

**LETTER REPORT**  
**SUPPLEMENTAL SURFACE SOIL SAMPLE RESULTS**  
**NWIRP BETHPAGE, NEW YORK**

**INTRODUCTION**

This letter report summarizes collection methods and analytical results for surface soil samples taken in October 2002 from Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage. The samples were collected at the request of the New York State Department of Health to provide supplemental information on the quality of surface soils beyond the boundary of Installation Restoration Site 2 – Recharge Basin Area (Site 2). Even though the samples were collected beyond Site 2, the samples are located on the NWIRP Bethpage site. Tetra Tech NUS, Inc. (TtNUS) performed the work under contract to the U.S. Navy Engineering Field Activity Northeast (EFA Northeast) under Contract Task Order (CTO) 812 of the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract Number N62467-94-D-0888. Severn Trent Laboratories, Inc. (STL) of Pittsburgh, Pennsylvania performed the analytical testing on the surface soil samples under contract to TtNUS.

**SCOPE OF WORK**

A total of 14 surface soil samples, plus 2 duplicate samples were taken at locations as shown on Figure 1. Samples (BP-S2-267 through BP-S2-280) were taken in October 2002. Other analytical results presented in Figure 1 are from samples collected in early 2001, prior to the placement of the permeable cover. The cover, as indicated in Figure 1, was completed in December 2001.

**SOIL SAMPLING**

The surface soil samples were taken in accordance with Tetra Tech NUS, Inc. Standard Operating Procedure SA 1.3. The surface soil samples were collected using a disposable trowel. The depths of the samples ranged from approximately 0 to 6-inches. Actual depths for each sample are provided on the sample logs sheets and on Table 1. Prior to collecting the samples, all vegetation, roots, and twigs, etc. were removed to expose an adequate soil surface area to accommodate sample volume requirements. After exposing the sample area the soil was thoroughly mixed in-situ and then transferred to the sample containers. Each sample was labeled

and put on ice until shipment to the laboratory. Soil sample log sheets for the soil samples collected have been provided and are attached to this letter report.

#### **FIELD FORMS AND ANALYTICAL RESULTS**

The field forms and results associated with the surface soil samples are attached and include the following:

- Soil and sediment sample log sheet
- Chain of custody records
- Analytical results
- Validation reports
- Photographs

PCBs were detected in all 14 samples, at concentrations ranging from 76 ug/kg to 1,900 ug/kg.

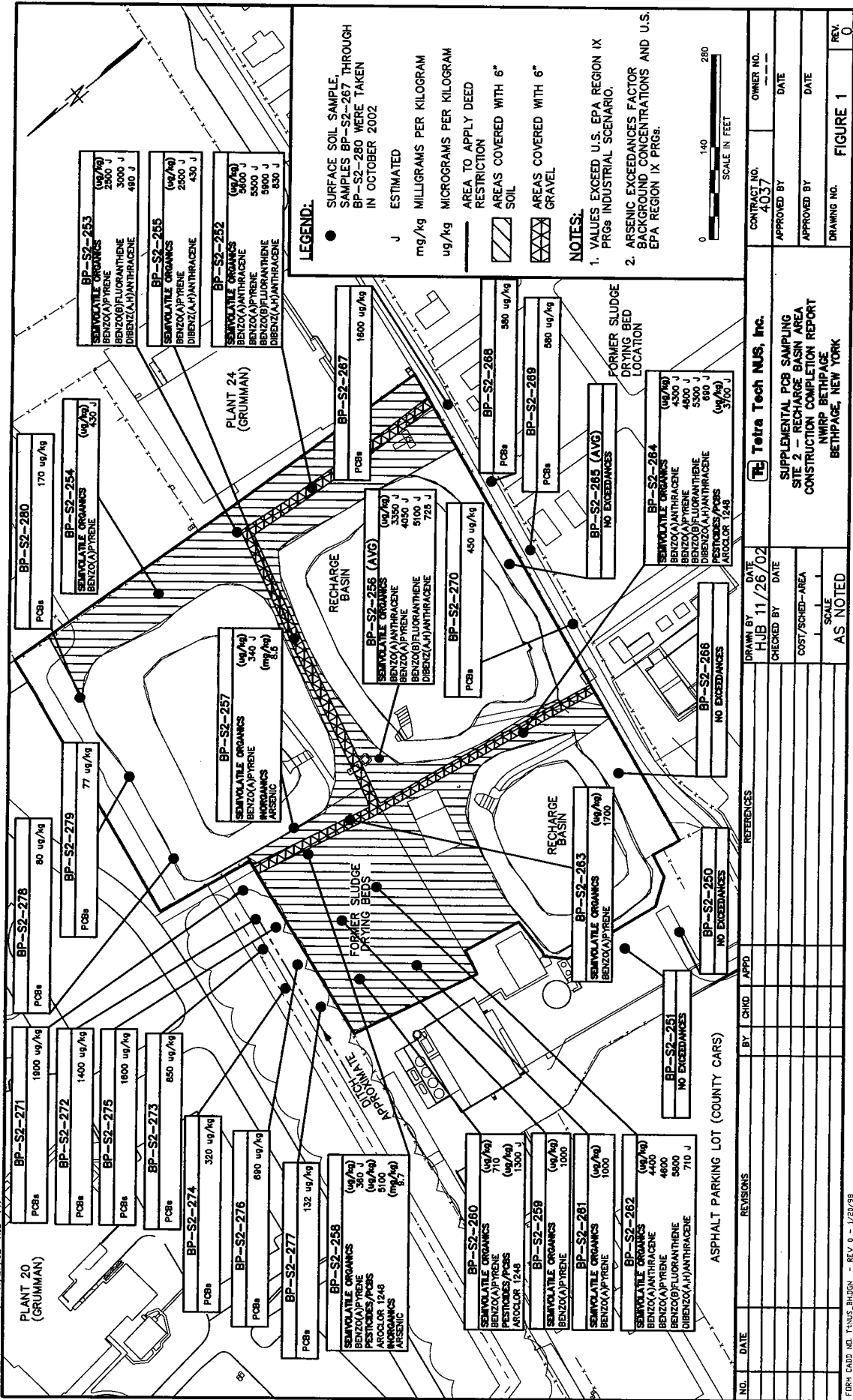
**TABLE 1**

**SUPPLEMENTAL SURFACE SOIL SAMPLE RESULTS  
POLYCHLORINATED BIPHENYLS  
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT  
BETHPAGE, NEW YORK**

<b>Sample ID</b>	<b>Depth (bgs) in inches</b>	<b>Total PCBs (ug/kg)</b>	<b>Comments</b>
BP-S2-267	1-5	1600	Grass strip between fence and roadway
BP-S2-DUP1	1-5	1600	Duplicate of BP-S2-267
BP-S2-268	1-5	580	Grass strip between fence and roadway
BP-S2-269	1-4	580	Grass strip between fence and roadway
BP-S2-270	1-4	450	Grass strip between fence and roadway
BP-S2-271	1-4	1900	Mowed area between gate and road
BP-S2-272	1-5	1400	Eastern edge of ditch
BP-S2-273	1-4	850	Wooded area approximately 11 feet north of ditch
BP-S2-274	1-5	320	Wooded area approximately 15 feet north of ditch
BP-S2-275	1-5	1600	Brush area between fence and ditch
BP-S2-276	1-4	690	Brush area between fence and ditch
BP-S2-277	1-4	132	Brush area between fence and ditch
BP-S2-278	1-5	80	Upland area between basin and fence
BP-S2-279	1-4	77	Upland area between basin and fence
BP-S2-DUP2	1-4	76	Duplicate of BP-S2-279
BP-S2-280	1-5	170	Upland area between basin and fence

**Notes:** bgs: Below ground surface  
 Samples were collected from October 7 through October 10, 2002  
 See Figure 1 for approximate locations

ACAD:40370101.dwg 11/27/02 HLB PIT



NO.	DATE	BY	CHKD	APPD	REFERENCES
DRAWN BY: HUB 11/26/02					
DATE: 11/26/02					
CHECKED BY:					
COST/SCHED-AREA:					
SCALE: AS NOTED					
OWNER NO. 4037					
APPROVED BY:					
DATE:					
DRAWING NO. FIGURE 1					
REV. 0					

**Tetra Tech NUS, Inc.**

**SUPPLEMENTAL PCB SAMPLING**

**SITE 2 - RECHARGE BASIN AREA**

**CONSTRUCTION COMPLETION REPORT**

**NMWP BETHPAGE**

**BETHPAGE, NEW YORK**



Project Site Name: NWIRP Bethpage  
 Project No.: N4037

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Sample ID No.: BP-S2-267  
 Sample Location: 267  
 Sampled By: SJC  
 C.O.C. No.: BP-S2-100702

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA

Date: <u>10-7-02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1230</u>	<u>0-6"</u>	<u>GRAY BRN</u>	<u>SILTY SAND, TR ROOTS TR. GRAVEL - DAMP</u>
Method: <u>DISP. TROWEL</u>			
Monitor Reading (ppm): <u>0</u>			

COMPOSITE SAMPLE DATA

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

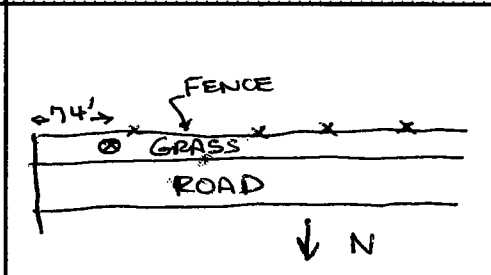
SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCBS</u>	4°C	1-4oz Glass Jar	<input checked="" type="checkbox"/>	
VOC's +Extra	4°C	1-8oz Glass Jar	<u>NO</u>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<u>NO</u>	

OBSERVATIONS / NOTES

MAP

ACTUAL DEPTH ≈ 1 → 5"



Circle if Applicable:

Signature(s):

MS/MSD Duplicate ID No.: BP-S2-DUP1

*SJC Conti*



Project Site Name: NWIRP Bethpage Sample ID No.: BP-S2-268  
 Project No.: N4037 Sample Location: ALB  
 Sampled By: SJC  
 C.O.C. No.: BP-S2-100702

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other: \_\_\_\_\_  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	<u>10/7/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	<u>1250</u>	<u>0-6"</u>	<u>GRAY BRN.</u>	<u>SILTY SAND - TR ROOTS &amp; GRAVEL DAMP</u>
Method:	<u>DISP TROWEL</u>			
Monitor Reading (ppm):	<u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOCs</del> <u>PCBS</u>	4°C	1-4oz Glass Jar	<input checked="" type="checkbox"/>	
VOC's +Extra	4°C	1-8oz Glass Jar	<input type="checkbox"/>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<input type="checkbox"/>	

OBSERVATIONS / NOTES:	MAP:
<u>ACTUAL DEPTH 1-5"</u>	

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	<u>SJC</u>



Project Site Name: NWIRP Bethpage  
Project No.: N4037

Sample ID No.: BP-52-269  
Sample Location: 269  
Sampled By: SJC  
C.O.C. No.: BP-52-100702

- Surface Soil
- Subsurface Soil
- Sediment
- Other: \_\_\_\_\_
- QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:

Date: <u>10-4-02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1315</u>	<u>0-4"</u>	<u>GRAY BRN</u>	<u>SILTY SAND - TR ROOTS TR GRAVEL DAMP</u>
Method: <u>DISP TROWEL</u>			
Monitor Reading (ppm): <u>0</u>			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

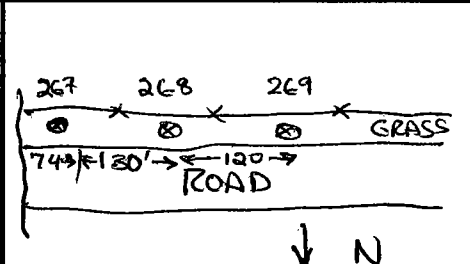
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
<del>VOCs</del> <u>PCBS</u>	4°C	1-4oz Glass Jar	<u>✓</u>	
VOC's +Extra	4°C	1-8oz Glass Jar	<u>NO</u>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<u>NO</u>	

OBSERVATIONS / NOTES:

ACTUAL DEPTH 1"-4"

MAP:



Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

*SJC* Contic



Project Site Name: NWIRP Bethpage Sample ID No.: BP-52-270  
 Project No.: N4037 Sample Location: 270'  
 Sampled By: SJC  
 C.O.C. No.: BP-52-100702

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other: \_\_\_\_\_  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	Time:	Method:	Monitor Reading (ppm):	Description (Sand, Silt, Clay, Moisture, etc.)
10-07-02	1340	DISP TROWEL	0	SILTY SAND - SOME GRAVEL TR-ROOTS DAMP
				Depth: 0-6" Color: BRN

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
VOCs PCBs	4°C	1-4oz Glass Jar	✓	
VOC's +Extra	4°C	1-8oz Glass Jar	NO	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	NO	

OBSERVATIONS / NOTES:	MAP:
ACTUAL DEPTH 1-4"	

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	SJC





Project Site Name: NWIRP Bethpage Sample ID No.: BP-S2-271  
 Project No.: N4037 Sample Location: 271  
 Sampled By: SJC  
 C.O.C. No.: BP-S2-100702

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other: \_\_\_\_\_  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	Time:	Method:	Depth	Description (Sand, Silt, Clay, Moisture, etc.)
10-8-02	1000	DISP TROWEL	0-6"	BRN SILTY SAND - SOME GRAVEL TR ROOTS DAMP
Monitor Reading (ppm): <u>0</u>				

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method: _____				
Monitor Readings (Range in ppm): _____				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
VOCs PCBs	4°C	1-4oz Glass Jar	✓	
VOC's +Extra	4°C	1-8oz Glass Jar	NO	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	NO	

OBSERVATIONS / NOTES:	MAP:
ACTUAL DEPTH - 1" - 4"	

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	<i>SJC</i>

A-5



Project Site Name: NWIRP Bethpage  
Project No.: N4037

Sample ID No.: BP-52-272  
Sample Location: 272  
Sampled By: SJC  
C.O.C. No.: BP-52-100702

- Surface Soil
- Subsurface Soil
- Sediment
- Other: \_\_\_\_\_
- QA Sample Type: \_\_\_\_\_

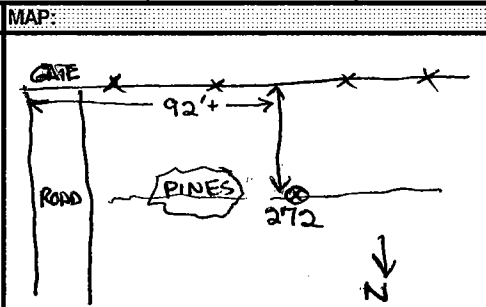
- Type of Sample:
- Low Concentration
  - High Concentration

GRAB SAMPLE DATA:			
Date: <u>10-8-02</u>	Depth: <u>0-6"</u>	Color: <u>BRN</u>	Description (Sand, Silt, Clay, Moisture, etc.): <u>SILTY SAND - TR ROOTS TR GRAVEL</u>
Time: <u>1020</u>			<u>DAMP</u>
Method: <u>DISP TROWEL</u>			
Monitor Reading (ppm): <u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCBS</u>	4°C	1-4oz Glass Jar	<input checked="" type="checkbox"/>	
VOC's +Extra	4°C	1-8oz Glass Jar	<input type="checkbox"/>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<input type="checkbox"/>	

OBSERVATIONS / NOTES:  
ACTUAL DEPTH 1" - 5"



Circle if Applicable:

MS/MSD	Duplicate ID No.:
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Signature(s): SJ Conti



Project Site Name: NWIRP Bethpage Sample ID No.: BP-52-273  
 Project No.: N4037 Sample Location: 273  
 Sampled By: SJC  
 C.O.C. No.: BP-52-100702

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other: \_\_\_\_\_  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	<u>10/8/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	<u>1150</u>	<u>0-6"</u>	<u>BRN</u>	<u>SAUDY SILT - TR GRAVEL TR ROOTS DAMP</u>
Method:	<u>DISP TROWELL</u>			
Monitor Reading (ppm):	<u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCB's</u>	4°C	1-4oz Glass Jar	<input checked="" type="checkbox"/>	
VOC's +Extra	4°C	1-8oz Glass Jar	<input type="checkbox"/>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<input type="checkbox"/>	

OBSERVATIONS / NOTES:	MAP:
<u>ACTUAL DEPTH 1" =&gt; 4"</u>	

Circle if Applicable:		Signature(s):
<input type="checkbox"/> MS/MSD	Duplicate ID No.:	<u>SJC</u>



Project Site Name: NWIRP Bethpage Sample ID No.: BP-52-274  
 Project No.: N4037 Sample Location: 274  
 Sampled By: SSC  
 C.O.C. No.: BP-52-100702

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other: \_\_\_\_\_  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	<u>10/8/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	<u>1140</u>	<u>0-6"</u>	<u>BRN</u>	<u>SANDY SILT - TR ROOTS GRAVEL DAMP</u>
Method:	<u>DISP TROWEL</u>			
Monitor Reading (ppm):	<u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCB's</u>	4°C	1-4oz Glass Jar	<input checked="" type="checkbox"/>	
VOC's +Extra	4°C	1-8oz Glass Jar	<input type="checkbox"/>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<input type="checkbox"/>	

OBSERVATIONS / NOTES:	MAP:
<u>ACTUAL DEPTH 1" → 5"</u>	

Circle if Applicable:		Signature(s):
<input type="checkbox"/> MS/MSD	Duplicate ID No.:	<u>JJ Conti</u>



Project Site Name: NWIRP Bethpage Sample ID No.: BP-52-275  
 Project No.: N4037 Sample Location: 295  
 Sampled By: STC  
 C.O.C. No.: BP-52-100702

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	<u>10/8/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	<u>1035</u>	<u>0-6"</u>	<u>BRN</u>	<u>SAND - SOME GRAVEL - TR ROOTS DAMP</u>
Method:	<u>DISP TROWEL</u>			
Monitor Reading (ppm):	<u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCB's</u>	4°C	1-4oz Glass Jar	<u>✓</u>	
VOC's +Extra	4°C	1-8oz Glass Jar	<u>NO</u>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<u>NO</u>	

OBSERVATIONS / NOTES:	MAP:
<u>ACTUAL DEPTH - 1" → 5"</u>	

Circle if Applicable:		Signature(s):
<input type="checkbox"/> MS/MSD	Duplicate ID No.:	<u>[Signature]</u>



Project Site Name: NWIRP Bethpage Sample ID No.: BP-52-276  
 Project No.: N4037 Sample Location: 276  
 Sampled By: SJC  
 C.O.C. No.: BP-52-100702

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	<u>10/8/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	<u>1045</u>	<u>0-6"</u>	<u>BRN</u>	<u>SILTY SAND-TR GRAVEL TR ROOTS DAMP</u>
Method:	<u>DISP TROWEL</u>			
Monitor Reading (ppm):	<u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCBS</u>	4°C	1-4oz Glass Jar	<input checked="" type="checkbox"/>	
VOC's +Extra	4°C	1-8oz Glass Jar	<input type="checkbox"/>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<input type="checkbox"/>	

OBSERVATIONS / NOTES:	MAP:
<u>ACTUAL DEPTH 1" → 4"</u>	

Circle if Applicable:		Signature(s):
<input type="checkbox"/> MS/MSD	Duplicate ID No.:	<u>SJ Conte</u>



Project Site Name: NWIRP Bethpage Sample ID No.: BP-S2-277  
 Project No.: N4037 Sample Location: 277  
 Sampled By: STC  
 C.O.C. No.: BP-S2-100702

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	<u>10/8/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	<u>1100</u>	<u>0-6"</u>	<u>BRN</u>	<u>SILTY SAND - GRAVEL - ROOTS DAMP</u>
Method:	<u>DISP-TROWELL</u>			
Monitor Reading (ppm):	<u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCB's</u>	4°C	1-4oz Glass Jar	<input checked="" type="checkbox"/>	
VOC's +Extra	4°C	1-8oz Glass Jar	<u>NO</u>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<u>NO</u>	

OBSERVATIONS / NOTES:	MAP:
<u>ACTUAL DEPTH 1" → 4"</u>	

Circle if Applicable:	Signature(s):
MS/MSD Duplicate ID No.:	<u>SJ Conter</u>



Project Site Name: NWIRP Bethpage Sample ID No.: BP-52-278  
 Project No.: N4037 Sample Location: 278  
 Sampled By: SJC  
 C.O.C. No.: BP-52-101002

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other: \_\_\_\_\_  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	<u>10/10/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	<u>1010</u>	<u>0-6"</u>	<u>YELLOW BRN</u>	<u>SAND AND GRAVEL TR ROOTS DAMP</u>
Method:	<u>DISP TROWEL</u>			
Monitor Reading (ppm):	<u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
VOC's <u>PCBS</u>	4°C	1-4oz Glass Jar	<u>✓</u>	
VOC's +Extra	4°C	1-8oz Glass Jar	<u>NO</u>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<u>NO</u>	

OBSERVATIONS / NOTES:	MAP:
<u>ACTUAL DEPTH 1" → 5"</u>	

Circle if Applicable:		Signature(s):
<input type="checkbox"/> MS/MSD	Duplicate ID No.:	<u>[Signature]</u>





Project Site Name: NWIRP Bethpage Sample ID No.: BP-S2-279  
 Project No.: N4037 Sample Location: 279  
 Sampled By: SJC  
 C.O.C. No.: BP-S2-101002

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:				
Date:	<u>10/10/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	<u>1020</u>	<u>0-6"</u>	<u>YELLOW BRN</u>	<u>SAND AND GRAVEL - TR ROOTS DAMP</u>
Method:	<u>DISP TROWEL</u>			
Monitor Reading (ppm):	<u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCBS</u>	4°C	1-4oz Glass Jar	<input checked="" type="checkbox"/>	
VOC's +Extra	4°C	1-8oz Glass Jar	<input type="checkbox"/>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<input type="checkbox"/>	

OBSERVATIONS / NOTES:	MAP:
<p>- TOOK DUP HERE ALSO            - ACTUAL DEPTH 1" = 4"</p>	

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.: <u>BP-S2-DUP2</u>	<u>[Signature]</u>



Project Site Name: NWIRP Bethpage Sample ID No.: BP- S2- 280  
 Project No.: N4037 Sample Location: 280  
 Sampled By: SJC  
 C.O.C. No.: BP- S2- 101002

Surface Soil  
 Subsurface Soil  
 Sediment  
 Other:  
 QA Sample Type:

Type of Sample:  
 Low Concentration  
 High Concentration

GRAB SAMPLE DATA:			
Date: <u>10/10/02</u>	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: <u>1030</u>	<u>0-6"</u>	<u>BRN</u>	<u>SANDY SILT/SILT F SAND TR ROOTS &amp; GRAVEL DAMP</u>
Method: <u>DISP TROWEL</u>			
Monitor Reading (ppm): <u>0</u>			

COMPOSITE SAMPLE DATA:				
Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements	Collected	Other
<del>VOC's</del> <u>PCB's</u>	4°C	1-4oz Glass Jar	<u>✓</u>	
VOC's +Extra	4°C	1-8oz Glass Jar	<u>NO</u>	
TCLP, Cadmium, Chrome, Total Solids	4°C	1-8oz Glass Jar	<u>NO</u>	

OBSERVATIONS / NOTES:	MAP:
<u>ACTUAL DEPTH 1" ⇒ 5"</u>	

Circle if Applicable:	Signature(s):
MS/MSD Duplicate ID No.:	<u>SJC</u>



TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER BP-S2-100702

PAGE 1 OF 1

PROJECT NO: N14037  
 SITE NAME: NIWRP - BETHPAGE  
 SAMPLERS (SIGNATURE): *[Signature]*

PROJECT MANAGER AND PHONE NUMBER: D. BRAYACK 412 921 8375  
 FIELD OPERATIONS LEADER AND PHONE NUMBER: S. CONTI 412 921 8422  
 CARRIER/WAYBILL NUMBER: FED EX AB # 8316 73329489

LABORATORY NAME AND CONTACT: STL LAB / VERONICA B.  
 ADDRESS: 450 WILLIAM PITTMAN  
 CITY, STATE: PITTSBURGH, PA 15238

STANDARD TAT   
 RUSH TAT   
 24 hr.  48 hr.  72 hr.  7 day  14 day

DATE YEAR	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	NO. OF CONTAINERS	TYPE OF ANALYSIS	COMMENTS
1977	1230	BP-S2-267	SOIL G	G	2	PCBS (4 OZ GLASS)	DO MS/MSD
1977	0000	BP-S2-DUP1	"	"	1		DUP OF 267
1977	1250	BP-S2-268	"	"	1		
1977	1315	BP-S2-269	"	"	1		
10/7	1340	BP-S2-270	"	"	1		
1978	1000	BP-S2-271	"	"	1		
10/8	1020	BP-S2-272	"	"	1		
10/8	1035	BP-S2-275	"	"	1		
10/8	1045	BP-S2-276	"	"	1		
10/8	1100	BP-S2-277	"	"	1		
10/8	1140	BP-S2-274	"	"	1		
10/8	1150	BP-S2-273	"	"	1		

1. RELINQUISHED BY: *[Signature]* DATE: 10/8/02 TIME: 1600  
 2. RECEIVED BY: FEES EX DATE: DATE TIME: TIME  
 3. RECEIVED BY: DATE: DATE TIME: TIME

COMMENTS: SURFACE SOIL SAMPLES  
 DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)




TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER BP-S2-101002

PAGE 1 OF 1

PROJECT NO: **N 4037** SITE NAME: **NWIRP-BETHPAGE** PROJECT MANAGER AND PHONE NUMBER: **D. BRAYACK 412-921-8375** LABORATORY NAME AND CONTACT: **STL LAB - VERONICA B.**  
 SAMPLERS (SIGNATURE):  FIELD OPERATIONS LEADER AND PHONE NUMBER: **S CONTI 412-921-8422** ADDRESS: **450 WILLIAM PITT WAY**  
 CARRIER/WAYBILL NUMBER: **FED EX # 8316 7332 9478** CITY, STATE: **PITTSBURGH PA 15238**

DATE YEAR	TIME	SAMPLE ID	MATRIX	GRAB (G)	COMP (G)	NO. OF CONTAINERS	TYPE OF ANALYSIS		PRESERVATIVE USED	CONTAINER TYPE PLASTIC (P) OR GLASS (G)	CITY, STATE	COMMENTS
							(# OF GLASS)					
1910	1010	BP-S2-278	SOIL G									
1910	0000	BP-S2-DUPA	"	"	"	"						DUP OF 279
1910	1020	BP-S2-279	"	"	"	"						
1910	1030	BP-S2-280	"	"	"	"						
1. RELINQUISHED BY			DATE	TIME	1. RECEIVED BY			DATE	TIME	DATE		
2. RELINQUISHED BY			10/10/02	1600	FED EX.			10/19/02		DATE		
3. RELINQUISHED BY					3. RECEIVED BY					DATE		
COMMENTS												
3 ADDL SURFACE SOIL SAMPLES												
DISTRIBUTION:			WHITE (ACCOMPANIES SAMPLE)				YELLOW (FIELD COPY)				PINK (FILE COPY)	

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**PROJ\_NO: 4037**

SDG: 90197 MEDIA: SOIL DATA FRACTION: PEST/PCB

nsample BP-S2-267  
 samp\_date 10/7/2002  
 lab\_id C2J090197001  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 92.1  
 DUP\_OF:

nsample BP-S2-268  
 samp\_date 10/7/2002  
 lab\_id C2J090197003  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 95.2  
 DUP\_OF:

nsample BP-S2-269  
 samp\_date 10/7/2002  
 lab\_id C2J090197004  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 92  
 DUP\_OF:

Parameter	Result	Val		Qual Code
		Qual	U	
AROCLOR-1016	140		U	
AROCLOR-1221	140		U	
AROCLOR-1232	140		U	
AROCLOR-1242	140		U	
AROCLOR-1248	1600			
AROCLOR-1254	140		U	
AROCLOR-1260	140		U	

Parameter	Result	Val		Qual Code
		Qual	U	
AROCLOR-1016	35		U	
AROCLOR-1221	35		U	
AROCLOR-1232	35		U	
AROCLOR-1242	35		U	
AROCLOR-1248	580			
AROCLOR-1254	35		U	
AROCLOR-1260	35		U	

Parameter	Result	Val		Qual Code
		Qual	U	
AROCLOR-1016	36		U	
AROCLOR-1221	36		U	
AROCLOR-1232	36		U	
AROCLOR-1242	36		U	
AROCLOR-1248	580			
AROCLOR-1254	36		U	
AROCLOR-1260	36		U	

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**PROJ\_NO: 4037**

SDG: 90197 MEDIA: SOIL DATA FRACTION: PEST/PCB

nsample BP-S2-270  
 samp\_date 10/7/2002  
 lab\_id C2J090197005  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 94.2  
 DUP\_OF:

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	35	U	
AROCLOR-1221	35	U	
AROCLOR-1232	35	U	
AROCLOR-1242	35	U	
AROCLOR-1248	450		
AROCLOR-1254	35	U	
AROCLOR-1260	35	U	

nsample BP-S2-271  
 samp\_date 10/8/2002  
 lab\_id C2J090197006  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 92.8  
 DUP\_OF:

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	140	U	
AROCLOR-1221	140	U	
AROCLOR-1232	140	U	
AROCLOR-1242	140	U	
AROCLOR-1248	1900		
AROCLOR-1254	140	U	
AROCLOR-1260	140	U	

nsample BP-S2-272  
 samp\_date 10/8/2002  
 lab\_id C2J090197007  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 83  
 DUP\_OF:

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	40	U	
AROCLOR-1221	40	U	
AROCLOR-1232	40	U	
AROCLOR-1242	40	U	
AROCLOR-1248	1400		
AROCLOR-1254	40	U	
AROCLOR-1260	40	U	

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**PROJ\_NO: 4037**

SDG: 90197 MEDIA: SOIL DATA FRACTION: PEST/PCB

nsample BP-S2-273  
 samp\_date 10/8/2002  
 lab\_id C2J090197012  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 91.1  
 DUP\_OF:

Parameter	Result	Val		Qual Code
		Qual	U	
AROCLOR-1016	36		U	
AROCLOR-1221	36		U	
AROCLOR-1232	36		U	
AROCLOR-1242	36		U	
AROCLOR-1248	450			
AROCLOR-1254	400			
AROCLOR-1260	36		U	

nsample BP-S2-274  
 samp\_date 10/8/2002  
 lab\_id C2J090197011  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 86  
 DUP\_OF:

Parameter	Result	Val		Qual Code
		Qual	U	
AROCLOR-1016	38		U	
AROCLOR-1221	38		U	
AROCLOR-1232	38		U	
AROCLOR-1242	38		U	
AROCLOR-1248	170			
AROCLOR-1254	150			
AROCLOR-1260	38		U	

nsample BP-S2-275  
 samp\_date 10/8/2002  
 lab\_id C2J090197008  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 96.5  
 DUP\_OF:

Parameter	Result	Val		Qual Code
		Qual	U	
AROCLOR-1016	140		U	
AROCLOR-1221	140		U	
AROCLOR-1232	140		U	
AROCLOR-1242	140		U	
AROCLOR-1248	1600			
AROCLOR-1254	140		U	
AROCLOR-1260	140		U	

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**PROJ\_NO: 4037**

SDG: 90197 MEDIA: SOIL DATA FRACTION: PEST/PCB

nsample BP-S2-276  
 samp\_date 10/8/2002  
 lab\_id C2J090197009  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 94.9  
 DUP\_OF:

nsample  
 samp\_date  
 lab\_id  
 qc\_type  
 units  
 Pct\_Solids  
 DUP\_OF:

BP-S2-277  
 10/8/2002  
 C2J090197010  
 NM  
 UG/KG  
 90.2

nsample  
 samp\_date  
 lab\_id  
 qc\_type  
 units  
 Pct\_Solids  
 DUP\_OF:

BP-S2-DUP1  
 10/7/2002  
 C2J090197002  
 NM  
 UG/KG  
 91.7  
 BP-S2-267

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	35	U	
AROCLOR-1221	35	U	
AROCLOR-1232	35	U	
AROCLOR-1242	35	U	
AROCLOR-1248	500		
AROCLOR-1254	190		
AROCLOR-1260	35	U	

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	37	U	
AROCLOR-1221	37	U	
AROCLOR-1232	37	U	
AROCLOR-1242	37	U	
AROCLOR-1248	79		
AROCLOR-1254	53		
AROCLOR-1260	37	U	

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	140	U	
AROCLOR-1221	140	U	
AROCLOR-1232	140	U	
AROCLOR-1242	140	U	
AROCLOR-1248	1600		
AROCLOR-1254	140	U	
AROCLOR-1260	140	U	

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**PROJ\_NO: 4037**

SDG: 110289 MEDIA: SOIL DATA FRACTION: PEST/PCB

nsmple BP-S2-278  
 samp\_date 10/10/2002  
 lab\_id C2J110289001  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 99.3  
 DUP\_OF:

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	33	U	
AROCLOR-1221	33	U	
AROCLOR-1232	33	U	
AROCLOR-1242	33	U	
AROCLOR-1248	39		
AROCLOR-1254	27	J	P
AROCLOR-1260	14	J	P

nsmple BP-S2-279  
 samp\_date 10/10/2002  
 lab\_id C2J110289003  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 99.2  
 DUP\_OF:

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	33	U	
AROCLOR-1221	33	U	
AROCLOR-1232	33	U	
AROCLOR-1242	33	U	
AROCLOR-1248	77		
AROCLOR-1254	33	U	
AROCLOR-1260	33	U	

nsmple BP-S2-280  
 samp\_date 10/10/2002  
 lab\_id C2J110289004  
 qc\_type NM  
 units UG/KG  
 Pct\_Solids 95  
 DUP\_OF:

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	35	U	
AROCLOR-1221	35	U	
AROCLOR-1232	35	U	
AROCLOR-1242	35	U	
AROCLOR-1248	170		
AROCLOR-1254	35	U	
AROCLOR-1260	35	U	

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**PROJ\_NO: 4037**

SDG: 110289 MEDIA: SOIL DATA FRACTION: PEST/PCB

nsample BP-S2-DUP2  
samp\_date 10/10/2002  
lab\_id C2J110289002  
qc\_type NM  
units UG/KG  
Pct\_Solids 99.3  
DUP\_OF: BP-S2-279

Parameter	Result	Val Qual	Qual Code
AROCLOR-1016	33	U	
AROCLOR-1221	33	U	
AROCLOR-1232	33	U	
AROCLOR-1242	33	U	
AROCLOR-1248	76		
AROCLOR-1254	33	U	
AROCLOR-1260	33	U	

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TO: D. BRAYACK DATE: NOVEMBER 4, 2002

FROM: BERNARD F SPADA III COPIES: DV FILE

SUBJECT: ORGANIC DATA VALIDATION- PCB  
CTO 812, NWIRP BETHPAGE  
SDG 90197

SAMPLES: 12/Soil

BP-S2-267	BP-S2-268	BP-S2-269	BP-S2-270
BP-S2-271	BP-S2-272	BP-S2-273	BP-S2-274
BP-S2-275	BP-S2-276	BP-S2-277	BP-S2-DUP1

OVERVIEW

The sample set for CTO 812, NWIRP Bethpage, SDG 90197 consists of eleven (11) environmental soil samples and one (1) field duplicate. All samples were analyzed for polychlorinated biphenyls (PCB). The field duplicate pair included in this SDG was BP-S2-DUP1 and BP-S2-267.

The samples were collected by Tetra Tech NUS on October 7 and 8, 2002 and analyzed by Severn Trent Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Method 8082 analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- \* • Data completeness
- \* • Holding times
- \* • Initial and continuing calibration
- \* • Blank results
- \* • Surrogate spike recoveries
- \* • Internal standard recoveries
- \* • Blank Spike/Blank Spike Duplicate Results
- \* • Matrix Spike/Matrix Spike Duplicate Results
- \* • Field Duplicate Results
- \* • Detection Limits
- \* • Compound Quantitation
- \* • Compound Identification

The symbol (\*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

PCB

Samples BP-S2-267, BP-S2-271, BP-S2-275, and BP-S2-DUP1 were analyzed at dilutions and were not analyzed undiluted. This accounts for the elevated reporting limits for all non-detected analytes in the aforementioned samples.

The recovery of the surrogate decachlorobiphenyl was 0% in sample BP-S2-275. No qualifications were made on this basis because the sample was analyzed at a 4X dilution.

The matrix spike duplicate of sample BP-S2-267 exceeded the percent recovery quality control criteria for Aroclor 1016. No qualifications were made on this basis because all results for Aroclor 1016 were non-detected.

A second column confirmation was not performed for PCB results. The validator verified the pattern for PCB 1248 in sample BP-S2-267.

### EXECUTIVE SUMMARY

**Laboratory Performance Issues:** None.

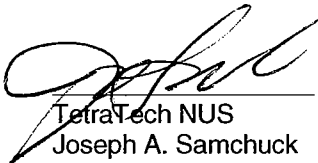
**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the NFESC guidelines. The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."



Tetra Tech NUS  
Bernard F. Spada III  
Chemist/Data Validator



TetraTech NUS  
Joseph A. Samchuck  
Data Validation Quality Assurance Officer

#### Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation



**Tetra Tech NUS**

**INTERNAL CORRESPONDENCE**

**TO:** D. BRAYACK                                      **DATE:** NOVEMBER 1, 2002

**FROM:** BERNARD F SPADA III                      **COPIES:** DV FILE

**SUBJECT:** ORGANIC DATA VALIDATION- PCB  
                    CTO 812, NWIRP BETHPAGE  
                    SDG 110289

**SAMPLES:** 4/Soil

                    BP-S2-278                      BP-S2-279                      BP-S2-280                      BP-S2-DUP2

OVERVIEW

The sample set for CTO 812, NWIRP Bethpage, SDG 110289 consists of three (3) environmental soil samples and one (1) field duplicate. All samples were analyzed for polychlorinated biphenyls (PCB). The field duplicate pair included in this SDG was BP-S2-DUP2 and BP-S2-279.

The samples were collected by Tetra Tech NUS on October 10, 2002 and analyzed by Severn Trent Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Method 8082 analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- \*     •     Data completeness
- \*     •     Holding times
- \*     •     Initial and continuing calibration
- \*     •     Blank results
- \*     •     Surrogate spike recoveries
- \*     •     Internal standard recoveries
- \*     •     Blank Spike/Blank Spike Duplicate Results
- \*     •     Matrix Spike/Matrix Spike Duplicate Results
- \*     •     Field Duplicate Results
- \*     •     Detection Limits
- \*     •     Compound Quantitation
- \*     •     Compound Identification

The symbol (\*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

PCB

Positive results below the reporting limit were qualified as estimated (J) due to uncertainty near the detection limit.

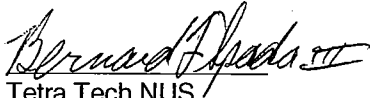
EXECUTIVE SUMMARY

**Laboratory Performance Issues:** None.

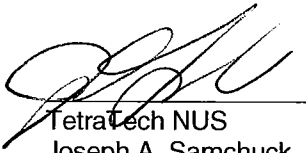
**Other Factors Affecting Data Quality: None.**

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the NFESC guidelines. The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."



Tetra Tech NUS  
Bernard F. Spada III  
Chemist/Data Validator



Tetra Tech NUS  
Joseph A. Samchuck  
Data Validation Quality Assurance Officer

**Attachments:**

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation