	ND	1.9	V	ND	1.2	ND
Methoxychlor	72-43-5	390000	20	ND	11	ND	ND	16	ND	ND	9.4	ND
Toxaphene	8001-35-2	600	200	ND	54	ND	ND	77	ND	ND	46	ND
Arochlor-1016	12674-11-2	200	30	ND	28	ND	ND	40	ND	ND	24	ND
Arochlor-1221	11104-28-2	200	30	ND	28	ND	ND	40	ND	ND	24	ND
Arochlor-1232	11141-16-5	200	30	ND	28	ND	ND	40	ND	ND	24	ND
Arochlor-1242	53469-21-9	200	30	ND	28	ND	ND	40	ND	ND	24	ND
Arochlor-1248	12672-29-6	200	30	ND	28	ND	ND	40	ND	ND	24	ND
Arochlor-1254	11097-69-1	200	30	ND	28	ND	ND	40	ND	ND	24	ND
Arochlor-1260	11096-82-5	200	30	ND	28	ND	ND	40	ND	ND	24	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5d continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp D (S-09)			Comp D-1			Comp D-2 (S-11)		
				20150071			20150101			20150074		
				7764548			7764549			7764550		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	7720	31.9		18700	45.2		4830	27.5	
Antimony	7440-36-0	31	6	ND	3.19	ND	ND	4.52	ND	ND	2.75	ND
Arsenic**	7440-38-2	19	1	6.22	3.19		14.8	4.52		2.42	2.75	J
Barium	7440-39-3	16000	20	21.1	0.798		56.0	1.13		13.7	0.688	
Beryllium	7440-41-7	16	0.5	0.308	0.798	J	0.765	1.13	J	0.168	0.688	J
Cadmium	7440-43-9	78	0.5	ND	0.798	ND	ND	1.13	ND	ND	0.688	ND
Cobalt	7440-48-4	1600	5	4.01	0.798		9.10	1.13		2.19	0.688	
Copper	7440-50-8	3100	3	9.38	1.60		32	2.26		9.10	1.38	
Lead	7439-92-1	400	1	11.8	2.40		54.5	3.39		24.9	2.070	
Manganese	7439-96-5	11000	2	125	0.798		336	1.13		63.3	0.688	
Mercury	7439-97-6	23	0.1	0.0844	0.161	J	0.378	0.226		0.0702	0.133	J
Nickel	7440-02-0	1600	4	10.90	1.60		26.1	2.26		7.05	1.38	
Selenium	7782-49-2	390	4	ND	3.19	ND	2.02	4.52	J	ND	2.75	ND
Silver	7440-22-4	390	1	ND	0.798	ND	ND	1.13	ND	ND	0.688	ND
Thallium	7440-28-0	5	3	ND	4.79	ND	ND	6.79	ND	ND	4.13	ND
Vanadium	7440-62-2	78	5	25.4	0.798		65.8	1.13		14.1	0.688	
Zinc	7440-66-6	23000	6	43.8	3.19		133	4.52		40.3	2.75	
Cyanide	57-12-5	1600	3	ND	0.790	ND	ND	1.20	ND	ND	0.700	ND
Chromium, total	7440-47-3	N/A	N/A	25.2	2.40		67.3	3.39		15.4	2.07	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	2.50	ND	ND	3.50	ND	ND	2.10	ND
Trivalent chromium	16065-83-1	N/A	N/A	25.2	2.50		67.3	3.50		15.4	2.10	
% Moisture	N/A	N/A	N/A	39.2			57.5			28.8		
%Solids	N/A	N/A	N/A	60.8			42.5			71.2		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5e **Volatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp E (S-12)			Comp E-1 (S-13)		
				20150075			20150076		
				7764551			7764552		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	70,000,000	10	49	41		ND	28	ND
Acrolein	107-02-8	500	500	ND	200	ND	ND	140	ND
Acrylonitrile	107-13-1	900	500	ND	41	ND	ND	28	ND
Benzene	71-43-2	2,000	5	ND	10	ND	ND	7.0	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1,000	5	ND	10	ND	ND	7.0	ND
Bromoform	75-25-2	81,000	5	ND	10	ND	ND	7.0	ND
Bromomethane (Methyl bromide)	74-83-9	25,000	5	ND	10	ND	ND	7.0	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100,000	10	11	20	J	ND	14	ND
Carbon disulfide	75-15-0	7,800,000	500	5.0	10	J	3.0	7.0	J
Carbon tetrachloride	56-23-5	600	5	ND	10	ND	ND	7.0	ND
Chlorobenzene	108-90-7	510,000	5	ND	10	ND	ND	7.0	ND
Chloroethane (Ethyl chloride)	75-00-3	220,000	5	ND	10	ND	ND	7.0	ND
Chloroform	67-66-3	600	5	ND	10	ND	ND	7.0	ND
Chloromethane (Methyl Chloride)	74-87-3	4,000	5	ND	10	ND	ND	7.0	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	3,000	5	ND	10	ND	ND	7.0	ND
1,2-Dibromo-3-chloropropane	96-12-8	80	5	ND	10	ND	ND	7.0	ND
1,2-Dibromoethane	106-93-4	8	5	ND	10	ND	ND	7.0	ND
Dichlorodifluoromethane	75-71-8	490,000	5	ND	10	ND	ND	7.0	ND
1,1-Dichloroethane	75-34-3	8,000	5	ND	10	ND	ND	7.0	ND
1,2-Dichloroethane	107-06-2	900	5	ND	10	ND	ND	7.0	ND
1,1-Dichloroethene	75-35-4	11,000	5	ND	10	ND	ND	7.0	ND
cis -1,2-Dichloroethene	156-59-2	230,000	5	ND	10	ND	ND	7.0	ND
trans -1,2-Dichloroethene	156-60-5	300,000	5	ND	10	ND	ND	7.0	ND
1,2-Dichloropropane	78-87-5	2,000	5	ND	10	ND	ND	7.0	ND
trans -1,3-Dichloropropene	10061-02-6	2,000	5	ND	10	ND	ND	7.0	ND
cis -1,3-Dichloropropene	10061-01-5	2,000	5	ND	10	ND	ND	7.0	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	2,000	5	0.0		ND	0.0		ND
Ethylbenzene	100-41-4	7,800,000	5	ND	10	ND	ND	7.0	ND
Methyl acetate	79-20-9	78,000,000	5	ND	10	ND	ND	7.0	ND
Methylene chloride (Dichloromethane)	75-09-2	34,000	5	ND	10	ND	ND	7.0	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	110,000	5	ND	10	ND	ND	7.0	ND
Styrene	100-42-5	90,000	5	ND	10	ND	ND	7.0	ND
Tertiary butyl alcohol	75-65-0	1,400,000	100	ND	200	ND	ND	140	ND
1,1,2,2-Tetrachloroethane	79-34-5	1,000	5	ND	10	ND	ND	7.0	ND
Tetrachloroethene (PCE)	127-18-4	2,000	5	ND	10	ND	ND	7.0	ND
Toluene	108-88-3	6,300,000	5	ND	10	ND	ND	7.0	ND
1,1,1-Trichloroethane	71-55-6	290,000	5	ND	10	ND	ND	7.0	ND
1,1,2-Trichloroethane	79-00-5	2,000	5	ND	10	ND	ND	7.0	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	7,000	5	ND	10	ND	ND	7.0	ND
Trichlorofluoromethane	75-69-4	23,000,000	5	ND	10	ND	ND	7.0	ND
Vinyl chloride	75-01-4	700	5	ND	10	ND	ND	7.0	ND
Xylenes (Total)	1330-20-7	12,000,000	5	ND	10	ND	ND	7.0	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5e continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp E (S-12)			Comp E-1 (S-13)		
				20150075			20150076		
				7764551			7764552		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	3100000	200	ND	69	ND	ND	44	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	69	ND	ND	44	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	69	ND	ND	44	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	69	ND	ND	44	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	69	ND	ND	44	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	69	ND	ND	44	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	69	ND	ND	44	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	69	ND	ND	44	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	69	ND	ND	44	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	69	ND	ND	44	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	2100	ND	ND	1300	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	350	ND	ND	220	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	69	ND	ND	44	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	0.0		ND	0.0		ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	69	ND	ND	44	ND
2-Methylnaphthalene	91-57-6	230000	170	ND	35	ND	ND	22	ND
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	69	ND	ND	44	ND
2-Nitroaniline	88-74-4	39000	300	ND	69	ND	ND	44	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	690	ND	ND	440	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	1000	ND	ND	660	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	ND	69	ND	ND	44	ND
Acenaphthene	83-32-9	3400000	200	ND	35	ND	ND	22	ND
Acenaphthylene	208-96-8	N/A	200	ND	35	ND	6.0	22	J
Acetophenone	98-86-2	2000	200	ND	69	ND	ND	44	ND
Anthracene	120-12-7	17000000	200	10	35	J	12	22	J
Atrazine	1912-24-9	210000	200	ND	350	ND	ND	220	ND
Benzaldehyde	100-52-7	6100000	200	ND	350	ND	ND	220	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5e continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp E (S-12)			Comp E-1 (S-13)		
				20150075			20150076		
				7764551			7764552		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	700	700	ND	6900	ND	ND	4400	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	21	35	J	33	22	
Benzo(a)pyrene	50-32-8	200	200	20	35	J	35	22	
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	28	35	J	52	22	
Benzo(g,h,i)perylene	191-24-2	380000000	200	17	35	J	23	22	
Benzo(k)fluoranthene	207-08-9	6000	200	18	35	J	33	22	
bis(2-Chloroethyl)ether	111-44-1	400	200	ND	69	ND	ND	44	ND
Bis(2-chloroisopropyl) ether	108-60-1	23000	200	ND	69	ND	ND	44	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	350	ND	ND	220	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	350	ND	ND	220	ND
Caprolactam	105-60-2	31000000	200	ND	350	ND	ND	220	ND
Carbazole	86-74-8	24000	200	ND	69	ND	ND	44	ND
Chrysene	218-01-9	62000	200	27	35	J	55	22	
Dibenz(a,h)anthracene	53-70-3	200	200	ND	35	ND	5.0	22	J
Diethylphthalate	84-66-2	49000000	200	ND	350	ND	ND	220	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	350	ND	ND	220	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	350	ND	ND	220	ND
Fluoranthene	206-44-0	2300000	200	50	35		87	22	
Fluorene	86-73-7	2300000	200	ND	35	ND	8.0	22	J
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	69	ND	ND	44	ND
Hexachlorobenzene	118-74-1	300	200	ND	35	ND	ND	22	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	1000	ND	ND	660	ND
Hexachloroethane	67-72-1	35000	200	ND	350	ND	ND	220	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	11	35	J	20	22	J
Isophorone	78-59-1	510000	200	ND	69	ND	ND	44	ND
Naphthalene	91-20-3	6000	200	ND	35	ND	5.0	22	J
Nitrobenzene	98-95-3	31000	200	ND	69	ND	ND	44	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	350	ND	ND	220	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	69	ND	ND	44	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	69	ND	ND	44	ND
Pentachlorophenol	87-86-5	3000	300	ND	350	ND	ND	220	ND
Phenanthrene	85-01-8	N/A	200	15	35	J	60	22	
Phenol	108-95-2	18000000	200	ND	69	ND	ND	44	ND
Pyrene	129-00-0	1700000	200	43	35		120	22	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5e continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp E (S-12)			Comp E-1 (S-13)		
				20150075			20150076		
				7764551			7764552		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	3000	3	5.7	3.5		0.86	2.3	J
4,4'-DDE	72-55-9	2000	3	1.2	3.5	J P	ND	2.3	ND
4,4'-DDT	50-29-3	2000	3	2.5	3.5	J P	ND	2.3	ND
Aldrin	309-00-2	40	2	ND	1.7	ND	ND	1.1	ND
alpha-HCH (alpha-BHC)	319-84-6	100	2	ND	1.7	ND	ND	1.1	ND
beta-HCH (beta-BHC)	319-85-7	400	2	ND	2.1	V	ND	1.3	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	22	1.7		ND	1.1	ND
alpha-Chlordane	5103-71-9	200	2	ND	1.7	ND	ND	1.1	ND
gamma-Chlordane	5566-34-7	200	2	ND	1.7	ND	ND	1.1	ND
Chlordane (alpha and gamma)	57-74-9	200	2	0.0		ND	0.0		ND
Dieldrin	60-57-1	40	3	ND	3.5	ND	ND	2.3	ND
Endosulfan I	959-98-8	470000	3	3.5	1.7	P	ND	1.1	ND
Endosulfan II	33213-65-9	470000	3	5.3	3.5		ND	2.3	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	8.8		ND	0.0		ND
Endosulfan sulfate	1031-07-8	470000	3	ND	3.5	V	ND	2.3	ND
Endrin	72-20-8	23000	3	ND	3.5	ND	ND	2.3	ND
Heptachlor	76-44-8	100	2	53	8.6		ND	1.1	ND
Heptachlor epoxide	1024-57-3	70	2	ND	1.7	V	ND	1.1	ND
Methoxychlor	72-43-5	390000	20	4.5	14	J	ND	8.9	ND
Toxaphene	8001-35-2	600	200	ND	68	ND	ND	44	ND
Arochlor-1016	12674-11-2	200	30	ND	35	ND	ND	23	ND
Arochlor-1221	11104-28-2	200	30	ND	35	ND	ND	23	ND
Arochlor-1232	11141-16-5	200	30	ND	35	ND	ND	23	ND
Arochlor-1242	53469-21-9	200	30	ND	35	ND	ND	23	ND
Arochlor-1248	12672-29-6	200	30	ND	35	ND	ND	23	ND
Arochlor-1254	11097-69-1	200	30	ND	35	ND	ND	23	ND
Arochlor-1260	11096-82-5	200	30	ND	35	ND	ND	23	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5e continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp E (S-12)			Comp E-1 (S-13)		
				20150075			20150076		
				7764551			7764552		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	16100	41.3		3950	26.2	
Antimony	7440-36-0	31	6	ND	4.13	ND	ND	2.62	ND
Arsenic**	7440-38-2	19	1	9.98	4.13		2.94	2.62	
Barium	7440-39-3	16000	20	46.1	1.03		12.5	0.654	
Beryllium	7440-41-7	16	0.5	0.657	1.03	J	0.143	0.654	J
Cadmium	7440-43-9	78	0.5	ND	1.03	ND	ND	0.654	ND
Cobalt	7440-48-4	1600	5	7.7	1.03		2.04	0.654	
Copper	7440-50-8	3100	3	25.4	2.07		5.75	1.31	
Lead	7439-92-1	400	1	29.1	3.10		11.6	1.96	
Manganese	7439-96-5	11000	2	245	1.03		57.7	0.654	
Mercury	7439-97-6	23	0.1	0.257	0.203		0.062	0.127	J
Nickel	7440-02-0	1600	4	22.10	2.07		5.96	1.31	
Selenium	7782-49-2	390	4	1.15	4.13	J	ND	2.62	ND
Silver	7440-22-4	390	1	ND	1.03	ND	ND	0.654	ND
Thallium	7440-28-0	5	3	ND	6.20	ND	ND	3.93	ND
Vanadium	7440-62-2	78	5	54.7	1.03		11.9	0.654	
Zinc	7440-66-6	23000	6	98.0	4.13		30.2	2.62	
Cyanide	57-12-5	1600	3	ND	1.000	ND	ND	0.64	ND
Chromium, total	7440-47-3	N/A	N/A	59.7	3.10		12.2	1.96	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	3.10	ND	ND	2.00	ND
Trivalent chromium	16065-83-1	N/A	N/A	59.7	3.10		12.2	2.00	
% Moisture	N/A	N/A	N/A	52.1			25.1		
%Solids	N/A	N/A	N/A	47.9			74.9		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5f **Volatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp F			Comp G		
				20150103			20150104		
				7764553			7764554		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	70,000,000	10	95	60		110	53	
Acrolein	107-02-8	500	500	ND	300	ND	ND	260	ND
Acrylonitrile	107-13-1	900	500	ND	60	ND	ND	53	ND
Benzene	71-43-2	2,000	5	ND	15	ND	ND	13	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1,000	5	ND	15	ND	ND	13	ND
Bromoform	75-25-2	81,000	5	ND	15	ND	ND	13	ND
Bromomethane (Methyl bromide)	74-83-9	25,000	5	ND	15	ND	ND	13	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100,000	10	20	30	J	21	26	J
Carbon disulfide	75-15-0	7,800,000	500	21	15		13	13	J
Carbon tetrachloride	56-23-5	600	5	ND	15	ND	ND	13	ND
Chlorobenzene	108-90-7	510,000	5	ND	15	ND	ND	13	ND
Chloroethane (Ethyl chloride)	75-00-3	220,000	5	ND	15	ND	ND	13	ND
Chloroform	67-66-3	600	5	ND	15	ND	ND	13	ND
Chloromethane (Methyl Chloride)	74-87-3	4,000	5	ND	15	ND	ND	13	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	3,000	5	ND	15	ND	ND	13	ND
1,2-Dibromo-3-chloropropane	96-12-8	80	5	ND	15	ND	ND	13	ND
1,2-Dibromoethane	106-93-4	8	5	ND	15	ND	ND	13	ND
Dichlorodifluoromethane	75-71-8	490,000	5	ND	15	ND	ND	13	ND
1,1-Dichloroethane	75-34-3	8,000	5	ND	15	ND	ND	13	ND
1,2-Dichloroethane	107-06-2	900	5	ND	15	ND	ND	13	ND
1,1-Dichloroethene	75-35-4	11,000	5	ND	15	ND	ND	13	ND
cis -1,2-Dichloroethene	156-59-2	230,000	5	ND	15	ND	ND	13	ND
trans -1,2-Dichloroethene	156-60-5	300,000	5	ND	15	ND	ND	13	ND
1,2-Dichloropropane	78-87-5	2,000	5	ND	15	ND	ND	13	ND
trans -1,3-Dichloropropene	10061-02-6	2,000	5	ND	15	ND	ND	13	ND
cis -1,3-Dichloropropene	10061-01-5	2,000	5	ND	15	ND	ND	13	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	2,000	5	0.0		ND	0.0		ND
Ethylbenzene	100-41-4	7,800,000	5	ND	15	ND	ND	13	ND
Methyl acetate	79-20-9	78,000,000	5	ND	15	ND	ND	13	ND
Methylene chloride (Dichloromethane)	75-09-2	34,000	5	ND	15	ND	ND	13	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	110,000	5	ND	15	ND	ND	13	ND
Styrene	100-42-5	90,000	5	ND	15	ND	ND	13	ND
Tertiary butyl alcohol	75-65-0	1,400,000	100	ND	300	ND	ND	260	ND
1,1,2,2-Tetrachloroethane	79-34-5	1,000	5	ND	15	ND	ND	13	ND
Tetrachloroethene (PCE)	127-18-4	2,000	5	ND	15	ND	ND	13	ND
Toluene	108-88-3	6,300,000	5	ND	15	ND	ND	13	ND
1,1,1-Trichloroethane	71-55-6	290,000	5	ND	15	ND	ND	13	ND
1,1,2-Trichloroethane	79-00-5	2,000	5	ND	15	ND	ND	13	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	7,000	5	ND	15	ND	ND	13	ND
Trichlorofluoromethane	75-69-4	23,000,000	5	ND	15	ND	ND	13	ND
Vinyl chloride	75-01-4	700	5	ND	15	ND	ND	13	ND
Xylenes (Total)	1330-20-7	12,000,000	5	ND	15	ND	ND	13	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5f continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp F			Comp G		
				20150103			20150104		
				7764553			7764554		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	3100000	200	ND	92	ND	ND	81	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	92	ND	ND	81	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	92	ND	ND	81	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	92	ND	ND	81	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	92	ND	ND	81	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	92	ND	ND	81	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	92	ND	ND	81	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	92	ND	ND	81	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	92	ND	ND	81	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	92	ND	ND	81	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	2800	ND	ND	2400	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	460	ND	ND	400	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	92	ND	ND	81	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	0.0		ND	0.0		ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	92	ND	ND	81	ND
2-Methylnaphthalene	91-57-6	230000	170	ND	47	ND	ND	41	ND
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	92	ND	ND	81	ND
2-Nitroaniline	88-74-4	39000	300	ND	92	ND	ND	81	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	920	ND	ND	810	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	1400	ND	ND	1200	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	ND	92	ND	ND	81	ND
Acenaphthene	83-32-9	3400000	200	ND	47	ND	ND	41	ND
Acenaphthylene	208-96-8	N/A	200	ND	47	ND	ND	41	ND
Acetophenone	98-86-2	2000	200	ND	92	ND	ND	81	ND
Anthracene	120-12-7	17000000	200	28	47	J	ND	41	ND
Atrazine	1912-24-9	210000	200	ND	460	ND	ND	400	ND
Benzaldehyde	100-52-7	6100000	200	ND	460	ND	ND	400	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5f continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp F			Comp G		
				20150103			20150104		
				7764553			7764554		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	700	700	ND	9200	ND	ND	8100	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	45	47	J	15	41	J
Benzo(a)pyrene	50-32-8	200	200	44	47	J	15	41	J
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	74	47		25	41	J
Benzo(g,h,i)perylene	191-24-2	380000000	200	30	47	J	ND	41	ND
Benzo(k)fluoranthene	207-08-9	6000	200	39	47	J	11.0	41	J
bis(2-Chloroethyl)ether	111-44-1	400	200	ND	92	ND	ND	81	ND
Bis(2-chloroisopropyl) ether	108-60-1	23000	200	ND	92	ND	ND	81	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	470	ND	ND	410	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	460	ND	ND	400	ND
Caprolactam	105-60-2	31000000	200	ND	460	ND	ND	400	ND
Carbazole	86-74-8	24000	200	ND	92	ND	ND	81	ND
Chrysene	218-01-9	62000	200	77	47		18	41	J
Dibenz(a,h)anthracene	53-70-3	200	200	ND	47	ND	ND	41	ND
Diethylphthalate	84-66-2	49000000	200	ND	460	ND	ND	400	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	460	ND	ND	400	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	460	ND	ND	400	ND
Fluoranthene	206-44-0	2300000	200	120	47		28.0	41	J
Fluorene	86-73-7	2300000	200	ND	47	ND	ND	41	ND
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	92	ND	ND	81	ND
Hexachlorobenzene	118-74-1	300	200	ND	47	ND	ND	41	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	1400	ND	ND	1200	ND
Hexachloroethane	67-72-1	35000	200	ND	460	ND	ND	400	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	18	47	J	ND	41	ND
Isophorone	78-59-1	510000	200	ND	92	ND	ND	81	ND
Naphthalene	91-20-3	6000	200	ND	47	ND	ND	41	ND
Nitrobenzene	98-95-3	31000	200	ND	92	ND	ND	81	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	460	ND	ND	400	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	92	ND	ND	81	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	92	ND	ND	81	ND
Pentachlorophenol	87-86-5	3000	300	ND	470	ND	ND	410	ND
Phenanthrene	85-01-8	N/A	200	18	47	J	ND	41	ND
Phenol	108-95-2	18000000	200	ND	92	ND	ND	81	ND
Pyrene	129-00-0	1700000	200	85	47		28	41	J

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5f continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp F			Comp G		
				20150103			20150104		
				7764553			7764554		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	3000	3	4.1	4.8	J	4.0	4.2	J
4,4'-DDE	72-55-9	2000	3	1.4	4.8	J P	2.6	4.2	J P
4,4'-DDT	50-29-3	2000	3	ND	4.8	ND	ND	4.2	ND
Aldrin	309-00-2	40	2	ND	2.3	ND	ND	2.0	ND
alpha-HCH (alpha-BHC)	319-84-6	100	2	ND	2.3	ND	1.1	2.0	J P
beta-HCH (beta-BHC)	319-85-7	400	2	ND	4.2	V	4.9	2.4	P
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	14	2.3		ND	4.2	V
alpha-Chlordane	5103-71-9	200	2	ND	2.3	ND	0.87	2.0	J
gamma-Chlordane	5566-34-7	200	2	ND	3.9	ND	ND	3.9	V
Chlordane (alpha and gamma)	57-74-9	200	2	0.0		ND	0.9		J
Dieldrin	60-57-1	40	3	ND	4.8	ND	ND	4.2	ND
Endosulfan I	959-98-8	470000	3	3.2	2.3		1.7	2.0	J P
Endosulfan II	33213-65-9	470000	3	ND	4.8	ND	ND	4.2	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	3.2			1.7		J
Endosulfan sulfate	1031-07-8	470000	3	ND	4.8	V	ND	4.2	V
Endrin	72-20-8	23000	3	ND	4.8	ND	ND	4.2	ND
Heptachlor	76-44-8	100	2	ND	18	V	ND	17	V
Heptachlor epoxide	1024-57-3	70	2	2.1	2.3	J P	3.2	2.0	P
Methoxychlor	72-43-5	390000	20	ND	19	ND	ND	16	ND
Toxaphene	8001-35-2	600	200	ND	92	ND	ND	81	ND
Arochlor-1016	12674-11-2	200	30	ND	47	ND	ND	41	ND
Arochlor-1221	11104-28-2	200	30	ND	47	ND	ND	41	ND
Arochlor-1232	11141-16-5	200	30	ND	47	ND	ND	41	ND
Arochlor-1242	53469-21-9	200	30	ND	47	ND	ND	41	ND
Arochlor-1248	12672-29-6	200	30	ND	47	ND	ND	41	ND
Arochlor-1254	11097-69-1	200	30	ND	47	ND	ND	41	ND
Arochlor-1260	11096-82-5	200	30	ND	47	ND	ND	41	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5f continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp F			Comp G		
				20150103			20150104		
				7764553			7764554		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	22000	55.1		20200	48.1	
Antimony	7440-36-0	31	6	ND	5.51	ND	ND	4.81	ND
Arsenic**	7440-38-2	19	1	13.5	5.51		14.4	4.81	
Barium	7440-39-3	16000	20	64	1.38		59.9	1.20	
Beryllium	7440-41-7	16	0.5	0.901	1.38	J	0.815	1.20	J
Cadmium	7440-43-9	78	0.5	ND	1.38	ND	ND	1.20	ND
Cobalt	7440-48-4	1600	5	10.7	1.38		9.69	1.20	
Copper	7440-50-8	3100	3	36.9	2.75		34.1	2.40	
Lead	7439-92-1	400	1	35.5	4.13		44.3	3.60	
Manganese	7439-96-5	11000	2	338	1.38		314	1.20	
Mercury	7439-97-6	23	0.1	0.308	0.273		0.397	0.235	
Nickel	7440-02-0	1600	4	31.3	2.75		28.0	2.40	
Selenium	7782-49-2	390	4	1.89	5.51	J	2.16	4.81	J
Silver	7440-22-4	390	1	ND	1.38	ND	ND	1.20	ND
Thallium	7440-28-0	5	3	ND	8.26	ND	ND	7.21	ND
Vanadium	7440-62-2	78	5	71.9	1.38		67.7	1.20	
Zinc	7440-66-6	23000	6	137	5.51		138	4.81	
Cyanide	57-12-5	1600	3	ND	1.400	ND	ND	1.20	ND
Chromium, total	7440-47-3	N/A	N/A	75.5	4.13		70.4	3.60	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	4.20	ND	ND	3.70	ND
Trivalent chromium	16065-83-1	N/A	N/A	75.5	4.20		70.4	3.70	
% Moisture	N/A	N/A	N/A	64.4			59.2		
%Solids	N/A	N/A	N/A	35.6			40.8		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5g **Volatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp I (S-19)			Comp I-1 (S-20)			Comp I-2 (S-21)		
				20150085			20150086			20150087		
				7764555			7764556			7764557		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	70,000,000	10	130	48		110	52		12	31	J
Acrolein	107-02-8	500	500	ND	240	ND	ND	260	ND	ND	150	ND
Acrylonitrile	107-13-1	900	500	ND	48	ND	ND	52	ND	ND	31	ND
Benzene	71-43-2	2,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Bromoform	75-25-2	81,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Bromomethane (Methyl bromide)	74-83-9	25,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100,000	10	16	24	J	20	26	J	ND	15	ND
Carbon disulfide	75-15-0	7,800,000	500	7.0	12	J	16	13		ND	8.0	ND
Carbon tetrachloride	56-23-5	600	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Chlorobenzene	108-90-7	510,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Chloroethane (Ethyl chloride)	75-00-3	220,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Chloroform	67-66-3	600	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Chloromethane (Methyl Chloride)	74-87-3	4,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	3,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
1,2-Dibromo-3-chloropropane	96-12-8	80	5	ND	12	ND	ND	13	ND	ND	8.0	ND
1,2-Dibromoethane	106-93-4	8	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Dichlorodifluoromethane	75-71-8	490,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
1,1-Dichloroethane	75-34-3	8,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
1,2-Dichloroethane	107-06-2	900	5	ND	12	ND	ND	13	ND	ND	8.0	ND
1,1-Dichloroethene	75-35-4	11,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
cis -1,2-Dichloroethene	156-59-2	230,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
trans -1,2-Dichloroethene	156-60-5	300,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
1,2-Dichloropropane	78-87-5	2,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
trans -1,3-Dichloropropene	10061-02-6	2,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
cis -1,3-Dichloropropene	10061-01-5	2,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	2,000	5	0.0		ND	0.0		ND	0.0		ND
Ethylbenzene	100-41-4	7,800,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Methyl acetate	79-20-9	78,000,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Methylene chloride (Dichloromethane)	75-09-2	34,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	110,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Styrene	100-42-5	90,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Tertiary butyl alcohol	75-65-0	1,400,000	100	ND	240	ND	ND	260	ND	ND	150	ND
1,1,2,2-Tetrachloroethane	79-34-5	1,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Tetrachloroethene (PCE)	127-18-4	2,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Toluene	108-88-3	6,300,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
1,1,1-Trichloroethane	71-55-6	290,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
1,1,2-Trichloroethane	79-00-5	2,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	7,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Trichlorofluoromethane	75-69-4	23,000,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Vinyl chloride	75-01-4	700	5	ND	12	ND	ND	13	ND	ND	8.0	ND
Xylenes (Total)	1330-20-7	12,000,000	5	ND	12	ND	ND	13	ND	ND	8.0	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5g continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp I (S-19)			Comp I-1 (S-20)			Comp I-2 (S-21)		
				20150085			20150086			20150087		
			PQL*	7764555			7764556			7764557		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	3100000	200	ND	73	ND	ND	86	ND	ND	46	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	73	ND	ND	86	ND	ND	46	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	73	ND	ND	86	ND	ND	46	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	73	ND	ND	86	ND	ND	46	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	73	ND	ND	86	ND	ND	46	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	73	ND	ND	86	ND	ND	46	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	73	ND	ND	86	ND	ND	46	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	73	ND	ND	86	ND	ND	46	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	73	ND	ND	86	ND	ND	46	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	73	ND	ND	86	ND	ND	46	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	2200	ND	ND	2600	ND	ND	1400	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	360	ND	ND	430	ND	ND	230	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	73	ND	ND	86	ND	ND	46	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	0.0		ND	0.0		ND	0.0		ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	73	ND	ND	86	ND	ND	46	ND
2-Methylnaphthalene	91-57-6	230000	170	8.0	37	J	ND	44	ND	6.0	24	J
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	73	ND	ND	86	ND	ND	46	ND
2-Nitroaniline	88-74-4	39000	300	ND	73	ND	ND	86	ND	ND	46	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	730	ND	ND	860	ND	ND	460	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	1100	ND	ND	1300	ND	ND	690	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	ND	73	ND	ND	86	ND	ND	46	ND
Acenaphthene	83-32-9	3400000	200	9.0	37	J	ND	44	ND	ND	24	ND
Acenaphthylene	208-96-8	N/A	200	ND	37	ND	ND	44	ND	ND	24	ND
Acetophenone	98-86-2	2000	200	ND	73	ND	ND	86	ND	ND	46	ND
Anthracene	120-12-7	17000000	200	31	37	J	ND	44	ND	13	24	J
Atrazine	1912-24-9	210000	200	ND	360	ND	ND	430	ND	ND	230	ND
Benzaldehyde	100-52-7	6100000	200	ND	360	ND	ND	430	ND	ND	230	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5g continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp I (S-19)			Comp I-1 (S-20)			Comp I-2 (S-21)		
				20150085			20150086			20150087		
				7764555			7764556			7764557		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	700	700	ND	7300	ND	ND	8600	ND	ND	4600	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	36	37	J	19	44	J	23	24	J
Benzo(a)pyrene	50-32-8	200	200	34	37	J	21	44	J	24	24	
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	53	37		33	44	J	26	24	
Benzo(g,h,i)perylene	191-24-2	380000000	200	21	37	J	ND	44	ND	19	24	J
Benzo(k)fluoranthene	207-08-9	6000	200	24	37	J	13	44	J	19	24	J
bis(2-Chloroethyl)ether	111-44-1	400	200	ND	73	ND	ND	86	ND	ND	46	ND
Bis(2-chloroisopropyl) ether	108-60-1	23000	200	ND	73	ND	ND	86	ND	ND	46	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	370	ND	ND	440	ND	ND	240	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	360	ND	ND	430	ND	ND	230	ND
Caprolactam	105-60-2	31000000	200	ND	360	ND	ND	430	ND	ND	230	ND
Carbazole	86-74-8	24000	200	ND	73	ND	ND	86	ND	ND	46	ND
Chrysene	218-01-9	62000	200	55	37		24	44	J	33	24	
Dibenz(a,h)anthracene	53-70-3	200	200	11	37	J	ND	44	ND	7	24	J
Diethylphthalate	84-66-2	49000000	200	ND	360	ND	ND	430	ND	ND	230	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	360	ND	ND	430	ND	ND	230	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	360	ND	ND	430	ND	ND	230	ND
Fluoranthene	206-44-0	2300000	200	110	37		38	44	J	44	24	
Fluorene	86-73-7	2300000	200	13.0	37	J	ND	44	ND	ND	24	ND
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	73	ND	ND	86	ND	ND	46	ND
Hexachlorobenzene	118-74-1	300	200	ND	37	ND	ND	44	ND	ND	24	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	1100	ND	ND	1300	ND	ND	690	ND
Hexachloroethane	67-72-1	35000	200	ND	360	ND	ND	430	ND	ND	230	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	19	37	J	11	44	J	16	24	J
Isophorone	78-59-1	510000	200	ND	73	ND	ND	86	ND	ND	46	ND
Naphthalene	91-20-3	6000	200	15	37	J	ND	44	ND	7.0	24	J
Nitrobenzene	98-95-3	31000	200	ND	73	ND	ND	86	ND	ND	46	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	360	ND	ND	430	ND	ND	230	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	73	ND	ND	86	ND	ND	46	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	73	ND	ND	86	ND	ND	46	ND
Pentachlorophenol	87-86-5	3000	300	ND	370	ND	ND	440	ND	ND	240	ND
Phenanthrene	85-01-8	N/A	200	22	37	J	ND	44	ND	14	24	J
Phenol	108-95-2	18000000	200	ND	73	ND	ND	86	ND	ND	46	ND
Pyrene	129-00-0	1700000	200	79	37		33	44	J	54	24	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5g continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp I (S-19)			Comp I-1 (S-20)			Comp I-2 (S-21)		
				20150085			20150086			20150087		
				7764555			7764556			7764557		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	3000	3	5.3	19	J	3.9	4.4	J	0.52	2.4	J P
4,4'-DDE	72-55-9	2000	3	5.3	19	J	2.0	4.4	J P	0.89	2.4	J P
4,4'-DDT	50-29-3	2000	3	ND	19	ND	ND	4.4	ND	ND	2.4	ND
Aldrin	309-00-2	40	2	9.5	9.1		3.1	2.1	P	2.3	1.2	
alpha-HCH (alpha-BHC)	319-84-6	100	2	ND	9.1	ND	ND	2.1	ND	1.0	1.2	J
beta-HCH (beta-BHC)	319-85-7	400	2	11	11	J P	2.3	2.6	ND	ND	1.7	V
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	ND	9.1	V	6.2	2.1		ND	1.2	V
alpha-Chlordane	5103-71-9	200	2	2.3	9.1	J P	0.51	2.1	J P	0.35	1.2	J
gamma-Chlordane	5566-34-7	200	2	ND	9.1	ND	ND	2.1	ND	ND	1.2	V
Chlordane (alpha and gamma)	57-74-9	200	2	2.3		J	0.51		J	0.35		J
Dieldrin	60-57-1	40	3	ND	19	ND	ND	4.4	ND	ND	2.4	ND
Endosulfan I	959-98-8	470000	3	4.8	9.1	J P	1.3	2.1	J P	ND	1.2	V
Endosulfan II	33213-65-9	470000	3	5.1	19	J	1.5	4.4	J	ND	2.4	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	9.9		J	2.8		J	0.0		ND
Endosulfan sulfate	1031-07-8	470000	3	ND	19	ND	ND	4.4	ND	ND	2.4	ND
Endrin	72-20-8	23000	3	ND	19	ND	ND	4.4	ND	ND	2.4	ND
Heptachlor	76-44-8	100	2	ND	66	ND	ND	3.1	ND	2.1	1.2	
Heptachlor epoxide	1024-57-3	70	2	ND	9.1	V	2.4	2.1		0.89	1.2	J P
Methoxychlor	72-43-5	390000	20	ND	74	ND	ND	17	ND	ND	9.4	ND
Toxaphene	8001-35-2	600	200	ND	360	ND	ND	85	ND	ND	46	ND
Arochlor-1016	12674-11-2	200	30	ND	37	ND	ND	44	ND	ND	24	ND
Arochlor-1221	11104-28-2	200	30	ND	37	ND	ND	44	ND	ND	24	ND
Arochlor-1232	11141-16-5	200	30	ND	37	ND	ND	44	ND	ND	24	ND
Arochlor-1242	53469-21-9	200	30	ND	37	ND	ND	44	ND	ND	24	ND
Arochlor-1248	12672-29-6	200	30	ND	37	ND	ND	44	ND	ND	24	ND
Arochlor-1254	11097-69-1	200	30	ND	37	ND	ND	44	ND	ND	24	ND
Arochlor-1260	11096-82-5	200	30	ND	37	ND	ND	44	ND	ND	24	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5g continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp I (S-19)			Comp I-1 (S-20)			Comp I-2 (S-21)		
				20150085			20150086			20150087		
			PQL*	7764555			7764556			7764557		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	16200	43.7		19900	50.9		4890	27.3	
Antimony	7440-36-0	31	6	ND	4.37	ND	ND	5.09	ND	ND	2.73	ND
Arsenic**	7440-38-2	19	1	13.2	4.37		16.1	5.09		3.69	2.73	
Barium	7440-39-3	16000	20	48.0	1.09		59.5	1.27		13.1	0.684	
Beryllium	7440-41-7	16	0.5	0.656	1.09	J	0.805	1.27	J	0.193	0.684	J
Cadmium	7440-43-9	78	0.5	ND	1.09	ND	ND	1.27	ND	ND	0.684	ND
Cobalt	7440-48-4	1600	5	7.79	1.09		9.91	1.27		2.81	0.684	
Copper	7440-50-8	3100	3	23.2	2.19		33.2	2.55		5.64	1.37	
Lead	7439-92-1	400	1	29.9	3.28		46.4	3.82		7.49	2.050	
Manganese	7439-96-5	11000	2	291	1.09		354	1.27		79.6	0.684	
Mercury	7439-97-6	23	0.1	0.261	0.214		0.424	0.258		0.0419	0.140	J
Nickel	7440-02-0	1600	4	22.30	2.19		28.1	2.55		7.5	1.37	
Selenium	7782-49-2	390	4	2.72	4.37	J	1.53	5.09	J	ND	2.73	ND
Silver	7440-22-4	390	1	ND	1.09	ND	ND	1.27	ND	ND	0.684	ND
Thallium	7440-28-0	5	3	ND	6.56	ND	ND	7.64	ND	ND	4.10	ND
Vanadium	7440-62-2	78	5	56.2	1.09		69.0	1.27		15.7	0.684	
Zinc	7440-66-6	23000	6	102	4.37		139	5.09		32.9	2.73	
Cyanide	57-12-5	1600	3	ND	1.10	ND	ND	1.20	ND	ND	0.670	ND
Chromium, total	7440-47-3	N/A	N/A	55.0	3.28		71.4	3.82		16.4	2.05	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	3.30		ND	3.90		ND	2.10	ND
Trivalent chromium	16065-83-1	N/A	N/A	55.0	3.30		71.4	3.90		16.4	2.10	
% Moisture	N/A	N/A	N/A	54.7			61.5			29.0		
%Solids	N/A	N/A	N/A	45.3			38.5			71.0		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5h **Volatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp J (S-22)			Comp J-1 (S-23)			Comp L		
				20150088			20150089			20150109		
				7764558			7764559			7764560		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	70,000,000	10	110	47		10	27	J	12	28	J
Acrolein	107-02-8	500	500	ND	240	ND	ND	140	ND	ND	140	ND
Acrylonitrile	107-13-1	900	500	ND	47	ND	ND	27	ND	ND	28	ND
Benzene	71-43-2	2,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Bromoform	75-25-2	81,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Bromomethane (Methyl bromide)	74-83-9	25,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100,000	10	18	24	J	ND	14	ND	ND	14	ND
Carbon disulfide	75-15-0	7,800,000	500	12	12		4.0	7.0	J	4.0	7.0	J
Carbon tetrachloride	56-23-5	600	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Chlorobenzene	108-90-7	510,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Chloroethane (Ethyl chloride)	75-00-3	220,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Chloroform	67-66-3	600	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Chloromethane (Methyl Chloride)	74-87-3	4,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	3,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
1,2-Dibromo-3-chloropropane	96-12-8	80	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
1,2-Dibromoethane	106-93-4	8	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Dichlorodifluoromethane	75-71-8	490,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
1,1-Dichloroethane	75-34-3	8,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
1,2-Dichloroethane	107-06-2	900	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
1,1-Dichloroethene	75-35-4	11,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
cis -1,2-Dichloroethene	156-59-2	230,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
trans -1,2-Dichloroethene	156-60-5	300,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
1,2-Dichloropropane	78-87-5	2,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
trans -1,3-Dichloropropene	10061-02-6	2,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
cis -1,3-Dichloropropene	10061-01-5	2,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	2,000	5	0		ND	0		ND	0		ND
Ethylbenzene	100-41-4	7,800,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Methyl acetate	79-20-9	78,000,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Methylene chloride (Dichloromethane)	75-09-2	34,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	110,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Styrene	100-42-5	90,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Tertiary butyl alcohol	75-65-0	1,400,000	100	ND	240	ND	ND	140	ND	ND	140	ND
1,1,2,2-Tetrachloroethane	79-34-5	1,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Tetrachloroethene (PCE)	127-18-4	2,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Toluene	108-88-3	6,300,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
1,1,1-Trichloroethane	71-55-6	290,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
1,1,2-Trichloroethane	79-00-5	2,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	7,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Trichlorofluoromethane	75-69-4	23,000,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Vinyl chloride	75-01-4	700	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND
Xylenes (Total)	1330-20-7	12,000,000	5	ND	12	ND	ND	7.0	ND	ND	7.0	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5h continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp J (S-22)			Comp J-1 (S-23)			Comp L		
				20150088			20150089			20150109		
			PQL*	7764558			7764559			7764560		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	3100000	200	ND	75	ND	ND	47	ND	ND	46	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	75	ND	ND	47	ND	ND	46	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	75	ND	ND	47	ND	ND	46	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	75	ND	ND	47	ND	ND	46	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	75	ND	ND	47	ND	ND	46	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	75	ND	ND	47	ND	ND	46	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	75	ND	ND	47	ND	ND	46	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	75	ND	ND	47	ND	ND	46	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	75	ND	ND	47	ND	ND	46	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	75	ND	ND	47	ND	ND	46	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	2300	ND	ND	1400	ND	ND	1400	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	380	ND	ND	240	ND	ND	230	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	75	ND	ND	47	ND	ND	46	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	0.0		ND	0.0		ND	0.0		ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	75	ND	ND	47	ND	ND	46	ND
2-Methylnaphthalene	91-57-6	230000	170	ND	38	ND	5	24	J	19	23	J
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	75	ND	ND	47	ND	ND	46	ND
2-Nitroaniline	88-74-4	39000	300	ND	75	ND	ND	47	ND	ND	46	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	750	ND	ND	470	ND	ND	460	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	1100	ND	ND	710	ND	ND	690	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	ND	75	ND	ND	47	ND	ND	46	ND
Acenaphthene	83-32-9	3400000	200	ND	38	ND	ND	24	ND	47	23	
Acenaphthylene	208-96-8	N/A	200	ND	38	ND	6.0	24	J	6.0	23	J
Acetophenone	98-86-2	2000	200	ND	75	ND	ND	47	ND	ND	46	ND
Anthracene	120-12-7	17000000	200	37	38	J	23	24	J	82	23	
Atrazine	1912-24-9	210000	200	ND	380	ND	ND	240	ND	ND	230	ND
Benzaldehyde	100-52-7	6100000	200	ND	380	ND	ND	240	ND	ND	230	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5h continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp J (S-22)			Comp J-1 (S-23)			Comp L		
				20150088			20150089			20150109		
				7764558			7764559			7764560		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	700	700	ND	7500	ND	ND	4700	ND	ND	4600	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	53	38		34	24		72	23	
Benzo(a)pyrene	50-32-8	200	200	37	38	J	35	24		49	23	
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	53	38		43	24		72	23	
Benzo(g,h,i)perylene	191-24-2	380000000	200	28	38	J	22.0	24	J	16	23	J
Benzo(k)fluoranthene	207-08-9	6000	200	23	38	J	22.0	24	J	34	23	
bis(2-Chloroethyl)ether	111-44-1	400	200	ND	75	ND	ND	47	ND	ND	46	ND
Bis(2-chloroisopropyl) ether	108-60-1	23000	200	ND	75	ND	ND	47	ND	ND	46	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	380	ND	ND	240	ND	ND	230	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	380	ND	ND	240	ND	ND	230	ND
Caprolactam	105-60-2	31000000	200	ND	380	ND	ND	240	ND	ND	230	ND
Carbazole	86-74-8	24000	200	ND	75	ND	ND	47	ND	63	46	
Chrysene	218-01-9	62000	200	59	38		37	24		76	23	
Dibenz(a,h)anthracene	53-70-3	200	200	10	38	J	6.0	24	J	5.0	23	J
Diethylphthalate	84-66-2	49000000	200	ND	380	ND	ND	240	ND	ND	230	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	380	ND	ND	240	ND	ND	230	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	380	ND	ND	240	ND	ND	230	ND
Fluoranthene	206-44-0	2300000	200	140	38		74	24		240	23	
Fluorene	86-73-7	2300000	200	9.0	38	J	8.0	24	J	80	23	
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	75	ND	ND	47	ND	ND	46	ND
Hexachlorobenzene	118-74-1	300	200	ND	38	ND	ND	24	ND	ND	23	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	1100	ND	ND	710	ND	ND	690	ND
Hexachloroethane	67-72-1	35000	200	ND	380	ND	ND	240	ND	ND	230	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	19	38	J	22	24	J	21	23	J
Isophorone	78-59-1	510000	200	ND	75	ND	ND	47	ND	ND	46	ND
Naphthalene	91-20-3	6000	200	ND	38	ND	5	24	J	71	23	
Nitrobenzene	98-95-3	31000	200	ND	75	ND	ND	47	ND	ND	46	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	380	ND	ND	240	ND	ND	230	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	75	ND	ND	47	ND	ND	46	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	75	ND	ND	47	ND	ND	46	ND
Pentachlorophenol	87-86-5	3000	300	ND	380	ND	ND	240	ND	ND	230	ND
Phenanthrene	85-01-8	N/A	200	24	38	J	46.0	24		180	23	
Phenol	108-95-2	18000000	200	ND	75	ND	ND	47	ND	ND	46	ND
Pyrene	129-00-0	1700000	200	99	38		74	24		200	23	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5h continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards	PQL*	Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp J (S-22)			Comp J-1 (S-23)			Comp L		
				20150088			20150089			20150109		
				7764558			7764559			7764560		
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	3000	3	5.7	19	J P	2.2	2.4	J P	ND	2.3	ND
4,4'-DDE	72-55-9	2000	3	5.7	19	J	0.71	2.4	J P	0.63	2.3	J P
4,4'-DDT	50-29-3	2000	3	ND	19	ND	ND	2.4	ND	ND	2.3	ND
Aldrin	309-00-2	40	2	ND	9.4		ND	1.2	ND	1.7	1.1	P
alpha-HCH (alpha-BHC)	319-84-6	100	2	ND	9.4	ND	ND	1.2	ND	1.0	1.1	J P
beta-HCH (beta-BHC)	319-85-7	400	2	11	11	J P	4.8	1.4		ND	1.4	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	ND	9.4	V	ND	14	ND	ND	8.8	ND
alpha-Chlordane	5103-71-9	200	2	ND	9.4	ND	ND	1.2	ND	ND	1.1	ND
gamma-Chlordane	5566-34-7	200	2	ND	9.4	ND	ND	1.2	ND	ND	1.1	ND
Chlordane (alpha and gamma)	57-74-9	200	2	0.0		ND	0.0		ND	0.0		ND
Dieldrin	60-57-1	40	3	ND	19	ND	ND	2.4	ND	ND	2.3	ND
Endosulfan I	959-98-8	470000	3	8.1	9.4	J	2.6	1.2	P	ND	1.1	ND
Endosulfan II	33213-65-9	470000	3	5.5	19	J	1.3	2.4	J P	ND	2.3	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	13.6		ND	3.9		ND	0.0		ND
Endosulfan sulfate	1031-07-8	470000	3	ND	19	ND	1.6	2.4	J	ND	2.3	ND
Endrin	72-20-8	23000	3	ND	19	ND	ND	2.4	ND	ND	2.3	ND
Heptachlor	76-44-8	100	2	71	9.4		ND	4.9	ND	5.2	1.5	ND
Heptachlor epoxide	1024-57-3	70	2	4.5	9.4	J P	ND	1.2	ND	0.44	1.1	J P
Methoxychlor	72-43-5	390000	20	ND	76	ND	ND	9.5	ND	ND	9.2	ND
Toxaphene	8001-35-2	600	200	ND	380	ND	ND	47	ND	ND	45	ND
Arochlor-1016	12674-11-2	200	30	ND	39	ND	ND	24	ND	ND	23	ND
Arochlor-1221	11104-28-2	200	30	ND	39	ND	ND	24	ND	ND	23	ND
Arochlor-1232	11141-16-5	200	30	ND	39	ND	ND	24	ND	ND	23	ND
Arochlor-1242	53469-21-9	200	30	ND	39	ND	ND	24	ND	ND	23	ND
Arochlor-1248	12672-29-6	200	30	ND	39	ND	ND	24	ND	ND	23	ND
Arochlor-1254	11097-69-1	200	30	ND	39	ND	ND	24	ND	ND	23	ND
Arochlor-1260	11096-82-5	200	30	ND	39	ND	ND	24	ND	ND	23	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5h continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-005		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp J (S-22)			Comp J-1 (S-23)			Comp L		
				20150088			20150089			20150109		
			PQL*	7764558			7764559			7764560		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	13800	44.3		5240	27.7		4510	27.0	
Antimony	7440-36-0	31	6	ND	4.43	ND	ND	2.77	ND	ND	2.70	ND
Arsenic**	7440-38-2	19	1	10.1	4.43		3.67	2.77		4.65	2.70	
Barium	7440-39-3	16000	20	41.2	1.11		14.6	0.692		26.8	0.674	
Beryllium	7440-41-7	16	0.5	0.550	1.11	J	0.209	0.692	J	0.177	0.674	J
Cadmium	7440-43-9	78	0.5	ND	1.11	ND	ND	0.692	ND	ND	0.674	ND
Cobalt	7440-48-4	1600	5	6.84	1.11		3.01	0.692		2.26	0.674	
Copper	7440-50-8	3100	3	19.4	2.22		6.76	1.38		3.81	1.35	
Lead	7439-92-1	400	1	23.7	3.32		9.5	2.08		6.68	2.02	
Manganese	7439-96-5	11000	2	239	1.11		85.9	0.692		76.7	0.674	
Mercury	7439-97-6	23	0.1	0.198	0.214	J	0.0887	0.135	J	0.0326	0.136	J
Nickel	7440-02-0	1600	4	19.50	2.22		8.09	1.38		6.42	1.35	
Selenium	7782-49-2	390	4	1.01	4.43	J	0.636	2.77	J	ND	2.70	ND
Silver	7440-22-4	390	1	ND	1.11	ND	ND	0.692	ND	ND	0.674	ND
Thallium	7440-28-0	5	3	ND	6.65	ND	ND	4.15	ND	ND	4.05	ND
Vanadium	7440-62-2	78	5	48	1.11		17.2	0.692		13.9	0.674	
Zinc	7440-66-6	23000	6	80.8	4.43		39.1	2.77		30.6	2.70	
Cyanide	57-12-5	1600	3	ND	1.10	ND	ND	0.690	ND	ND	0.690	ND
Chromium, total	7440-47-3	N/A	N/A	46.9	3.32		18.2	2.08		14.2	2.02	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	3.40	ND	ND	2.10	ND	ND	2.10	ND
Trivalent chromium	16065-83-1	N/A	N/A	46.9	3.40		18.2	2.10		14.2	2.10	
% Moisture	N/A	N/A	N/A	56.2			29.9			28.0		
%Solids	N/A	N/A	N/A	43.8			70.1			72.0		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 6 **Volatile Analysis of Field Blanks**

ASI Job # 35-005			Field Blank (Units: ug/L)			Field Blank (Units: ug/L)		
			20150095			20150096		
			7756354			7756355		
		PQL*	Field Blank #1			Field Blank #2		
Analyte Name	**CAS No.**	**ug/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Acetone (2-Propanone)	67-64-1	10	ND	20	ND	ND	20	ND
Acrolein	107-02-8	500	ND	100	ND	ND	100	ND
Acrylonitrile	107-13-1	500	ND	20	ND	ND	20	ND
Benzene	71-43-2	5	ND	1.0	ND	ND	1.0	ND
Bromodichloromethane (Dichlorobromomethane)	75-27-4	5	ND	1.0	ND	ND	1.0	ND
Bromoform	75-25-2	5	ND	4.0	ND	ND	4.0	ND
Bromomethane (Methyl bromide)	74-83-9	5	ND	1.0	ND	ND	1.0	ND
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	10	ND	10	ND	ND	10	ND
Carbon disulfide	75-15-0	500	ND	5.0	ND	ND	5.0	ND
Carbon tetrachloride	56-23-5	5	ND	1.0	ND	ND	1.0	ND
Chlorobenzene	108-90-7	5	ND	1.0	ND	ND	1.0	ND
Chloroethane (Ethyl chloride)	75-00-3	5	ND	1.0	ND	ND	1.0	ND
Chloroform	67-66-3	5	ND	1.0	ND	ND	1.0	ND
Chloromethane (Methyl Chloride)	74-87-3	5	ND	1.0	ND	ND	1.0	ND
Dibromochloromethane (Chlorodibromomethane)	124-48-1	5	ND	1.0	ND	ND	1.0	ND
1,2-Dibromo-3-chloropropane	96-12-8	5	ND	5.0	ND	ND	5.0	ND
1,2-Dibromoethane	106-93-4	5	ND	1.0	ND	ND	1.0	ND
Dichlorodifluoromethane	75-71-8	5	ND	1.0	ND	ND	1.0	ND
1,1-Dichloroethane	75-34-3	5	ND	1.0	ND	ND	1.0	ND
1,2-Dichloroethane	107-06-2	5	ND	1.0	ND	ND	1.0	ND
1,1-Dichloroethene	75-35-4	5	ND	1.0	ND	ND	1.0	ND
cis -1,2-Dichloroethene	156-59-2	5	ND	1.0	ND	ND	1.0	ND
trans -1,2-Dichloroethene	156-60-5	5	ND	1.0	ND	ND	1.0	ND
1,2-Dichloropropane	78-87-5	5	ND	1.0	ND	ND	1.0	ND
trans -1,3-Dichloropropene	10061-02-6	5	ND	1.0	ND	ND	1.0	ND
cis -1,3-Dichloropropene	10061-01-5	5	ND	1.0	ND	ND	1.0	ND
cis -and *tran* s- 1,3-Dichloropropene	542-75-6	5	0.0		ND	0.0		ND
Ethylbenzene	100-41-4	5	ND	1.0	ND	ND	1.0	ND
Methyl acetate	79-20-9	5	ND	5.0	ND	ND	5.0	ND
Methylene chloride (Dichloromethane)	75-09-2	5	ND	4.0	ND	ND	4.0	ND
Methyl tert-butyl ether (MTBE)	1634-04-4	5	ND	1.0	ND	ND	1.0	ND
Styrene	100-42-5	5	ND	5.0	ND	ND	5.0	ND
Tertiary butyl alcohol	75-65-0	100	ND	20	ND	ND	20	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	1.0	ND	ND	1.0	ND
Tetrachloroethene (PCE)	127-18-4	5	ND	1.0	ND	ND	1.0	ND
Toluene	108-88-3	5	ND	1.0	ND	ND	1.0	ND
1,1,1-Trichloroethane	71-55-6	5	ND	1.0	ND	ND	1.0	ND
1,1,2-Trichloroethane	79-00-5	5	ND	1.0	ND	ND	1.0	ND
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	5	ND	1.0	ND	ND	1.0	ND
Trichlorofluoromethane	75-69-4	5	ND	1.0	ND	ND	1.0	ND
Vinyl chloride	75-01-4	5	ND	1.0	ND	ND	1.0	ND
Xylenes (Total)	1330-20-7	5	ND	1.0	ND	ND	1.0	ND

**Practical Quantitation Level; taken from the NJDEP Dredging Manual, Oct. 1997

[1] When summing compounds, NDs are counted as zero.

**Practical Quantitation Level; taken from the NJDEP Dredging Manual, Oct. 1997

Table 6 continued **Semivolatile Analysis of Field Blanks**

ASI Job # 35-005		PQL*	Field Blank (Units: ug/L)			Field Blank (Units: ug/L)		
			20150095			20150096		
			7756354			7756355		
			Field Blank #1			Field Blank #2		
Analyte	**CAS No.**	**ug/L**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
1,1'-Biphenyl	92-52-4	N/A	ND	1.0	ND	ND	1.0	ND
1,2,4-Trichlorobenzene	120-82-1	10	ND	1.0	ND	ND	1.0	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	10	ND	1.0	ND	ND	1.0	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	10	ND	1.0	ND	ND	1.0	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	10	ND	1.0	ND	ND	1.0	ND
1,2-Diphenylhydrazine	122-66-7	N/A	ND	1.0	ND	ND	1.0	ND
2,4,5-Trichlorophenol	95-95-4	10	ND	1.0	ND	ND	1.0	ND
2,4,6-Trichlorophenol	88-06-2	10	ND	1.0	ND	ND	1.0	ND
2,4-Dichlorophenol	120-83-2	10	ND	1.0	ND	ND	1.0	ND
2,4-Dimethylphenol	105-67-9	10	ND	1.0	ND	ND	1.0	ND
2,4-Dinitrophenol	51-28-5	50	ND	33	ND	ND	33	ND
2,4-Dinitrotoluene	121-14-2	10	ND	5.0	ND	ND	6.0	ND
2,6-Dinitrotoluene	606-20-2	10	ND	1.0	ND	ND	1.0	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	N/A	ND	5.0	ND	ND	6.0	ND
2-Chlorophenol (o-chlorophenol)	95-57-8	10	ND	1.0	ND	ND	1.0	ND
2-Methylnaphthalene	91-57-6	10	ND	0.5	ND	ND	0.60	ND
2-Methylphenol (o-Cresol)	95-48-7	10	ND	1.0	ND	ND	1.0	ND
2-Nitroaniline	88-74-4	50	ND	1.0	ND	ND	1.0	ND
3,3'-Dichlorobenzidine	91-94-1	20	ND	5.0	ND	ND	6.0	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	50	ND	16	ND	ND	17	ND
4-Methylphenol (p-Cresol)	106-44-5	10	ND	1.0	ND	ND	1.0	ND
Acenaphthene	83-32-9	10	ND	0.50	ND	ND	0.60	ND
Acenaphthylene	208-96-8	10	ND	0.50	ND	ND	0.60	ND
Acetophenone	98-86-2	N/A	ND	1.0	ND	0.70	1.0	J
Anthracene	120-12-7	10	ND	0.50	ND	ND	0.60	ND
Atrazine	1912-24-9	N/A	ND	5.0	ND	ND	6.0	ND
Benzaldehyde	100-52-7	N/A	ND	5.0	ND	ND	6.0	ND

**Practical Quantitation Level; taken from the NJDEP Dredging Manual, Oct. 1997

Table 6 continued **Semivolatile Analysis of Field Blanks (continued)**

ASI Job # 35-005			Field Blank (Units: ug/L)			Field Blank (Units: ug/L)		
			20150095			20150096		
			7756354			7756355		
		PQL*	Field Blank #1			Field Blank #2		
Analyte	**CAS No.**	**ug/L**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Benzidine	92-87-5	N/A	ND	65	ND	ND	67	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	10	ND	0.50	ND	ND	0.60	ND
Benzo(a)pyrene	50-32-8	10	ND	0.50	ND	ND	0.60	ND
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	10	ND	0.50	ND	ND	0.60	ND
Benzo(g,h,i)perylene	191-24-2	10	ND	0.50	ND	ND	0.60	ND
Benzo(k)fluoranthene	207-08-9	10	ND	0.50	ND	ND	0.60	ND
bis(2-Chloroethyl)ether	111-44-4	10	ND	1.0	ND	ND	1.0	ND
Bis(2-chloroisopropyl) ether	39638-32-9	N/A	ND	1.0	ND	ND	1.0	ND
bis(2-Ethylhexyl)phthalate	117-81-7	10	ND	5.0	ND	ND	6.0	ND
Butyl benzyl phthalate	85-68-7	10	ND	5.0	ND	ND	6.0	ND
Caprolactam	105-60-2	N/A	ND	16	ND	ND	17	ND
Carbazole	86-74-8	10	ND	1.0	ND	ND	1.0	ND
Chrysene	218-01-9	10	ND	0.50	ND	ND	0.60	ND
Dibenz(a,h)anthracene	53-70-3	10	ND	0.50	ND	ND	0.60	ND
Diethylphthalate	84-66-2	10	ND	5.0	ND	ND	6.0	ND
Di-n-butylphthalate	84-74-2	10	ND	5.0	ND	ND	6.0	ND
Di-n-octylphthalate	117-84-0	10	ND	5.0	ND	ND	6.0	ND
Fluoranthene	206-44-0	10	ND	0.50	ND	ND	0.60	ND
Fluorene	86-73-7	10	ND	0.50	ND	ND	0.60	ND
Hexachloro-1,3-butadiene	87-68-3	10	ND	1.0	ND	ND	1.0	ND
Hexachlorobenzene	118-74-1	10	ND	0.50	ND	ND	0.60	ND
Hexachlorocyclopentadiene	77-47-4	10	ND	16	ND	ND	17	ND
Hexachloroethane	67-72-1	10	ND	5.0	ND	ND	6.0	ND
Indeno(1,2,3-cd)pyrene	193-39-5	10	ND	0.50	ND	ND	0.60	ND
Isophorone	78-59-1	10	ND	1.0	ND	ND	1.0	ND
Naphthalene	91-20-3	N/A	ND	0.50	ND	0.10	0.60	J
Nitrobenzene	98-95-3	10	ND	1.0	ND	ND	1.0	ND
N-Nitrosodimethylamine	62-75-9	N/A	ND	5.0	ND	ND	6.0	ND
N-Nitroso-di-n-propylamine	621-64-7	10	ND	1.0	ND	ND	1.0	ND
N-Nitrosodiphenylamine	86-30-6	10	ND	1.0	ND	ND	1.0	ND
Pentachlorophenol	87-86-5	50	ND	5.0	ND	ND	6.0	ND
Phenanthrene	85-01-8	10	ND	0.50	ND	ND	0.60	ND
Phenol	108-95-2	10	ND	1.0	ND	ND	1.0	ND
Pyrene	129-00-0	10	ND	0.50	ND	ND	0.60	ND

**Practical Quantitation Level; taken from the NJDEP Dredging Manual, Oct. 1997

Table 6 continued **Pesticide/Arochlor Analysis of Field Blanks**

ASI Job # 35-005			Field Blank (Units: ug/L)			Field Blank (Units: ug/L)		
			20150095			20150096		
			7756354			7756355		
		PQL*	Field Blank #1			Field Blank #2		
Analyte	**CAS No.**	**ug/L**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
4,4'-DDD	72-54-8	0.1	ND	0.017	ND	ND	0.019	ND
4,4'-DDE	72-55-9	0.1	ND	0.017	ND	ND	0.019	ND
4,4'-DDT	50-29-3	0.1	ND	0.017	ND	ND	0.019	ND
Aldrin	309-00-2	0.05	ND	0.0083	ND	ND	0.0097	ND
alpha-HCH (alpha-BHC)	319-84-6	0.05	ND	0.0083	ND	ND	0.0097	ND
beta-HCH (beta-BHC)	319-85-7	0.05	ND	0.0083	ND	ND	0.0097	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	0.05	ND	0.0083	ND	ND	0.0097	ND
alpha-Chlordane	5103-71-9	0.05	ND	0.0083	ND	ND	0.0097	ND
gamma-Chlordane	5103-74-2	0.05	ND	0.017	ND	ND	0.019	ND
Chlordane (alpha and gamma)	57-74-9	N/A	0.0		ND	0.0		ND
Dieldrin	60-57-1	0.1	ND	0.017	ND	ND	0.019	ND
Endosulfan I	959-98-8	0.05	ND	0.0083	ND	ND	0.0097	ND
Endosulfan II	33213-65-9	0.1	ND	0.017	ND	ND	0.019	ND
Endosulfan I and II (alpha and beta)	115-29-7	N/A	0.0		ND	0.0		ND
Endosulfan sulfate	1031-07-8	0.1	ND	0.017	ND	ND	0.019	ND
Endrin	72-20-8	0.1	ND	0.017	ND	ND	0.019	ND
Heptachlor	76-44-8	0.05	ND	0.0083	ND	ND	0.0097	ND
Heptachlor epoxide	1024-57-3	0.05	ND	0.0083	ND	ND	0.0097	ND
Methoxychlor	72-43-5	0.5	ND	0.083	ND	ND	0.097	ND
Toxaphene	8001-35-2	5	ND	0.83	ND	ND	0.97	ND
Arochlor-1016	12674-11-2	1	ND	0.41	ND	ND	0.48	ND
Arochlor-1221	11104-28-2	2	ND	0.41	ND	ND	0.48	ND
Arochlor-1232	11141-16-5	1	ND	0.41	ND	ND	0.48	ND
Arochlor-1242	53469-21-9	1	ND	0.41	ND	ND	0.48	ND
Arochlor-1248	12672-29-6	1	ND	0.41	ND	ND	0.48	ND
Arochlor-1254	11097-69-1	1	ND	0.41	ND	ND	0.48	ND
Arochlor-1260	11096-82-5	1	ND	0.41	ND	ND	0.48	ND
Total Arochlor(SUM)	1336-36-3	N/A	0.0		ND	0.0		ND

* When summing compounds, NDs are counted as zero.

**Practical Quantitation Level; taken from the NJDEP Dredging Manual, Oct. 1997

Table 6 continued **Metal Analysis of Field Blanks**

ASI Job # 35-005			Field Blank (Units: mg/L)			Field Blank (Units: mg/L)		
			20150095			20150096		
			7756354			7756355		
		PQL*	Field Blank #1			Field Blank #2		
Analyte	**CAS No.**	**mg/L**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	0.2	ND	0.20	ND	ND	0.20	ND
Antimony	7440-36-0	0.06	ND	0.02	ND	ND	0.02	ND
Arsenic	7440-38-2	0.01	ND	0.002	ND	ND	0.002	ND
Barium	7440-39-3	0.2	0.00190	0.005	J	0.00700	0.005	0
Beryllium	7440-41-7	0.005	ND	0.005	ND	ND	0.005	ND
Cadmium	7440-43-9	0.005	0.000530	0.005	J	0.000600	0.005	J
Cobalt	7440-48-4	10	ND	0.005	ND	ND	0.005	ND
Copper	7440-50-8	0.025	ND	0.010	ND	0.00280	0.010	J
Lead	7439-92-1	0.003	ND	0.001	ND	ND	0.001	ND
Manganese	7439-96-5	0.015	0.000880	0.005	J	ND	0.01	ND
Mercury	7439-97-6	0.0002	ND	0.0002	ND	ND	0.0002	ND
Nickel	7440-02-0	0.04	ND	0.01	ND	ND	0.01	ND
Selenium	7782-49-2	0.005	ND	0.02	ND	ND	0.02	ND
Silver	7440-22-4	0.01	ND	0.005	ND	ND	0.005	ND
Thallium	7440-28-0	0.01	ND	0.0005	ND	ND	0.001	ND
Vanadium	7440-62-2	0.05	ND	0.005	ND	ND	0.005	ND
Zinc	7440-66-6	0.02	0.00230	0.02	J	ND	0.02	ND
Cyanide	57-12-5	0.01	ND	0.01	ND	ND	0.01	ND
Chromium, total	7440-47-3	0.01	ND	0.015	ND	ND	0.015	ND
Hexavalent Chromium	18540-29-9	0.01	ND	0.02	ND	ND	0.02	ND
Trivalent Chromium	16065-83-1	0.01	ND	0.02	ND	ND	0.02	ND

**Practical Quantitation Level; taken from the NJDEP Dredging Manual, Oct. 1997